FINAL PROGRAM ENVIRONMENTAL IMPACT REPORT

VOLUME I
FPEIR AND APPENDICES

TOWN OF MAMMOTH LAKES
2005 GENERAL PLAN UPDATE

SCH No. 2003042155

MAY 2007

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1.0 INTRODUCTION

This document is a Final Program Environmental Impact Report (Final Program EIR) regarding the proposed General Plan Update for the Town of Mammoth Lakes. The proposed project involves the update of the Town's General Plan, which provides the Town's long-range comprehensive direction to guide future development and identifies the community's environmental, social, and economic goals. The project's background, as well as the reasons for preparing a Final Program EIR are described below.

1.1 PURPOSE OF THE PROGRAM EIR

The purpose of an EIR is to identify the significant adverse impacts of a proposed project, identify feasible mitigation measures for those impacts and identify alternatives to the proposed project that might lessen or avoid adverse environmental impacts. This Final Program EIR serves as an information document for the public, the decision makers and all other interested agencies and parties.

The proposed project being considered by the Town of Mammoth Lakes and addressed in this Final Program EIR is the 2005 Comprehensive Update of the Town's General Plan (referred to as the General Plan Update, the updated Plan or the project). This document has been prepared as a Program EIR, which is intended to facilitate consideration of broad policy directions, program-level alternatives and mitigation measures consistent with the level of detail available for the Plan.

1.2 ENVIRONMENTAL REVIEW PROCESS

A Draft Program EIR was previously prepared and circulated regarding an earlier version of the General Plan Update. A Notice of Preparation (NOP) for the Draft Program EIR was distributed by certified mail to the State Clearinghouse, responsible agencies, trustee agencies, and others on April 25, 2003. The Town of Mammoth Lakes distributed a Notice of Availability (NOA) in accordance with CEQA Section 150879(a) and circulated the Draft Program EIR from February 2005 to May 17, 2005 for public comments.

Over 400 individual comments were received on the previously circulated Draft Program EIR from regulatory agencies, jurisdictions, and individuals. Comments were provided on all sections of the document. Based on the extent and range of comments the Town determined that the project should be revised or redefined and that additional and clarifying technical information was necessary. Based on Section 15088.5, which provides guidance on recirculation of an EIR

prior to certification, the Town determined that the proposed revisions to the General Plan and to the Draft Program EIR required the preparation of a Revised Draft Program EIR.

In accordance with CEQA Section 15088.5 and in order to avoid confusion over which comments are relevant and to avoid duplication, the Town determined that new letters specifically addressing the Revised Draft Program EIR should be submitted. The new letters have been responded to in the Final Program EIR. However, the comments received on the February 2005 Draft Program EIR are a part of the administrative record.

An NOP for the Revised Draft Program EIR was distributed by overnight delivery to the State Clearinghouse, as well as to responsible agencies, trustee agencies, and others on August 16, 2005. The NOP provided responsible and trustee agencies an opportunity to comment on the Plan and the issues to be evaluated in the Revised Draft Program EIR, thereby contributing to the ultimate scope and focus of environmental issues that are analyzed. The full text of the NOP for the Revised Draft Program EIR and a distribution list of agencies that received the NOP are located in Appendix A to the Revised Draft Program EIR. Written comments of those agencies and members of the public that responded to the NOP for the Revised Draft Program EIR are included in Appendix B.

Based on the Initial Study process, NOP comments, public input, comments to the previously circulated Draft Program EIR, and the NOP for the Revised Draft Program EIR, the Revised Draft Program EIR focused on the following 14 potentially significant environmental issues:

- Aesthetics, Light and Glare
- Air Quality
- Biological Resources
- Geology and Soils
- Public Safety/Hazards
- Hydrology and Water Quality
- Land Use and Planning
- Noise
- Population, Housing, and Employment
- Public Services
- Public Utilities
- Recreation
- Transportation and Circulation
- Cultural Resources

The Revised Draft Program EIR was circulated to local, regional, state, and federal agencies and to interested organizations and individuals for a 45-day review period. The Revised Draft Program EIR was available for review at the Town offices, County offices, the Public Library in the Town, and was also posted on the Town's website to facilitate public access. The public comment period on the Revised Draft Program EIR began on October 31, 2005 and ended on December 14, 2005.

The Final Program EIR is presented in three volumes. Volume I is the Final Program EIR, itself, and consists of this Introduction and Sections 1.0 through 10.0 as well as the

Appendices which were included in the Revised Draft EIR, all but this Introduction of which have been modified via redline/~~strikeout~~ to reflect corrections and additions attributable to comments received during the public review period. A total of 55 agencies, private organizations, and individuals submitted letters or made oral comments at public hearings containing some 935 separate comments. Volume II contains a matrix identifying the agencies, private organizations, and individuals who have commented on the Revised Draft Program EIR and the topics upon which they commented. The matrix is followed by responses to each of the comments submitted by the agencies, organizations, and individuals. Volume III contains reproduced copies of each of the comment letters submitted.

In accordance with Public Resources Code (PRC) Section 21092.5(a), written responses to comments received from public agencies were made available to those agencies at least 10 days prior to the first public hearing during which certification of the Final EIR may be considered. This Final Program EIR is to be provided to the Planning Commission and the Town Council, and those bodies will review and consider it and the General Plan Update, as well as alternatives to the General Plan Update evaluated in the Final Program EIR, in public hearings at which public testimony will be received.

1.3 COMPLIANCE WITH CEQA

This Final Program EIR has been prepared in accordance with California Environmental Quality Act (CEQA) (California Public Resources Code Section 21000 et seq.) and the Guidelines for CEQA Implementation (California Code of Regulations, Title 14, Chapter 3, Sections 15000-15387, hereafter referred to as the CEQA Guidelines). The Town is the Lead Agency (defined by CEQA as the agency with the ultimate authority to approve or deny the project) responsible for preparation of this Final Program EIR.

Section 15121(a) of the CEQA Guidelines defines an EIR as an "informational document which will inform public agency decision-makers and the public generally of the significant environmental effects of a project, identify possible ways to minimize the significant effects, and describe reasonable alternatives to the project." CEQA requires that the Town require all feasible mitigation before approving a project and provides that the Town cannot approve a project that has adverse environmental impacts that have not been mitigated to a less than significant level unless it adopts a Statement of Overriding Considerations, which sets forth the Town's findings explaining why the benefits of the project outweigh its adverse environmental consequences (CEQA Guidelines Sections 15091 and 15092). Thus, if any significant impacts identified in this Final Program EIR cannot be mitigated to a less than significant level, the Town decision makers must state in writing the reasons the Plan is being adopted despite the identified significant impacts (CEQA Guidelines Section 15092[b]).

As described in Section 15168(a) of the CEQA Guidelines, a Program EIR is one that may evaluate a series of actions that can be characterized as one large project and that are related either: (1) geographically; (2) as logical parts in the chain of contemplated actions; (3) in connection with issuance of rules, regulations, plans, or other general criteria to govern the conduct of a continuing program; or (4) as individual activities carried out under the same authorizing statutory or regulatory authority and having generally similar effects that can be mitigated in similar ways. A program level EIR is the appropriate framework within which to address environmental impacts associated with this project because the project is the update of the Town's General Plan, which would establish policies and regulatory criteria for future growth and development in the Town.

1.4 BACKGROUND TO THE GENERAL PLAN UPDATE

Every municipality and county is required by the California Planning and Zoning Law, Government Code Section 65000, et seq., to have a general plan that establishes the entity's goals, objective and policies that govern the physical development of the community and provide a foundation for making land use decisions based on goals and policies related to land use, transportation, population growth and distribution, development, open space, resource management, and other related physical, social and economic factors. A general plan is to describe the locations of various land uses and include a statement of community objectives and policies for realizing those objectives. The process by which a general plan is developed provides a community with an opportunity to evaluate existing public policies and to address critical issues in light of current information, trends, and technological innovation. A general plan is commonly referred to as a public entity's land use charter or constitution. If the Town adopts the proposed updated General Plan, the Town's zoning ordinance and all land use permits issued by the Town must thereafter be consistent with the adopted General Plan.

The General Plan addresses all lands within the Town's Municipal Boundary and the surrounding area (Planning Area) (See Figure 1-1 on page 1-7). Government Code Section 65300 requires that the Town include in its General Plan "any land outside of its [the Town] boundaries which in the planning agency's judgment bears relation to its planning." The Planning Area for Mammoth Lakes includes areas where existing or proposed facilities have a direct relationship to the Municipal Boundaries and services. The Planning Area includes lands in unincorporated Mono County for which the Town provides Municipal Services (extending from Whitmore Recreation area on the east to Mammoth Scenic Loop on the north) as well as Inyo National Forest (NF) lands located in Madera County that have their sole vehicular access through the Town and for which the Town provides public safety and building inspection services.

Town of Mammoth Lakes

Explanation

- Planning Area
- Municipal Boundary
- Urban Growth Boundary

N

0 4,000 8,000 Meters

Base Map: Benton Range and Yosemite Valley 100k Quadrangles

Source: Town of Mammoth Lakes Updated Plan, 2005

Figure 1-1 Map Showing Planning Area, Municipal Boundary and Urban Growth Boundary

The Municipal Boundary is the land contained within the incorporated limits of the Town. The area within the Municipal Boundary encompasses a total of approximately 25 square miles. The Mammoth Lakes Sphere of Influence is conterminous with the Municipal Boundary, indicating that no additional lands are anticipated to be annexed into the Municipal Boundary.

The Town adopted an Urban Growth Boundary (UGB) policy in 1993 in order to maintain a clear delineation between the developed portions of the community and the surrounding NF lands. The UGB policy limits residential, industrial and commercial development to those areas already designated for such uses and the ultimate size and intensity of the community would be limited to those areas not designated for open space. The UGB encompasses an area of approximately 4.5 square miles that is generally coincident with the Town development and the Mammoth Yosemite Airport (see Figure 1-1). The Plan text uses these terms to refer to the areas described above.

The Town appointed a General Plan Advisory Group (GPAG) to assist in the preparation of the General Plan Update. Over a two-year period, the GPAG members generally met twice a month. Their contributions included data review, development of policy recommendations, facilitation of public workshops, review of the draft General Plan elements, providing a sounding board to staff, and serving as a key communication link between the community and elected officials. All GPAG meetings were open to the public, and public input was encouraged. In addition, committee members were asked to act as facilitators and interpreters of the General Plan materials at multiple public workshops. The GPAG made invaluable contributions in developing and reviewing General Plan materials, guiding staff efforts, and maintaining communication with diverse stakeholders. Public input has contributed to development of the scope of the Revised Draft Program EIR.

To receive a wide range of public opinion on community issues and priorities, the Town held four public workshops. Approximately 100 people attended each session.

First Workshop: The first workshop was designed to review and solicit comments on the original Vision Statement to ensure that it accurately reflected current community objectives. During this workshop, residents were asked to provide a broad shopping list of their objectives for the town of Mammoth Lakes; this was the first major comprehensive brainstorming session. In total almost 200 objectives were recorded. The following is a sample of the ideas generated during this workshop:

- Mammoth Lakes provides high-quality accommodations with amenities,
- The economy is recreation and visitor based,
- Mammoth Lakes is a unique high-quality recreation-oriented destination resort community,

- Mammoth Lakes' character reflects its alpine setting and its history,
- There is unique, authentic, diverse architecture,
- Fish and wildlife share the resources with the community,
- Community is environmentally sensitive at a local and global level,
- Water resources are protected,
- Mixed commercial and residential projects are encouraged,
- No housing in North Village,
- Expand the urban limit for housing,
- Open space is preserved,
- The forest is preserved within the community,
- Limit building height to five stories,
- Cultural activities and events are unique and give Mammoth an identifiable and unmistakable character,
- Outdoor recreation is appropriate,
- Access to recreation and services is quick and economical, and
- The airport is marketed to improve international awareness of Mammoth Lakes as a destination resort.

Second Workshop: The second workshop was designed to obtain additional comments on community values and policy preferences and allow the community to rank and prioritize the objectives provided during the first workshop. This workshop included a series of questions on story boards that provided more detailed information on community preferences. At this workshop the community provided clear direction on the following items:

- No or minimal increase in congestion,
- Support for off-site parking,
- Support for increased trails and sidewalks,
- Year-round transit,
- Small-town image,
- Old Mammoth should stay as it is,
- Increase density for resident/workforce housing,
- Promote housing located above commercial,
- Maintain the urban limit,
- Support alternate ways of controlling ice and snow,
- Prohibit new wood burning stoves in any condominium in Mammoth Lakes,
- Support irrigation controls,
- Support more intensive recycling,
- Town center along Old Mammoth Road,
- Development of a second supermarket in the middle of town,

- Do not allow big-box retailers, and
- Weekend rental of single-family homes within the RMF-2 and Resort zones only.

No clear direction was provided on the following items, which indicated that these areas required further dialogue.

- Second dwellings on single-family lots,
- Buy condominiums for use as apartments,
- Prohibit new wood-burning stoves in any home in Mammoth Lakes,
- Economic diversification,
- More density for resort development, and
- Building heights.

Third Workshop: The third workshop focused on a review of the impacts of some of the major choices and policies that resulted from the first two workshops and presented the results of the "value survey" that was distributed during the second workshop.

Fourth Workshop: The fourth workshop was designed to inform the public and decision makers on the major directions of the project. To increase dialogue and public interest and prepare the community for participation in pending public hearings, visual aids were used to outline the overall process, key results from the values survey, the revised Vision Statement, a summary of projected population density and intensity for build-out of the proposed updated Plan. Additional visual aids provided overview information on the proposed Plan's policies on workforce housing, sustainability, community character, resident and visitor services and amenities, and the Town's destination resort economy and overview information on the Draft Program EIR. The proposed updated Plan presented at this workshop is the project that is addressed in this Revised Draft Program EIR.

In addition to the workshops, surveys were distributed and made available on the Town website. Presentations were given to service clubs, schools, and other community groups to solicit community feedback. All of this information was utilized by GPAG and Town staff as they drafted the General Plan.

The community raised five key emphasis areas during the General Plan Update process, which included the following: housing, services and amenities, destination resort economy, community character, and density. These interest areas, combined with the direction given in the Vision Statement, create the underlying intent of the General Plan. The project is described in detail in Chapter 3.0, Project Description.

1.5 MAJOR CHANGES BETWEEN THE CURRENT GENERAL PLAN UPDATE AND THE PREVIOUS VERSION

The following is an overview of the new information contained in the proposed General Plan Update:

- The project has been redefined to allow for a lesser number of dwelling units than the previously proposed project. The anticipated population at build out under the current General Plan is approximately 61,400. The anticipated population at build out from the version of the proposed updated General Plan that was analyzed in the previously circulated Draft Program EIR was 71,200. The anticipated population at build out from the project is now estimated to be approximately the same as the current General Plan (60,700).

In particular the version of the General Plan Update previously proposed and previously analyzed in the Draft Program EIR would have:

- Increased the density permitted in the Old Mammoth area from the two (2) units per gross acre permitted by the current General Plan to four (4) units per gross acre.
- Increased the density in the Canyon Lodge area from twelve (12) units per gross acre permitted by the current General Plan to forty-eight (48) units per units per gross acre.
- Allowed for residential development in the Institutional Public Designation at four (4) units per gross acre.
- Expanded the industrial designation.
- Increased density of the Specific Plan Designation from 3,020 rooms and 135,000 square feet of commercial permitted under the current General Plan to 3,720 rooms and 185,000 square feet of commercial.

The modified updated General Plan that was addressed in the Revised Draft Program EIR and in this Final Program EIR would:

- Retain the low density residential land use for the Old Mammoth area at two (2) units per gross acre that is allowed by the current General Plan.
- Would remove the High Density Residential 3 land use designation proposed by the Plan addressed in the previously circulated draft EIR.
- Would reduce density in the High Density Residential 1 and 2 land use designation from 12 to 10 units per acre.
- Maintain the existing density in the Commercial 1 and 2 land use designations.

- Restrict housing development in the Institutional/Public land use designation to a greater degree than in the Plan addressed in the previously circulated Draft Program EIR.

In order to establish comparative relationships, the maximum population (expressed as peak people at one time) expansion need in 2003, permitted under the existing General Plan, and as would be permitted under the previous version and one currently proposed General Plan Update are summarized in Table 1-1 on page 1-13.

1.6 USE OF THE FINAL PROGRAM EIR

The Final Program EIR serves at least two major purposes. First, the document informs the Town's decision-makers (i.e., the Planning Commission and Town Council) and the public of the potential environmental consequences that may be associated with implementation of the General Plan Update. Second, it identifies ways in which environmental impacts can be avoided or significantly reduced and alternatives that might reduce impact. As a Program EIR, this document does not examine the site-specific impacts that may occur as future projects are approved under the adopted General Plan. Section 15146(b) of the CEQA Guidelines recognizes that a programmatic general plan EIR would not be as detailed as a project-level EIR for a specific project proposal. Subsequent project proposals would require independent review in light of this Final Program EIR to determine whether an additional environmental document must be prepared. When subsequent or supplemental documentation is required for a project or activity proposed under the General Plan, this Final Program EIR may be incorporated by reference to significantly reduce the required documentation by allowing subsequent EIRs to focus only on project-specific environmental effects that were not considered in the Revised Draft Program EIR.

1.7 LEAD, RESPONSIBLE, AND TRUSTEE AGENCIES

The CEQA Guidelines define lead, responsible, and trustee agencies. The Town of Mammoth Lakes is the lead agency for the project because it holds principal responsibility for approving the project. A responsible agency refers to a public agency other than the lead agency that has discretionary approval over the project. A trustee agency refers to a state agency having jurisdiction by law over natural resources affected by a project. Table 1-2 on page 1-14 lists various agencies and their role.

Table 1-1

Population Projections

Description	Population
Existing Population (estimated as of 2003)	34,300
Existing General Plan	61,400
Version of General Plan that was the Project and labeled as the "Project Alternative" in the Previously Circulated Program EIR	71,200
Proposed Updated General Plan (the Project)	Approx. 60,700

Source: Town of Mammoth Lakes, 2005

Table 1-2

Approval and Agency Review/Consultation

Agency	Purpose of Review
Town of Mammoth Lakes	CEQA Lead Agency
U.S. Forest Service	Administer lands within the Planning Area
National Park Service	Administer lands within the Planning Area
Bureau of Land Management	Administer lands within the Planning Area
Mammoth Community Water District	Responsible for water supply and sewer treatment facilities
California Regional Water Quality Control Board, Lahontan Region	Responsible agency for water resources and related permitting
Mono County	Administers lands within the Planning Area
Mono County Local Agency Formation Commission (LAFCO)	Sphere of Influence Amendment, Annexations
Great Basin Unified Air Pollution Control District	Responsible Agency for air quality permitting
California Department of Fish and Game	Trustee Agency for fish and wildlife resources and related permitting
California Department of Transportation	Responsible agency for state highways
Army Corps of Engineers	Responsible agency for permits for project within waters of the U.S.
California Department of Toxic Substance Control	Responsible agency for regulating use of toxic and hazardous substances
University of California Trustee Agency	Regarding the Valentine Reserve

Source: Town of Mammoth Lakes, 2005

2.0 EXECUTIVE SUMMARY

2.1 INTRODUCTION

In accordance with CEQA Guidelines Section 15123, this Chapter of the EIR provides a brief description of the ~~project~~ proposed General Plan Update; identification of significant effects and proposed mitigation measures or alternatives that would reduce or avoid those effects; areas of controversy known to the lead agency; and issues to be resolved including the choice among alternatives and whether and how to mitigate the significant effects.

The project being considered by the Town and addressed in this ~~Revised Draft PEIR~~ Final Program EIR is the 2005 comprehensive update of the Town's General Plan. Prior to preparing and circulating the Revised Draft Program EIR upon which this Final Program EIR is based, the ~~The~~ Town of Mammoth Lakes circulated a Draft ~~PEIR~~ Program EIR for the General Plan Update ~~Project~~ in February 2005. The public comment period on the Draft ~~PEIR~~ Program EIR began in February 2005 and ended on May 17, 2005. Over 400 individual comments were received on the previously circulated Draft PEIR from regulatory agencies, jurisdictions, and individuals. Comments were provided on all sections of the document.

Based on the extent and range of comments the Town determined that the project should be revised or redefined and that additional and clarifying technical information was necessary. Based on CEQA Guidelines Section 15088.5, which provides guidance on recirculation of an EIR prior to certification, the Town determined that the proposed revisions to the ~~project~~ previous version of the General Plan Update and to the Draft Program EIR required the preparation of a ~~revised~~ Revised Draft Program EIR which ~~is to be~~ was also circulated ~~so as~~ to provide the public with the opportunity to review the new information. The new information ~~is~~ was contained in ~~this version of the document, which is referred to as~~ the Revised Draft ~~PEIR~~ Program EIR, which was circulated for public review and comment from October 31, 2005 and December 14, 2005. ~~See Chapter 1, Introduction, for a discussion regarding major changes between the February 2005 Draft PEIR and this document.~~

A total of 55 agencies, private organizations, and individuals submitted letters containing some 935 separate comments. Each of these comments has been responded to and a compilation of all of the Responses to Comments is presented in Volume II of this Final Program EIR. Reproduction of each of the comment letters is contained in Volume III. On the basis of the whole of the commentary and the responses thereto, the Revised Draft Program EIR has been modified via redline/~~strikeout~~ to reflect additions and/or corrections and this corrected document is the Final Program EIR in this Volume I.

2.2 PROJECT DESCRIPTION

The Town was incorporated in August of 1984. Upon incorporation, the Town prepared an EIR and the Mammoth Lakes General Plan. The timeframe of this plan was 20 years, with updates expected to occur approximately every five to ten years. The existing General Plan was adopted in 1987 and although some of the Town's General Plan Elements have been revised within the past ten years, the existing General Plan has never undergone a comprehensive update since it was adopted. The intent of the General Plan is to provide a comprehensive and integrated document based on current community values and an understanding of existing and projected conditions and needs.

The Planning Area, as defined in this EIR includes the entirety of land within the Town's Municipal Boundary and includes portions of land within unincorporated Mono County, certain lands owned by the City of Los Angeles, and other public and private entities. The Town boundaries (Municipal Boundary) includes approximately 24.4 square miles of land. The Municipal Boundary include two separate and distinct areas of land: (i) the portion of the Town that includes the principal Town structures, functions and activities; and (ii) an entirely separate "island" area (not physically connected with the rest of the Town) that surrounds the Mammoth Yosemite Airport (Airport) and which is located north of U.S. Highway 395 and approximately 10 miles east of the portion of the Town described in (i) above.

Of the total 24.4 square miles within the Municipal Boundary, approximately 4.6 square miles, or approximately 2,500 acres, lies within the UGB. The urbanized portion of the Town as well as the entirety of the Town "island" surrounding the Airport lie within the UGB. Within the UGB, approximately 3.5 square miles of land has been developed, leaving only 1.1 square miles of the total 4.6 square miles vacant non-federal land.

The land outside the UGB but inside the Municipal Boundary consists of national forest, public and national monument lands administered by the USFS and the U.S. Department of the Interior (Bureau of Land Management and National Park Service, respectively.)

2.3 2005 GENERAL PLAN VISION STATEMENT

As expressed in the General Plan's "Vision Statement", the community envisions Mammoth Lakes, today and in the future, as a community that is:

> "Surrounded by uniquely spectacular scenery and diverse four-season recreation opportunities, the community of Mammoth Lakes is committed to providing the

very highest quality of life for its residents and the highest quality of experience for its visitors."

It is the intent of the Town to maintain this identity and quality of life throughout the lifetime of this General Plan by maintaining adherence to the following Guiding Principles:

I The Mammoth Lakes community places a high value on the sustainability and continuity of our unique relationship with the natural environment. As stewards, we support that relationship with visitors as one way of maintaining our high quality of life.

II Mammoth Lakes is a great place to live and work because it is a strong, diverse yet cohesive, small-town community that supports families and individuals by providing a stable economy, high quality educational facilities and programs, and a broad range of community services including a participatory Town government.

III Mammoth Lakes has adequate and appropriate housing that its residents and workers can afford.

IV Mammoth Lakes is a year-round destination resort community based on diverse outdoor recreation and tourism.

V Mammoth Lakes has limited its urbanized area to protect its environment and to support its small-town atmosphere.

VI Mammoth Lakes has maintained high standards for development and design while allowing for a variety of styles that are complementary and appropriate to the Sierra Nevada alpine setting.

VII Mammoth Lakes has a variety of transportation options that emphasize connectivity, convenience, and alternatives to personal vehicle use with a strong pedestrian emphasis.

2.3.1 Organization of the 2005 General Plan

As shown in Table 2-1 on page 2-4, the 2005 General Plan has been organized into seven "chapters," each of which examines and addresses several interrelated issues. These chapters represent not only the seven state-mandated elements, but also the seven guiding principles of the Vision Statement. In accordance with California Government Code Section 65302, the General Plan must contain the following seven "elements": Land Use, Circulation, Housing, Conservation, Open Space, Noise and Safety.

Table 2-1

Organization of the Updated Plan

Chapters	Elements	Vision Statement Guiding Principles
Land Use	Land Use	Overarching Chapter
Environmental Sustainability	Conservation Element Land Use Element Open Space Element Noise Element [a]	I The Mammoth Lakes community places a high value on the sustainability and continuity of our unique relationship with the natural environment. As stewards, we support that relationship with visitors as one way of maintaining our high quality of life.
Community Health and Safety	Housing Element Conservation Element Open Space Element Safety Element Land Use Element	II Mammoth Lakes is a great place to live and work because it is a strong, diverse yet cohesive, small-town community that supports families and individuals by providing a stable economy, high quality educational facilities and programs, and a broad range of community services including a participatory Town government.
Housing	Housing Element [b] Land Use Element	III Mammoth Lakes has adequate and appropriate housing that its residents and workers can afford.
Destination Resort	Land Use Element Circulation Element	IV Mammoth Lakes is a year-round destination resort community based on diverse outdoor recreation and tourism.
Urban Growth Boundary	Land Use Element Open Space Element Parks and Recreation [c]	V Mammoth Lakes has limited its urbanized area to protect its environment and to support its small-town atmosphere.
Aesthetics	Land Use Element Housing Element Noise Element Safety Element	VI Mammoth Lakes has maintained high standards for development and design while allowing for a variety of styles that are complementary and appropriate to the Sierra Nevada alpine setting.
Transportation and Circulation	Circulation Element Housing Element Safety Element Land Use Element	VII Mammoth Lakes has a variety of transportation options that emphasize connectivity, convenience, and alternatives to personal vehicle use with a strong pedestrian emphasis.

[a] *Although additional noise policies have been added to the 2005 General Plan and additional noise analyses have been undertaken as part of this project the 1997 Noise Element is not being updated at this time. The Town of Mammoth Lakes anticipates adoption of a revised Noise Element in 2006.*

[b] *Local Housing Elements are required to be updated every five years as prescribed through the State Housing Element Law. The current Town of Mammoth Lakes Housing Element covers the five year period from 2003 to 2008 and has been structured to include formatting consistent with the overall General Plan. However, the content is not being revised at this time. The Town of Mammoth Lakes anticipates adoption of an updated Housing Element during 2007.*

[c] *Although additional parks and recreation related policies have been added to the 2005 General Plan the 1990 Parks and Recreation Element is not being updated at this time. The Town of Mammoth Lakes anticipates adoption of a revised Parks and Recreation Element in 2006.*

Source: Town of Mammoth Lakes, 2005

Three of the adopted General Plan elements are not part of the current update. These elements include, the optional Parks and Recreation Element, the Housing Element and the Noise Element.

Each chapter summarizes pertinent planning issues and contains a set of goals and objectives intended to address and resolve key issues. These chapters are further augmented with specific policies and implementation actions. State law mandates that each general plan element have equal stature, whereby no particular element is considered to supersede another element. The equal stature requirement assures the interdependency of the general plan elements.

2.3.2 Land Use

The Land Use Chapter has an important role in determining land use and development decisions. Consisting of both text and maps, this element defines the various land uses and designates their distribution, location and extent throughout the town. It contains standards for residential density as well as building intensity. Residential density is expressed in terms of dwelling units per acre while commercial and industrial building intensity is expressed in square feet.

Land Use designations define residential, commercial, industrial, institutional, public, open space and resort lands. Land use designations were developed based on community desires and in response to the specific characteristics of the General Plan Area. These designations are shown on the Land Use Map.

The proposed Updated Plan consists of a series of objectives, policies, and implementation measures, as well as land use designations that would allow for development with a balance between resort development, environmental sustainability and workforce housing. The following sections describe the land use designations and definitions that would be applied under the project.

2.3.3 Residential

2.3.3.1 Low Density Residential 1 (LDR-1)

The LDR-1 category provides for single family detached residential development at a maximum density of two units per gross acre. This density range is typical of residential subdivisions in Old Mammoth. Development standards, including larger minimum lot sizes, increased setbacks, and decreased lot coverage provide for large residential sites, preserve

vegetation, scenic values and privacy, respect the varied topography, and protect streams and riparian areas.

2.3.3.2 Low Density Residential 2 (LDR-2)

The LDR-2 category applies to single-family residential development of four dwelling units per gross acre. This density is typical of residential subdivisions in Mammoth Slopes, Mammoth Knolls and Majestic Pines. Development standards that include setbacks, height, and lot coverage are designed to provide for building separation, useable yards, snow storage, retention of native trees and other vegetation, and limited shading of adjoining parcels by structures.

2.3.3.3 High Density Residential 1 (HDR-1)

The HDR-1 designation is intended primarily to provide areas for development of multi-family housing at a maximum density of ten dwelling units per acre. These densities would accommodate townhouses, condominiums, and apartments. Density may be increased pursuant to state law or up to double for housing projects where all units are deed restricted for workforce housing pursuant to the provisions of the Housing Element in the General Plan. This designation includes standards that ensure compatibility with adjacent properties; provide adequate recreation space, snow storage, and building separation; and generally provide for well-designed livable developments. Setbacks and lot coverage also provide for preservation of existing trees. This designation applies to portions of Old Mammoth, the Sierra Valley Sites, and the Shady Rest Tract. The HDR-1 designation preserves areas of town for resident housing by prohibiting hotels, motels, timeshares, or other transient occupancies. The Shady Rest Tract is specifically designated for workforce housing.

2.3.3.4 High Density Residential 2 (HDR-2)

The HDR-2 designation permits transient occupancy and is intended for multi-family style developments including townhouses, condominiums, and apartments. A maximum density of ten dwelling units per acre is permitted. These developments have standards that ensure compatibility with adjacent properties; provide adequate recreation space, snow storage, and building separation; and generally provide for well-designed resort visitor developments. Setbacks and lot coverage also provide for preservation of existing trees.

2.3.4 Commercial

2.3.4.1 Commercial 1 (C-1)[1]

The C-1 designation is intended primarily to provide small-scale development along Main Street and to provide areas for visitor lodging and commercial services for residents and visitors, as well as accessory affordable and small-scale workforce apartment development. Intensive large-scale development is not appropriate in this designation because of terrain and access issues. This designation is located along Main Street between North Village and Mono Street and is intended to create a transition zone between the intensive retail commercial at the eastern end of Main Street and the resort commercial of North Village. Density of 20 units per acre is permitted; this may be increased up to double for development that provides additional community benefits. Development standards and policies associated with maximum density shall be developed as an implementation measure of the General Plan. All commercial development is encouraged, if not required to provide workforce housing on site. Building setbacks and lot coverage provide for light, trees and landscaping, and snow storage. Where residential uses or mixed residential/commercial uses are developed, development standards shall be appropriate to the specific area.

2.3.4.2 Commercial 2 (C-2)

This designation is designed and intended to provide areas for commercial services and sales of goods. Development policies promote pedestrian use, reduce vehicular conflicts, and improve the visual appearance of street frontages. Ground-floor street frontage on arterial streets shall be limited to commercial uses to foster the development of a pedestrian-oriented commercial district along Old Mammoth Road and the eastern section of Main Street from Old Mammoth Road to Mono Street. Multi-unit housing is encouraged as an accessory use. Density of 20 units[2] per acre is permitted; this may be increased up to double for development which provides additional community benefits. Development standards and policies associated with maximum density shall be developed as an implementation measure of the General Plan. Development standards support a pedestrian-oriented retail experience while maintaining views and some native trees.

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[1] *Commercial Density was revised from the General Plan Draft circulated in April 2005, Council and Planning Commission direction to not revised densities of the Commercial Designations through the General Plan. Language has been revised to reflect existing density, with the only exception being that doubling of density is not solely linked to understructure parking but for additional community benefits.*

[2] *Studio and one-bedrooms equal to ½ dwelling unit of density.*

2.3.5 Open Space (OS)

The OS designation is applied to lands that have significant recreational or environmental values. The OS designation permits development of facilities that support the environmental and recreational objectives of the community. This designation may include environmentally sensitive areas such as wetlands, floodplains, and streams. It may include recreation facilities such as parks, athletic fields, ski areas, golf courses, and community gathering spaces. This designation includes the patented mining claims located on Sherwin Ridge, the proposed future second nine holes of the Snowcreek golf course, Camp High Sierra, and Town properties along Mammoth Creek.

2.3.6 Institutional Public (IP)

The IP designation allows for public facilities and institutional uses. This designation is applied to lands that are anticipated to be used for schools, hospitals, governmental offices and facilities, museums, and related uses. As these uses are among the largest employers within the Town, affordable housing, as defined by the Town, would be permitted on IP lands located south of Meridian Boulevard and east of Old Mammoth Road. For housing development within areas designated IP, the HDR1 uses and development standards are applicable at a maximum density of up to four units per gross acre. Policies encouraging adequate pedestrian and transit facilities are included to promote alternatives to private vehicle access to places of employment, study, shopping, and recreation.

2.3.7 Resort (R)

The R designation is intended to provide mixed uses consistent with a mountain resort community. Visitor lodging, amenities, and services are the primary emphasis. Affordable workforce housing is allowed within the major resort developments. Amenities within resort developments include recreation, meeting spaces, and commercial services that support the resort atmosphere. This designation is generally applied to large parcels capable of providing a complete resort experience as found in Sierra Star, Snowcreek, and Juniper Ridge. New developments are physically connected internally and to all visitor oriented destinations with an integrated system of streets, sidewalks, and recreational paths. The density range for the R designation is a maximum of six units per acre for residential development other than visitor lodging, and up to a maximum of eight dwelling units per acre for visitor lodging. Residential density may be increased pursuant to state law. Most resort development projects are required to provide support commercial within their development area. Resort projects must also demonstrate consistency with the overall community goals and must demonstrate sufficient amenities to make the projects attractive in their own right. Lot coverage is limited to a maximum of 50 percent overall to provide space for outdoor recreation amenities.

2.3.8 Industrial (I)

The I designation is designed and intended to accommodate industrial uses needed to support a resort community. Uses allowed by right are generally those that are conducted entirely within an enclosed structure and may include light manufacturing, storage, and maintenance uses. Other permitted uses include heavy equipment storage and maintenance, batch plants, automobile repair and service, and similar uses. Policies require that industrial uses take measures to ensure screening, separation, and overall compatibility with adjacent properties.

2.3.9 North Village Specific Plan

The North Village Specific Plan (North Village SP) area provides for the highest intensity uses consistent with a mountain resort community and includes a mix of visitor oriented commercial and visitor lodging. North Village is intended to be the primary visitor attraction in the community due to its access via gondola to MMSA and its commercial village. Total residential and commercial development density in the North Village SP is calculated in terms of rooms. For the purpose of assessment development within this land use designation, commercial development is converted from residential density at a rate of 450 square feet of commercial per room. The maximum density under the North Village SP is 3,020 rooms and 135,000 square feet of commercial (equivalent to 300 rooms). Limited density transfers are permitted within the SP area. Density is not uniform, but rather is allocated by districts as specified in the North Village SP. Within the Plaza Resort district, commercial development is required to support the lodging development and to assure a successful village atmosphere. Residential development under the SP is limited to visitor lodging development and workforce housing to assure a successful village atmosphere. Affordable workforce housing is encouraged to be provided onsite. Total density within the North Village SP area may be increased pursuant to density bonus and density transfer policies or provision of a high level of community amenities and services. The maximum density with increases is 3,800 rooms and 220,000 square feet of commercial. All increased density must be in projects located within 500 yards of the gondola terminal.

2.3.10 Airport (A)

The A designation is applied to the Mammoth Yosemite Airport. Facilities and services associated with aviation including hangars, fueling, and fixed base operator services are permitted. Supporting uses including automobile rental, transient lodging, retail uses, and a RV park may be permitted. The Airport zone is designated for 250 visitor accommodation units and approximately 50,000 square feet of commercial development.

2.3.11 National Forest (NF)

The NF designation is applied to lands administered by the Inyo National Forest that are outside the adopted UGB. National Forest Land is not subject to the land use jurisdiction of the Town; however, building codes and other specific Town regulations apply on National Forest land within the Municipal Boundary.

2.3.12 Population Density and Intensity

California planning law requires that a General Plan include a statement of population intensity. Table 2-2 on page 2-10 shows the 2004 resident population estimates included 7,569 permanent residents. However, population intensity is more than just permanent residents and includes transient residents and visitors. Therefore, the General Plan uses the phrase people at one time (PAOT) to describe population intensity. The average peak population of 34,265 is the total number of PAOT, which represents the average winter Saturday. For the purposes of projecting PAOT, the Town applied a person/unit occupancy, based upon the 2000 census average of 2.4 people per household, for all units occupied by permanent residents and a person/unit occupancy of 4.0 was applied to all remaining visitor, second home, and seasonal resident units. This number was verified by the Town of Mammoth Lakes annual visitor survey and is similar to the unit occupancy factor of 4.1 which was used during the 1987 General Plan.

2.3.13 Key Land Use Policies

Key policies of the Land Use Chapter are the following:

- Density Transfers, may be permitted between the Resort, Specific Plan, and HDR-2 designations, subject to the development of a density transfer ordinance. Transfers may only occur if vehicle miles traveled is decreased, PAOT does not increase, and benefits are provided to the community by protecting environmentally sensitive sites, providing additional public services and amenities, or providing additional workforce housing.
- Open space in and adjacent to town is preserved and maintained for outdoor recreation opportunities.
- The development of commercial nodes that are interconnected, specialized and distinct in character is encouraged. These nodes include North Village, Snowcreek, Sierra Star, Main Street, Old Mammoth Road and Eagle Lodge.

Table 2-2

Existing Population (2004)

Units / Population	Permanent Resident	Seasonal	Second Home	Visitor	Total
Units	3,115	566	1,942	4,166	9,871
Population	7,569	2,264	7,768	16,664	34,265
Total Population	34,265[a]				

[a] *Population assumes seasonal, visitor, lodging and second home equal four people per dwelling. Permanent resident equal 2.4 per dwelling. 38.5 percent of residential units are permanent, 7 percent are seasonal, 24 percent are second home, and 29.5 percent are visitor. This does not equal 100 percent due to vacancies.*

Source: Town of Mammoth Lakes, 2005

2.4 AREAS OF CONTROVERSY AND ISSUES TO BE RESOLVED

According to CEQA Guidelines §15123(b)(2) and §15123(b)(3), the Executive Summary of an EIR shall identify potential areas of controversy and issues to be resolved by the decision-makers. Generally, these include issue areas where concerns have been raised, primarily through the Notice of Preparation process, indicating a level of controversy, as well as those areas where a significant unavoidable impact has been identified.

Due to the permanent change in visual character of newly developed areas of the Town, it is concluded that impacts to the Town's visual character and quality are significant and unavoidable. In addition, due to the increase in night lighting that would occur from development associated with the Updated Plan, the project would result in a significant impact with regard to night lighting and a reduction in the quality of star-gazing for residents and visitors that would result.

The Updated Plan would result in an increase in development compared with existing conditions, which would result in an increase in air pollutant emissions. While federal air quality standards would be met, the State 24-hour PM_{10} and 1-hour O_3 standard would continue to be exceeded. The O_3 impact is primarily the result of pollution generated in the San Joaquin Valley, transported by air currents and winds over the Sierra Nevadas Mountains into the Planning Area during limited periods of the year and is not a condition substantially generated by Town activities. Mitigation measure 4.2-1 would decrease the long-term impacts to air quality from wood burning and road dust, but attainment of the State standards for PM_{10} and ~~1 hour standard for~~ O_3 are not expected. Therefore, the impact from the project as well as in conjunction with related projects would be significant and unavoidable. Based on this, sensitive receptors could be exposed to substantial pollutant concentrations associated with implementation of the Updated Plan.

With regard to biological resources, the Updated Plan has potential for indirect impact upon resources beyond the UGB and even the Planning Area. Such potential is associated with incidental contact or intrusion impacts produced by growing resident and visitor recreational activities in areas surrounding the UGB, particularly during non-winter months. While excessive use of these areas is not indicated at present, the project does provide for a considerable growth increment. While the peak people at one time data (PAOT) is dominated by wintertime visitation, increases in non-winter months must also be expected. In the absence of data clearly establishing otherwise, it is conservatively concluded that such increased wilderness and open lands usage as may be indirectly caused by the Updated Plan could have significant impact upon one or more of the special status wildlife or plants species. In addition, the project would contribute to a cumulatively significant impact due to an increase in population that would occur from the related projects in combination with the project.

~~With regard to wildland fires, given~~ Given that the Town does not have control over the entire area, the project as well as cumulative impact with regard to wildland fires is considered to be potentially significant and unavoidable.

With regard to noise, implementation of the measures provided in the Updated Plan along with measures provided in the Noise Element would ensure that existing and proposed sensitive uses would not exceed applicable noise standards. However, a significant unavoidable impact would occur because of the increment in the noise generated by traffic from implementation of the Updated Plan, which would exceed current ambient levels by up to 6 dBA.[3] Therefore, the permanent increase in ambient noise levels in the UGB above existing levels that would result from development associated with the Updated Plan would be significant and unavoidable.

With regard to cumulative noise impacts, each of the related projects would have to comply with the applicable noise ordinance. No increase in traffic related noise levels within the Town are anticipated from the related projects. However, traffic from development associated with the Updated Plan combined with related project traffic could incrementally increase noise levels along ~~Interstate~~ U.S. Highway 395 within the Planning Area and result in a cumulatively significant noise impact.

Development associated with the Updated Plan would result in an increase of population and a corresponding demand for services. Library and hospital/health care services are not within the Town's jurisdiction. The existing library facility is at capacity and inadequate to address the proposed population growth. Although ~~construction of~~ a new library ~~could begin as~~

[3] *Community responses to changes in noise levels fluctuate, but a change in noise level from 3 to 5 dBA may be noticed by some individuals who are extremely sensitive to changes in noise, while a 5 dBA increase is readily noticeable.*

~~early as spring of 2006~~is currently under construction, the library is a County facility and ultimate control over the development of additional libraries is under the County's control. Similarly, health care services are provided by Southern Mono Health Care District. The Updated Plan is an approximately 20-year plan and the Southern Mono Health Care District does not have funded improvements for the expansion of facilities over a 20-year timeframe. Therefore, growth that would occur under the Updated Plan would result in a significant impact with regard to health services.

With regard to recreation, the increase in population would result in a corresponding demand for recreational facilities as well as an increased demand on existing facilities. Based on the performance objective for parks of 5 acres per 1000 permanent and seasonal residents, the Updated Plan would require an additional 22 acres of park and recreation facilities at buildout. The Town would need to construct or expand facilities in order to maintain the stated performance objective. The Town of Mammoth Lakes anticipates adoption of a revised Parks and Recreation Element in 2006. While the current park demand is met and parks are maintained, the demand for parks based on the adopted performance objective would increase as population increases. The Updated Plan contains policies and/or implementation measures and the Town collects development impact fees to reduce potential impacts to parks. However, based on the increased demand, and the uncertainty of the location of additional park lands, impacts to recreation are considered significant and unavoidable. In addition, the Updated Plan would redesignate Mammoth Creek Parks to IP. While the facilities at Mammoth Creek Park would remain with the redesignation, the redesignation would provide the potential loss of that park. If the park were redeveloped, the loss of the park would be significant and unavoidable.

In addition, MCWD provided water assessments during the process of the preparation of the Updated Plan. The water assessments conclude that water supply ~~is~~ may not currently be sufficient to serve the growth. While MCWD is pursuing various courses to reduce demand and increase the water supply for the region, the water supply at this time is uncertain.

Finally, as discussed in Section 6.B of this EIR, while the project is not growth inducing, the Updated Plan has the potential to induce significant growth-inducing impacts in one or more outlying communities and that those communities would not be able to satisfactorily mitigate such effects.

2.5 CLASSIFICATION OF ENVIRONMENTAL IMPACTS

Potential environmental impacts for the proposed project have been classified in the EIR in the following three categories:

- Less Than Significant Impact—the project would result in impacts that are below the identified thresholds of significance; or
- Potentially Significant Impact unless Mitigation Incorporated—the project would result in significant adverse impacts that can be feasibly mitigated to less than significant levels.
- Significant Unavoidable Impact—the project would result in significant adverse impacts that cannot be feasibly mitigated to less than significant levels.

2.6 ALTERNATIVES

The CEQA Guidelines require an EIR to "describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives." The CEQA Guidelines direct that selection of alternatives be guided by a "rule of reason" that requires the EIR to set forth only those alternatives necessary to permit a reasoned choice.

Chapter 7.0 of the Revised Draft PEIR contains a thorough discussion and analysis of the three alternatives to the project. Although alternatives need not be analyzed in the same depth as the proposed project, sufficient information must be provided to allow meaningful evaluation, analysis, and comparison with the project. The three alternatives considered in this Revised Draft PEIR are briefly described below.

2.6.1 No Project Alternative

Under the No Project Alternative, the Updated Plan would not be adopted. Therefore, development would occur under the existing (1987) General Plan. With the exception of state-mandated affordable housing density bonuses, the No Project Alternative would retain the existing General Plan in its current form, including all of its land use designations, policies and plans for the future development of Mammoth Lakes.

The land use pattern and distribution of land uses in the No Project Alternative would be similar to the land use pattern under the project. The No Project Alternative has fewer land use designations compared with the project. In other words, the categories of land uses would be more general under the No Project Alternative.

The No Project Alternative would result in a total of 17,396 residential (non-transient and transient) units compared with ~~17,020~~ 16,710 units under the project. The No Project Alternative would result in 376 units more than the project. The No Project Alternative would

result in 85,000 square feet less of commercial/office floor area and 154,233 square feet less of industrial floor area compared with the project. The projected population would be slightly greater in the No Project Alternative compared with the Updated Plan (61,376 people at one time compared with ~~60,680~~ approximately 60,700 people at one time under the Updated Plan).

2.6.2 Workforce/Affordable Housing Alternative

The Workforce/Affordable Housing Alternative emphasizes expanded affordable and workforce housing development. The same land use categories would be used in this Alternative as in the project. However, this alternative would allow for more workforce housing within the IP zone, would allow all developments such as transient projects to be eligible for Density Bonus provisions and would allow for a doubling of density for projects which provide workforce Housing. The land use pattern would be similar to the pattern proposed under the project.

This Alternative would include land uses and policies that support the development and preservation of new and existing housing to fully meet the needs of the Town's workforce and resident population. This Alternative would further allow the greatest density for all housing projects, including visitor accommodations that provide a minimum percentage of affordable/workforce housing. This alternative would increase the density bonuses permitted for all projects from 25 percent to a maximum of 50 percent. Densities for projects that are 100 percent restricted to Town-identified affordability levels may be eligible for density increases of up to 100 percent.

Under this alternative, the anticipated people at one time would be approximately ten percent greater than the projected people at one time that would occur under the project. The peak resident and visitor population expected at buildout under the Workforce/Affordable Housing Alternative is estimated at ~~67,225~~ approximately 67,200 PAOT as compared to ~~the~~ ~~60,680~~ approximately 60,700 PAOT under the project.

2.6.3 Reduced Development Alternative

The Reduced Development Alternative emphasizes reduced overall development and increased provision of open space in order to limit traffic, enhance air quality, and to protect the natural resources while still providing housing for resident and workforce population. In comparison with the project, the areas designated for Resort and Institutional Public uses would be less. More specifically, the area in the eastern portion of the UGB would be designated OS in this Alternative compared to IS under the project. In addition, the bell shaped property in the central portion of the UGB would be designated OS under this Alternative compared to a designation of Resort under the project. The Reduced Development Alternative would also change permitted uses at the Airport from visitor accommodations to Industrial uses.

In terms of intensity of development, while the area designated for residential land use would be similar to that under the project, the total number of units would be substantially less than the Updated Plan since the permitted densities in commercial areas would be less. This Alternative would reduce density for most undeveloped residential/visitor accommodation properties in the town while emphasizing the provision of affordable/workforce housing through the purchase of existing condominiums rather than through new construction.

Under this Alternative the anticipated population would be approximately 15 percent less than the project. The peak resident and visitor population expected at buildout under the Reduced Development Alternative is estimated at ~~51,210~~ approximately 51,200 PAOT as compared to ~~the 60,680~~ approximately 60,700 PAOT under the project.

2.7 SUMMARY OF IMPACTS AND MITIGATION MEASURES

Table 2-3 on page 2-17 presents a summary of the environmental impacts associated with the proposed project, the mitigation measures that would reduce or avoid those effects, and the level of significance of the impacts following implementation of the mitigation measures.

Table 2-3

Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation

Environmental Impacts	Mitigation Measures	Level of Significance After Mitigation
AESTHETICS **Issue 4.1-1:** Development associated with the project would not adversely affect scenic vistas within the Town.	No mitigation measures are required.	With implementation measures contained in the Updated Plan, impacts to scenic vistas would be less than significant.
Issue 4.1-2: Development associated with the project would impact scenic resources.	4.1-1~~The Town shall extend the existing easement along Mammoth Creek to the remaining undeveloped parcels to protect scenic resources along this corridor.~~ The Town shall enforce the existing setback requirements along Mammoth Creek as they apply to the remaining undeveloped parcels to protect this important biological and scenic corridor. As necessary to protect the resource, the Town shall secure easements as the remaining parcels develop to ensure that the corridor is permanently protected. 4.1-2: The Town shall amend the Design Review Guidelines to include standards to assure that public and private facilities in the vicinity of the Main Street (SR203) and the Old Mammoth Road intersection shall be designed to present an attractive face to the road. The standards shall address such issues as building height and massing, tree preservation, and lighting to ensure that public and private development in proximity to SR203, which is eligible for designation as a scenic highway, do not detract from scenic resources. 4.1-3: The Town through its environmental and design review process shall ensure that development	With the incorporation of mitigation measures, impacts to scenic resources resulting from development associated with the project would be reduced to a less than significant level.

Table 2-3 (Continued)

Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation

Environmental Impacts	Mitigation Measures	Level of Significance After Mitigation
	at the Mammoth Yosemite Airport that is visible from Highway 395 is consistent with State scenic highway regulations for Highway 395.	
Issue 4.1-3: Development associated with the project would degrade the existing visual character or quality within the Town.	No mitigation measures beyond the policies and/or implementation measures identified in the Updated Plan are feasible to reduce the potential impacts from development on visual quality and character.	Due to the permanent change in visual character of newly developed areas of the Town, impacts to the Town's visual character and quality are significant and unavoidable.
Issue 4.1-4: Development associated with the project would create a new source of substantial light, which would adversely affect nighttime views in the Town.	4.1-4 The Town shall review the existing Lighting Ordinance and revise the ordinance, where feasible, to protect views of the night sky and to ensure that the intent of the Lighting Ordinance is met. The Lighting Ordinance shall be amended to consider the feasibility of restrictions on lighting that include, but are not limited to: unshielded bulbs wattage restrictions, complete shielding on fixtures, shielding of all lights on buildings over approximately 35 feet tall, cumulative wattage limits, and holiday lighting timing limits.	Even with the policies and measures regarding lighting in the Updated Plan as well as the Town's lighting regulations and Mitigation Measure 4.1-4, ~~Due~~due to the increase in development compared with existing conditions, light impacts associated with development that would occur under the Updated Plan would be significant and unavoidable.
AIR QUALITY **Issue 4.2-1:** Development associated with implementation of the Updated Plan could conflict with or obstruct implementation of the applicable air quality plan.	4.2-1 ~~The Town shall evaluate PM_{10} levels on an annual basis using the AQMP model. The Until a revised source contribution study is completed, the~~ The Town shall limit the total Town VMT to the~~a~~ level specified in Municipal Code Section 8.30.110~~, currently 106,600~~. ~~that, when modeled, shows PM_{10} levels are less than the federal standard of 150 $\mu g/m^3$. Offset credits should be included from elimination or reduction in emissions from other sources (e.g., wood stoves, fire places, the use of~~	Implementation of the policy measures in the Updated Plan and the mitigation measure would ensure that the Updated Plan would not conflict with or obstruct implementation of the AQMP. Impacts would be less than significant.

Table 2-3 (Continued)

Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation

Environmental Impacts	Mitigation Measures	Level of Significance After Mitigation
	~~any traction material, more suitable than cinders, that resists being milled into sub-10 micron diameter particles, etc.).~~ The Town shall require a VMT analysis for specific projects in those cases where the project would result in 500 daily vehicle trips for incorporation into the AQMP model. VMT analyses shall be ~~required to demonstrate compliance with the federal standard of 150 µg/m^3 and be~~ conducted early in the environmental review process so that mitigation may be included in the project design.	
Issue 4.2-2: Development associated with implementation of the Updated Plan could violate an air quality standard or contribute substantially to an existing or projected air quality violation.	4.2-2 The Town shall evaluate PM_{10} levels on an annual basis using the AQMP model. The Town shall conduct surveys, as needed, to establish an accurate inventory of wood burning and pellet burning appliances, to validate assumptions regarding annual and daily wood and pellet usage patterns, to determine compliance rates with "No Burn" days, and to monitor effectiveness of VMT-reducing implementation measures. The Town shall condition or restrict future development as necessary to manage Town wide VMT at levels that ensure compliance with federal PM10 NAAQS. The Town shall limit the total Town VMT to a level that, when modeled, shows PM_{10} levels are less than the federal standard of 150 µg/m^3. ~~The Town shall limit the total Town VMT to a level that, when modeled, shows PM10 levels are less than the federal standard of 150~~	With the incorporation of the implementation measures in the Updated Plan and the mitigation measure, maintenance of the 24-hour federal standard~~s~~ can be expected. ~~-~~The State 24~~-~~-hour PM_{10} and 1 hour O_3 standard~~s~~ would continue to be exceeded. However, the O_3 impact is primarily the result of pollution transport from the San Joaquin Valley and is not a condition substantially generated by Town activities, policies, or the Updated Plan. In fact, exceedances of the O_3 standard would likely occur without any contribution of emissions of O_3 precursors (nitrogen oxides and hydrocarbons) from Town activity. Mitigation measures would decrease the long-term impacts to air quality from wood burning and road dust, but attainment of the State standard for PM_{10} and ~~1 hour standard for~~ O_3 are not expected, and the impact remains significant and unavoidable.

Table 2-3 (Continued)

Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation

Environmental Impacts	Mitigation Measures	Level of Significance After Mitigation
	~~µg/m3. Offset credits should be included from elimination or reduction in emissions from other sources (e.g., wood stoves, fire places, the use of any traction material, more suitable than cinders, that resists being milled into sub 10 micron diameter particles, etc.). The Town shall require a VMT analysis for specific projects in those cases where the project would result in 500 daily vehicle trips for incorporation into the AQMP model. VMT analyses shall be required to demonstrate compliance with the federal standard of 150 µg/m3 and be conducted early in the environmental review process so that mitigation may be included in the project design.~~	
Issue 4.2-3: Development associated with implementation of the Updated Plan would result in a cumulatively considerable net increase of a criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions, which exceed quantitative thresholds for ozone precursors).	~~See~~ Mitigation Measures 4.2-1 and 4.2-2~~, which~~ would ensure that the Updated Plan would meet the federal standards. However, it is unlikely that the Basin will attain the state PM_{10} and O_3 standards. No additional feasible mitigation measures were identified.	Implementation of the measures in the Updated Plan and Mitigation Measure 4.2-1 and 4.2-2 would be expected to ensure that the ~~Updated Plan would meet~~ Basin attains and matains compliance with the federal PM_{10} standard. Nonetheless, it is predicted that the Mammoth Lakes portion of the GBVAB will continue to exceed State 24-hour PM_{10} and 1-hour O_3 standards. ~~the Mammoth Lakes portion of the GBVAB is designated as nonattainment for O_3 (State standard only) and a nonattainment area for PM_{10} (State and federal standards). In addition, the State 24 hour PM_{10} and 1 hour O_3 standard continue to be exceeded.~~ Therefore, the increase in pollutant emissions associated with implementation of the Updated Plan would be cumulatively

Table 2-3 (Continued)

Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation

Environmental Impacts	Mitigation Measures	Level of Significance After Mitigation
		significant and unavoidable. ~~However~~ As mentioned above, the O_3 impact is primarily the result of pollution transport ~~from the San Joaquin Valley and is~~ not a condition substantially generated by Town activities, policies, or the Updated Plan. ~~In fact, exceedances of the O_3 standard would likely occur without any contribution of emissions of O_3 precursors (nitrogen oxides and hydrocarbons) from Town activity.~~
Issue 4.2-4: Development associated with implementation of the Updated Plan could expose sensitive receptors to substantial pollutant concentrations.	See Mitigation Measure 4.2-1, which would ensure that the Updated Plan would meet the federal standards.	Implementation of the measures in the Updated Plan and Mitigation Measure 4.2-1 and 4.2-2 would be expected to ensure that the Updated Plan would not expose sensitive receptors to PM_{10} concentrations that would exceed the federal standard. Nonetheless, the State 24-hour PM_{10} and 1-hour O_3 standard will continue to be exceeded. Therefore, sensitive receptors could be exposed to substantial pollutant concentrations associated with implementation of the Updated Plan. ~~However, the~~ The O_3 impact is primarily the result of pollution transport from the San Joaquin Valley and is not a condition substantially generated by Town activities, policies, or the Updated Plan. Impacts are considered significant and unavoidable. ~~In fact, exceedances of the O_3 standard would likely occur without any contribution of emissions of O_3 precursors (nitrogen oxides and hydrocarbons) from Town activity.~~
Issue 4.2-5: Development associated with implementation of the Updated Plan will not create	No mitigation measures are required.	The Updated Plan does not propose any specific development projects, no specific sources of

Table 2-3 (Continued)

Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation

Environmental Impacts	Mitigation Measures	Level of Significance After Mitigation
objectional odors. ~~The Updated Plan does not propose any specific development projects, no specific sources of objectionable odors can be identified. However, any specific development projects would be required to comply with standards established in the local general plan or applicable standards of other agencies.~~		objectionable odors can be identified. However, any specific development projects would be required to comply with standards established in the local general plan or applicable standards of other agencies. Thus,~~Impacts~~ impacts related to the creation of objectionable odors affecting a substantial number of people would be less than significant.
BIOLOGICAL RESOURCES **Issue 4.3-1:** As a result of development in accordance with the Updated Plan, animal species having a special status could be affected by a loss or fragmentation of habitat and plant species with a special status could be affected by a loss of numbers or habitat. In addition to the limited potential for direct impact on biological resources within the Urban Growth Boundary, the Updated Plan has potential for indirect impact upon resources beyond the UGB and even the Planning Area. Such potential is associated with incidental contact or intrusion impacts produced by growing resident and visitor recreational activities in areas surrounding the UGB, particularly during non-winter months.	~~4.3-1The Town shall require developers of residential properties to include a disclosure statement that Mammoth Lakes is an area of habitat for mountain lions which indicates a potential risk, particularly to children and small pets.~~ No feasible mitigation measures have been identified.	~~Impacts related to candidate, sensitive, or special status species would be less than significant due to development within the Urban Growth Boundary, and potentially significant and unavoidable from contact intrusion due to Plan-induced increases in recreational visitation to wilderness and open lands areas.~~With the implementation measures contained in the Updated Plan, development under the Plan within the Urban Growth Boundary would result in less than significant impacts to candidate, sensitive, or special status species. Mitigation of potential indirect impacts upon special status wildlife or plant species outside of the Urban Growth Boundary and, for the most part, beyond the Municipal Boundaries cannot be feasibly implemented in the context of the Updated Plan. The Town has no jurisdiction to implement mitigation beyond its boundaries, and policies or actions which restrict access to the areas in question conflict directly with other equally important policies to enhance recreational opportunities. Thus, no feasible mitigation measures are recommended to address this potentially significant impact. As such, potentially significant and unavoidable impacts from contact

Table 2-3 (Continued)

Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation

Environmental Impacts	Mitigation Measures	Level of Significance After Mitigation
		intrusion due to Plan induced increases in recreational visitation to wilderness and open lands areas would occur.
Issue 4.3-2: Implementation of the Updated Plan would result in the direct removal of native vegetation on development sites, and further impacts could occur on local habitat and invasive species management efforts through the potential introduction of noxious weeds and pests into areas where surface disturbance results from new development or where straw bales are used to control erosion at construction sites. Also, project implementation could have a number of indirect adverse impacts on riparian habitat, increased withdrawals of groundwater and surface water supplies, increased pollution of stormwater and runoff flows, and other related effects.	No mitigation measures are required.	The Updated Plan includes policies and implementation measures that establish a framework for addressing impacts to riparian habitats or other sensitive natural community at the project level and as such, impacts would be less than significant.

Table 2-3 (Continued)

Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation

Environmental Impacts	Mitigation Measures	Level of Significance After Mitigation
Issue 4.3-3: Development under the project could directly and indirectly impact wetlands and other jurisdictional waters of the U.S. The U.S. Army Corps of Engineers regulates the fill of wetlands and other jurisdictional waters of the U.S. under Section 404 of the CWA. In addition, the Town has adopted Federal Emergency Management Agency (FEMA) requirements for setbacks within the floodplain, which would apply to the Mammoth Creek corridor.	No mitigation measures are required.	The Updated Plan includes policies and implementation measures that establish a framework for addressing impacts to federally protected wetlands. Therefore, impacts to wetlands would be reduced to a less than significant level.
Issue 4.3-4: Development in accordance with the Updated Plan could potentially create barriers to wildlife movement and dispersal. However, the potential for development to impact wildlife migration corridors and wildlife movement would be limited since future development would be concentrated within the UGB.	4.3-1: The Town shall require developers of residential properties to include a disclosure statement that Mammoth Lakes is an area of habitat for mountain lions which indicates a potential risk, particularly to children and small pets.	With the mitigation measures and policies and implementation measures contained within the Updated Plan, impacts to the movement of native resident or migratory fish or wildlife species or established native resident or migratory wildlife corridors and nursery sites would be less than significant.
Issue 4.3-5: The Town has adopted Municipal Codes to provide protection to natural resources within Town limits, including Municipal Code 17.16.050, which requires preservation of trees and other vegetation. In addition, the Updated Plan provides policies and implementation measures to protect native and large specimen trees and other vegetation.	No mitigation measures are required.	Policies and implementation measures contained within the Updated Plan that establish a framework for addressing impacts to biological resources, including trees, do not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance. Therefore, impacts would be less than significant.
Issue 4.3-6: There are no Habitat Conservation Plans nor Natural Community Conservation Plans in place within the Planning Area. However, other approved plans are in place that protect biological resources within the Planning Area.	No mitigation measures are required.	The Updated Plan would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. Therefore, impacts with regard

Table 2-3 (Continued)

Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation

Environmental Impacts	Mitigation Measures	Level of Significance After Mitigation
		to other such plans would be less than significant. Incorporation of the policies and implementation measures contained in the Updated Plan would reduce impacts to biological resources to a less than significant level.
GEOLOGY, SEISMICITY, SOILS, AND MINERAL RESOURCES **Issue 4.4-1:** Implementation of the Updated Plan would not result in the exposure of people or structures to potential effects due to seismic activity and associated ground failure, landslides, or volcanic activity. In addition, the project would not expose people to carbon dioxide from natural sources.	No mitigation measures are required.	With the policies and implementation measures contained in the Updated Plan, impacts regarding seismic activity and associated ground failure, landslides, and volcanic activity, as well as carbon dioxide from natural sources would be less than significant.
Issue 4.4-2: The implementation of the Updated Plan would not result in impacts with regard to soil erosion or the loss of topsoil.	No mitigation measures are required.	With the policies and implementation measures contained in the Updated Plan, impacts with regard to soil erosion and loss of topsoil would be less than significant.
Issue 4.4-3: In general, slopes in the Mammoth Lakes Planning Area are composed of stable materials; there are no mapped areas of unstable slopes and no known landslides have occurred.	No mitigation measures are required.	With implementation measures contained in the Updated Plan, impacts related to unstable soils would be less than significant.
Issue 4.4-4: Soils in the survey area are sensitive to disturbances by development; however, no expansive soils have been mapped or encountered in the Project Area.	No mitigation measures are required.	With implementation measures contained in the Updated Plan, impacts with regard to expansive soils would be less than significant.

Table 2-3 (Continued)

Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation

Environmental Impacts	Mitigation Measures	Level of Significance After Mitigation
Issue 4.4-5: The Basin Plan for the Lahontan Region of the State Water Resources Control Board prohibits individual septic systems in the Mammoth Basin above an elevation of 7,650 feet and within the entire drainage area of the Town. Therefore, septic tanks would not be used for wastewater disposal. No alternative wastewater disposal systems are proposed. The Town has existing infrastructure for the treatment of wastewater.	No mitigation measures are required.	The project would not result in an impact with regard to wastewater treatment and the use of septic systems or alternative wastewater disposal systems.
Issue 4.4-6: The activities associated with mineral development under the Updated Plan have the potential to impact the environment through hauling activities, transport emissions, noise and other means. Any projects associated with mineral development would be required to undergo environmental review and permitting. In addition, a geothermal lease that is located within the northeastern portion of the Municipal Boundary extends to the northern boundary of the Planning Area. Implementation of the Updated Plan could potentially impede geothermal exploration in that area due to concerns for land use compatibility impacts.	4.4-1: The Town shall continue to work with the MPLP to ensure that geothermal exploration in the Planning Area does not conflict with land uses in the Town and at the same time to ensure continued exploration and development of geothermal resources in the planning area in a manner that is compatible with Town land uses. 4.4-2: The Town shall continue to investigate the feasibility and opportunities for direct use of geothermal energy to meet Town heating requirements and other project objectives.	With the incorporation of the implementation measures contained in the Updated Plan and mitigation resources, impacts to a known mineral resource or a locally important mineral resource would be less than significant.

Table 2-3 (Continued)

Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation

Environmental Impacts	Mitigation Measures	Level of Significance After Mitigation
PUBLIC SAFETY AND HAZARDS		
Issue 4.5-1: The Updated Plan would allow for the development of non-residential uses, which would create the potential for increases in the use and transport of hazardous materials and increases in the generation of hazardous waste.	No mitigation measures are required.	Oversight by the appropriate regulatory agencies and compliance with the applicable regulations would maintain risks at less than significant levels. In addition, implementation measures in the Updated Plan would ensure that impacts regarding the routine transport, use, or disposal of hazardous materials are reduced to a less than significant level.
Issue 4.5-2: New commercial and industrial development or the expansion of commercial and industrial uses would result in an increase in the use and transport of hazardous materials within the Town, which, in turn, would increase the potential for accidental releases of hazardous materials. These accidental releases could cause contamination of soils, surface water and groundwater.	No mitigation measures are required.	Oversight by the appropriate regulatory agencies and compliance with the applicable regulations would maintain risks at acceptable levels. In addition, implementation measures in the Updated Plan would ensure that impacts regarding reasonably foreseeable upset and accident conditions involving the release of hazardous materials are reduced to a less than significant level.
Issue 4.5-3: While the Updated Plan could result in the location of a use that emits or handles hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school, any such proposed use would be required to undergo environmental analysis to ensure that the impacts would be less than significant.	No mitigation measures are required.	With the policies and implementation measures contained in the Updated Plan, impacts to schools related to hazardous materials would be less than significant.

Table 2-3 (Continued)

Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation

Environmental Impacts	Mitigation Measures	Level of Significance After Mitigation
Issue 4.5-4: Additional development in the vicinity of the Mammoth Yosemite Airport increases the potential for safety hazards. However, mitigation measures in the Mammoth Yosemite Airport Supplement to Subsequent EIR requires future development to comply with the adopted land use policies of the Airport Land Use Commission, and all development related to the Airport must be in compliance with the adopted Airport Land Use Plan.	No mitigation measures are required.	With the policies and implementation measures contained in the Updated Plan, compliance with the mitigation measures in the SSEIR, compliance with federal regulations and the Airport Land Use Plan, impacts regarding safety for people working or residing in the area of the Mammoth Yosemite Airport would be less than significant.
Issue 4.5-5: The Town has an adopted Emergency Operations Plan (EOP) that meets the state's Standardized Emergency Management System requirements for state law. Development under the Updated Plan would not impair implementation or physically interfere with the EOP, because no circulation changes are being proposed which conflict with the procedures set forth in the plan.	No mitigation measures are required.	With implementation measures contained in the Updated Plan and compliance with Emergency Operations Plan, impacts with regard to an adopted emergency response plan or emergency evacuation plan would be less than significant.
Issue 4.5-6: The Mammoth Lakes Planning Area has been rated as having a very high fire potential. Additional development in the Planning Area would increase the number and variety of potential ignition sources for wildland fires; however, this impact is somewhat reduced by the fact that additional development is to be located in the UGB and most of the wildland areas are located outside the UGB. Still, the potential impact associated with this exposure is considered significant.	No feasible mitigation measures have been identified.	Assuming agencies with jurisdiction over surrounding areas susceptible to wildland fires (i.e., USFS, Inyo National Forest, etc) effectively manage fuel sources, the risk of exposure to wildland fires would be reduced but not eliminated. However, given that the Town does not have control over the entire area and additional feasible mitigation measures have not been identified to reduce the risk, the wildland fire impact would be potentially significant and unavoidable.

Table 2-3 (Continued)

Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation

Environmental Impacts	Mitigation Measures	Level of Significance After Mitigation
Issue 4.5-7: Structural fires could result in significant safety risks to people and potential loss of property. However, all future development under the Updated Plan would be subject to site plan review by the MLFPD and the Uniform Fire Code. Areas where avalanche potential has been identified have been overlaid with a Snow Deposition Design (SDD) Zone, and no critical or permanently occupied facilities within the Planning Area would be located within a high avalanche hazard area.	No mitigation measures are required.	With implementation measures contained in the Updated Plan, impacts regarding natural conditions, including structural fires and avalanches, would be less than significant.
HYDROLOGY AND WATER QUALITY **Issue 4.6-1:** The Updated Plan would not result in a violation of any water quality standards or waste discharge requirements.	No mitigation measures are required.	With implementation measures contained in the Updated Plan, impacts with regard to water quality standards or waste discharge requirements would be less than significant.
Issue 4.6-2: All projects constructed under the Updated Plan must comply with applicable federal, state and/or local requirements to reduce erosion and siltation, including the NPDES Program. All development must also comply with applicable Municipal Code Sections regarding drainage.	No mitigation measures are required.	With implementation measures contained in the Updated Plan and compliance with federal, state and local design and construction requirements, impacts to drainage patterns would be less than significant.
Issue 4.6-3: Development under the Updated Plan located within an identified flood hazard area would be subject to the design requirements and regulations set forth by the Town, Mono County and/or FEMA. All development must comply with Municipal Code Sections regarding runoff.	No mitigation measures are required.	With implementation measures contained in the Updated Plan and compliance with federal, state and local design and construction requirements, impacts to the rate or amount of surface runoff in a manner that would result in flooding on or off site would be less than significant.

Table 2-3 (Continued)

Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation

Environmental Impacts	Mitigation Measures	Level of Significance After Mitigation
Issue 4.6-4: The 2005 update to the SDMP provides hydraulic modeling of the drainage system and prioritizes the implementation of storm drainage facility improvements designed to accommodate development allowed in the existing Plan. Since the general distribution and types of land uses are similar under the Updated Plan, the improvements would generally address drainage under the Updated Plan. In addition, all construction projects under the Plan would be subject to compliance with all applicable federal, state and local water quality and waste discharge requirements, including the NPDES Program.	No mitigation measures are required.	With implementation measures contained in the Updated Plan and compliance with federal, state and local design and construction requirements, impacts with regard to storm drain capacities and polluted runoff would be less than significant.
Issue 4.6-5: Development associated with the Updated Plan would not result in a substantial degradation of water quality due to compliance with all applicable federal, state and local regulations, as well as implementation of the applicable implementation measures.	No mitigation measures are required.	With implementation measures contained in the Updated Plan and compliance with federal, state and local design and construction requirements, impacts with regard to water quality would be less than significant.
Issue 4.6-6: The Town has established a conservation easement and building setbacks along Mammoth Creek for the purpose of resource and floodplain management. Although some existing land uses are located within the mapped flood area for Mammoth Creek, no future development areas would be located within the 100-year flood zone.	No mitigation measures are required.	With implementation measures contained in the Updated Plan and compliance with all applicable federal, state and local design requirements, including FEMA design requirements, impacts with regard to flooding would be less than significant.
Issue 4.6-7: The Updated Plan identifies several potential flood hazard areas in the Town, including Murphy Gulch and the Mammoth Creek drainage. However, under the Updated Plan, all future development within an identified flood hazard area	No mitigation measures are required.	With implementation measures contained in the Updated Plan and compliance with all applicable federal, state and local design requirements, including FEMA design requirements, impacts with regard to flooding as a result of the placement of

Table 2-3 (Continued)

Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation

Environmental Impacts	Mitigation Measures	Level of Significance After Mitigation
would be subject to the design requirements and regulations set forth by the Town, Mono County and/or FEMA.		structures within a designated flood hazard area would be less than significant.
Issue 4.6-8: No future dams or levees are anticipated in the Updated Plan. However, if any future dams and levees were necessary, they would be designed to conform to all applicable safety and design standards of all applicable federal, state and local requirements.	No mitigation measures are required.	With implementation measures contained in the Updated Plan and compliance with all applicable federal, state and local design requirements, including FEMA design requirements, impacts with regard to flooding from failure of a levee or dam would be less than significant.
Issue 4.6-9: A Storm Drain Master Plan update provides hydraulic modeling of the drainage system and prioritizes the implementation of storm drainage facility improvements designed to accommodate development under the Updated Plan. Also, all new storm drain facility upgrades or expansion of existing facilities would be subject to compliance with all applicable federal, state and local construction requirements, including the NPDES Program.	No mitigation measures are required.	Implementation of the Updated Plan would not result in construction of new storm water drainage facilities or expansion of existing facilities, and, therefore, impacts with regard to construction of new or expanded storm water drainage facilities would be less than significant.
Issue 4.6-10: Implementation of the Updated Plan would not result in a higher probability of inundation by seiche, tsunami, or mudflow. Any new development placed in a potential seiche inundation zone would undergo a site-specific analysis to ensure appropriate drainage is in place or would be constructed so that people or structures are not exposed to significant risk of loss, injury or death involving flooding.	No mitigation measures are required.	Implementation of the Updated Plan would not result in people or structures being inundated by seiche, tsunami, or mudflow, and as such, impacts would be less than significant.

Table 2-3 (Continued)

Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation

Environmental Impacts	Mitigation Measures	Level of Significance After Mitigation
LAND USE AND PLANNING **Issue 4.7-1:** Policies and implementation measures in the Updated Plan serve to create a community that is integrated, cohesive, interconnected and that provides for alternative modes of transportation. The intensification of development adjacent to existing land uses may create incompatibilities. However, the zoning code contains development standards to protect and buffer sensitive land uses from adjacent development. Land use compatibility would be reviewed at the time of site specific development and appropriate measures would be required.	No mitigation measures are required.	With policies and implementation measures contained in the Updated Plan, impacts regarding the physical division of a community or land use incompatibilities would be less than significant.
Issue 4.7-2: The project is consistent with the plans and policies outlined in the Mono County General Plan including the county's goals, objectives, and policies for the Mammoth vicinity and the Mono County land use designations and densities.	No mitigation measures are required.	The project would not conflict with applicable land use plans, policies, or regulations and, therefore, this impact would be less than significant.
NOISE **Issue 4.8-1:** The Updated Plan does not propose any specific development projects and no specific sources of noise can be identified. However, any specific development projects would be required to comply with standards established in the Updated Plan or the Town's noise ordinance, or applicable standards of other agencies. Oversight by the appropriate agencies and compliance with the applicable regulations would maintain noise levels within acceptable levels.	No mitigation measures are required.	Impacts related to the exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies would be less than significant.

Table 2-3 (Continued)

Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation

Environmental Impacts	Mitigation Measures	Level of Significance After Mitigation
Issue 4.8-2: The Updated Plan does not propose any specific development projects and no specific sources of groundborne vibration or groundborne noise can be identified. However, any specific development projects would be required to comply with standards established in the local general plan or noise ordinance (i.e., Section 8.16.090), or applicable standards of other agencies. Oversight by the appropriate agencies and compliance with the applicable regulations would result in a less than significant impact with regard to groundborne vibration and groundborne noise.	No mitigation measures are required.	Impacts related to the exposure of persons to excessive groundborne vibration or groundborne noise would be less than significant.
Issue 4.8-3: Development associated with implementation of the Updated Plan could result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project. Implementation of the measures provided in the Updated Plan along with measures provided in the Noise Element would ensure that existing and proposed sensitive uses would not exceed applicable noise standards, there may nonetheless be a significant unavoidable impact because the noise generated by traffic from implementation of the Updated Plan would exceed current ambient levels by up to 6 dBA. Forest Trail east of Minaret would increase from 48 dB L_{dn} to 54 dB L_{dn}. An L_{dn} of 54 dB is well within the generally acceptable outside noise level provided in the Noise Element of 60 dB Ldn, but an increase of 6 dBA would be readily noticeable and, thus, considered a substantial change in noise levels.	No additional feasible mitigation measures have been identified.	With the existing regulations and the implementation measures in the Updated Plan and the Noise Element, the Updated Plan would to the extent feasible reduce permanent increases in ambient noise levels in the UGB. However, while noise levels would be within acceptable levels, the increase in ambient noise levels in the UGB above existing levels that would result from development associated with the Updated Plan would be significant and unavoidable.

Table 2-3 (Continued)

Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation

Environmental Impacts	Mitigation Measures	Level of Significance After Mitigation
Issue 4.8-4: Development associated with implementation of the Updated Plan could result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project. The Updated Plan would result in an increase in construction activities as well as an increase in outdoor events and recreational activities. However, all projects would be required to comply with existing regulations as well as policies in the Updated Plan and in the Noise Element.	No mitigation measures are required.	Compliance with applicable regulations and policies and implementation measures with regard to temporary or periodic increase in ambient noise levels would result in a less than significant impact.
Issue 4.8-5: The Updated Plan would comply with applicable regulatory requirements (e.g. Title 24 (Building) CCR T25-28), which would preclude locating sensitive receptors within the Mammoth Yosemite Airport's 65 CNEL contour. There are no noise sensitive land uses and no people living within the CNEL 65 noise exposure area. Therefore, implementation of the Updated Plan would not result in the exposure of sensitive receptors in the UGB to excessive noise levels.	No mitigation measures are required.	Impacts related to the exposure of persons residing or working in UGB to excessive noise levels from an airport would be less than significant.
POPULATION, HOUSING, AND EMPLOYMENT **Issue 4.9-1:** While the Updated Plan would accommodate a relatively substantial increment of population growth, it would neither directly nor indirectly induce that growth or cause it to occur. Rather, the project will shape the location, form, and behavior of the growth increment, should external demand be sufficient.	No mitigation measures are required.	The Updated Plan would result in a less than significant impact with regard to the inducement of a direct or indirect substantial population growth.

Table 2-3 (Continued)

Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation

Environmental Impacts	Mitigation Measures	Level of Significance After Mitigation
Issue 4.9-2: The project would not displace substantial numbers of existing housing units or residents necessitating the construction of replacement housing elsewhere.	No mitigation measures are required.	The Updated Plan would result in a less than significant impact with regard to the displacement of substantial numbers of existing housing or residents.
PUBLIC SERVICES **Issue 4.10-1:** Development associated with implementation of the Updated Plan would result in an increase in the quantity of emergency calls received by the MLFPD due to population increases. An increase in calls would likely require the employment of additional full-time personnel. Also, it is anticipated that as the area develops around Fire Station two, relocation of the training tower would become necessary. The imposition of the development impact fee (Code Section 15.16.082) would ensure that potential impacts to fire protection services would be reduced.	No mitigation measures are required.	With implementation measures contained in the Updated Plan, along with project-specific environmental review and payment of the development impact fees, impacts to fire protection services and facilities would be less than significant.
Issue 4.10-2: Permanent and transient population growth resulting from implementation of the Updated Plan would result in a greater volume of emergency calls to the police department, which could strain existing police protection services and facilities and create demand for expanded services and facilities. The imposition of the development impact fee (Code Section 15.16.082) would ensure that potential impacts to police protection services would be reduced.	No mitigation measures are required.	With implementation measures contained in the Updated Plan, along with project-specific environmental review and payment of the development impact fees, impacts to police protection and law enforcement services and facilities would be less than significant

Table 2-3 (Continued)

Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation

Environmental Impacts	Mitigation Measures	Level of Significance After Mitigation
Issue 4.10-3: Increases in the number of students resulting from implementation of the Updated Plan could be served by reconstructing or adding on to existing facilities and would not require the construction of any new facilities. The MUSD has several options available for collecting the necessary funds for reconstruction and expansion efforts, including general obligation bonds, and developer fees.	No mitigation measures are required.	Given the implementation measures contained in the Updated Plan, along with the payment of appropriate development fees, impacts to schools would be less than significant.
Issue 4.10-4: **Libraries:** Development associated with the Updated Plan would result in an increase of population and a corresponding demand for library services. Construction of a new library would be adequate to service the increased population under the project. However, the Town does not have ultimate control over the construction of a County library that would be needed to mitigate impacts to less than significant. **Roadway Maintenance/Snow Removal:** Implementation of the Updated Plan would result in an increased need for roadway maintenance, as well as an increase in snow removal operations and costs due to development of new roads and pedestrian areas and reduced snow storage space. The imposition of the development impact fee (Code Section 15.16.082) would ensure that potential impact to public service providers charged with maintaining the roadways and removing snow would be reduced.	**Libraries**: No mitigation measures are feasible, as mitigation is primarily within the control of another jurisdiction. **Roadway Maintenance/Snow Removal:** No mitigation measures are necessary.	**Libraries**: The Updated Plan would result in a significant and unavoidable impact to library services because the required mitigation is within the control of another jurisdiction. **Roadway Maintenance/Snow Removal:** With implementation measures contained in the Updated Plan, along with project-specific environmental review and payment of the development impact fee, impacts to roadway maintenance and snow removal would be less than significant.

Table 2-3 (Continued)

Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation

Environmental Impacts	Mitigation Measures	Level of Significance After Mitigation
Hospitals: Permanent and transient population increases in the Town as a result of the project would increase the demand for hospital and health services. In addition to general healthcare services, the anticipated population would increase the need for laboratory services, food services, administrative offices, warehouse, maintenance, and staff work space. Since the Town does not have ultimate control over the provision of health care services that would be needed to mitigate impacts to hospital and health services to less than significant.	**Hospitals:** No mitigation measures are feasible, as mitigation is primarily within the control of another jurisdiction.	**Hospitals:** Implementation measures contained in the Updated Plan would assist in reducing potential impacts to hospital and health services to a less than significant level. However, the Updated Plan is an approximately 20-year plan and the Southern Mono Health Care District does not have funded improvements for the expansion of facilities over a 20-year timeframe. Since the Town does not have ultimate control over the provision of health care services, impacts to hospital and health services is significant and unavoidable.
PUBLIC UTILITIES **Issue 4.11-1:** With the project, the current available water supply under a single dry year would result in a ~~surplus of 622~~ deficiency of 1,488 acre-feet. ~~However, at two dry years a surplus of 73 acre-feet is shown and at three dry years a deficiency of 31 acre-feet per year is shown. According to the MCWD, a surplus of only 73 acre-feet at the two dry year period presents a minimal margin for error in these projections.~~ In the third and fourth years in a multiple dry year scenario, deficiencies of 390 and 406 acre-feet are predicted, respectively. Therefore, the Updated Plan would result in a significant impact with regard to water supply.	4.11-1 The Town shall not approve new development applications that would result in a water demand in excess of available supplies as determined by the MCWD. ~~based on the multiple drought year scenario presented above.~~ The Town shall work with MCWD to ensure that land use approvals are phased ~~in tandem with~~ so that the development of necessary water supply sources is established prior to development approvals. This shall be made a policy of the Updated General Plan.	With incorporation of the mitigation measure and implementation measures contained in the Updated Plan, impacts to water supplies would be less than significant.
Issue 4.11-2: With the projected wastewater flow demands for the project estimated to be an average of 2.6 mgd with peak daily flows of 4.3 and the design capacity of the wastewater treatment plant at 4.9 mgd, the District's treatment process would	No mitigation measures are required.	With policies and implementation measures contained in the Updated Plan, impacts with regard to wastewater treatment would be less than significant.

Table 2-3 (Continued)

Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation

Environmental Impacts	Mitigation Measures	Level of Significance After Mitigation
continue to meet the effluent limitations and treatment policies set forth by the Lahontan Regional Water Quality Control Board.		
Issue 4.11-3: The population increase and structural development associated with the project would increase the quantity of wastewater generated and associated requirements for collection, treatment and disposal. However, the estimated maximum quantity of wastewater requiring treatment would not exceed the capacity of the treatment facility.	No mitigation measures are required.	No new construction of water or wastewater treatment facilities or expansion would be required, and, therefore, impacts to those facilities would be less than significant.
Issue 4.11-4: Estimates derived from the MCWD 2000 Urban Water Management Plan indicate that the maximum quantity of wastewater requiring treatment would not exceed the capacity of the treatment facility with implementation of the Updated Plan.	No mitigation measures are required.	The Updated Plan would not result in inadequate capacity for wastewater treatment. Therefore, impacts related to wastewater treatment capacity would be less than significant.
Issue 4.11-5: The Benton Crossing Landfill can accommodate the Town's waste generation and disposal needs for the next 20 years, based on site life and loading rate calculations provided by the Mono County Department of Public Works (MCDPW). The MCDPW has indicated that based on their projections, there is sufficient capacity for the projected buildout under the Updated Plan. The Town also has an option for five years at the Pumice Valley Landfill. Therefore, the project would not result in the construction of a new landfill or expansion of existing facilities under the Updated	No mitigation measures are required.	As the Updated Plan incorporates implementation measures for various recycling programs affecting all types of waste and waste sources, impacts with regard to the disposal of solid waste would be less than significant.

Table 2-3 (Continued)

Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation

Environmental Impacts	Mitigation Measures	Level of Significance After Mitigation
Plan.		
Issue 4.11-6: With the Town's existing waste collection and recycling program and the measures in the Updated Plan regarding waste reduction, the project would comply with applicable federal, state, and local statutes and regulations related to solid waste.	No mitigation measures are required.	With the policies and implementation measures contained in the Updated Plan, impacts related to solid waste would be less than significant.
Issue 4.11-7: **Electricity and Geothermal Energy:** Southern California Edison has stated that it is currently able to supply enough electricity to accommodate the needs of the region and anticipates being able to continue its service with implementation of the Updated Plan. Also, there are currently no direct uses of geothermal energy in the Town or for structures and uses in the Town. **Propane**: The propane infrastructure is designed for expansion to accommodate the population growth anticipated under implementation of the Updated Plan. **Communications**: Implementation of the Updated Plan would not significantly impact existing communication services. Any needed construction or modification would be funded out of user service and connection fees or through developer contributions.	No mitigation measures are required.	With policies and implementation measures contained in the Updated Plan, impacts to electrical and geothermal energy, propane services and facilities, and communications would be less than significant.

Table 2-3 (Continued)

Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation

Environmental Impacts	Mitigation Measures	Level of Significance After Mitigation
RECREATION		
Issue 4.12-1: The project proposes to redesignate Mammoth Creek Park as IP, which would not impact the existing provision of parkland in compliance with the performance standard of 5 acres per 1,000 permanent and seasonal residents. However, while the facilities at Mammoth Creek Park would remain with the redesignation, the redesignation would provide the potential loss of that park. If the park were redeveloped, the loss of the park would be significant and unavoidable. At buildout the Updated Plan would require an additional 22 acres of park and recreation facilities to maintain existing performance objectives of parkland per population. The Town collects Development Impact Fees prior to building permit to fund park lands. The Town of Mammoth Lakes anticipates adoption of a revised Parks and Recreation Element in ~~2006~~2008. Because it is uncertain at this time where these additional acres would be provided, this impact to existing recreation uses is considered significant and unavoidable. Development fees and fees under the Quimby Act would help fund new parks.	No mitigation measures beyond the policies and/or implementation measures identified in the Updated Plan and the Development Impact Fees are feasible to reduce the potential impact on existing parks and recreation.	As it is uncertain at this time where additional park acres would be provided upon implementation of the Updated Plan, the impacts to recreation would be significant and unavoidable.
Issue 4.12-2: Implementation of the Updated Plan would increase demands for, as well as demands upon, recreational facilities and areas, necessitating construction of additional facilities in order to maintain adequate service levels and to prevent overuse and the resultant physical deterioration of existing facilities.	No mitigation measures beyond the policies and/or implementation measures identified in the Update Plan are feasible.	Due to the projected increase in demand based on the performance objective, impacts to existing parks and recreation due to increased use of existing parks and facilities would be significant and unavoidable.

Table 2-3 (Continued)

Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation

Environmental Impacts	Mitigation Measures	Level of Significance After Mitigation
TRANSPORTATION AND CIRCULATION **Issue 4.13-1:** New development within the Town that could result from implementation of the Plan, along with regional traffic growth, would not result in traffic volumes that would exceed roadway capacities in the Town ~~result in an increase in traffic volumes~~ for the planning horizon year of 2024.	~~4.13-21 The Town shall amend the Master Facility Plan to include the mitigation measures necessary to reduce impacts to the level of service on the street system. The Town shall review the Development Impact Fees to ensure that sufficient funds will be available to make the necessary improvements.~~ No mitigation measures are required.	~~With incorporation of Mitigation Measure 4.13-1, along with implementation measures contained in the Updated Plan, i~~Impacts related to existing traffic load and capacity of the street system would be less than significant.
Issue 4.13-2: Based on the Town's established LOS D threshold, future 2024 traffic modeling indicates that nine~~10~~ of the 22~~21~~ study intersections would exceed the LOS D threshold with the buildout of the Updated Plan.	4.13-1 The Town shall amend the Master Facility Plan to include the mitigation measures necessary to reduce impacts to the level of service on the street system. The Town shall review the Development Impact Fees to ensure that sufficient funds will be available to make the necessary improvements. ~~4.13-32~~4.13-2 Lakeview Road/Lake Mary Road: This intersection shall be improved to include separate southbound left and right-turn lanes and a ~~westbound~~eastbound acceleration lane along Lake Mary Road (to accommodate two-stage left turns from Lakeview Drive to Lake Mary Road) 4.13-3 Main Street/Center Street: This intersection shall be improved to include a traffic signal or roundabout. A traffic signal would be warranted and would operate at LOS C under build out of the Updated Plan at this location. ~~Alternatively, a dual lane roundabout with single-lane northbound and southbound approaches, a 75-foot island diameter, a 32-foot circulating width, and a 139-foot inscribed circle diameter would~~	With incorporation of the traffic improvement mitigation measures and the policies and implementation measures contained in the Updated Plan, traffic impacts would be less than significant.

Table 2-3 (Continued)

Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation

Environmental Impacts	Mitigation Measures	Level of Significance After Mitigation
	~~operate at LOS B.~~ In addition to addressing the LOS deficiency, provision of a signal or a roundabout would greatly improve Main Street pedestrian crossing conditions. 4.13-~~5~~4 Minaret Road/Main Street Intersection: This intersection shall be improved to include protected left-turn phasing on all approaches~~ and eastbound right-turn overlap signal phasing at the existing signal.~~ ~~4.13-6 Main Street/Forest Trail Intersection: There are three primary potential mitigation measures for this LOS deficiency: construct a roundabout, construct a traffic signal, or prohibit left turns out of the southbound minor street approach. While prohibiting left turns at this intersection would inconvenience drivers, constructing a roundabout or traffic signal would actually encourage drivers to use Forest Trail as a cut-through route, as the delay of the southbound approach would be greatly reduced. Prohibiting southbound left-turns, on the other hand, would only slightly inconvenience drivers by requiring them to drive to the Center Street intersection to turn around (which could potentially be aided through the provision of a roundabout at Center Street). However, this inconvenience may work to lessen the exiting Forest Trail cut-through problem, thereby having a beneficial impact to Town-wide circulation. The prohibition of southbound left-turn movements at the intersection would result in a worse approach LOS of D upon build out of the~~	

Table 2-3 (Continued)

Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation

Environmental Impacts	Mitigation Measures	Level of Significance After Mitigation
	~~Updated Plan.~~ ~~4.13-7 Main Street/Meridian Boulevard: Because Main Street is a divided roadway at its intersection with Meridian Boulevard with a substantial median, the intersection of Main Street and Meridian Boulevard operates as two separate intersections. The northbound approach at the Main Street Eastbound/Meridian Boulevard intersection and the northbound approach at the Main Street Westbound/Meridian Boulevard intersection exceed LOS thresholds in 2024 under the Updated Plan. In the case that a traffic signal is built at both intersections, they shall be coordinated to ensure that queues at the northern intersection would not form back into the southern intersection. Traffic signals would operate at a LOS B. Alternatively, one roundabout could be constructed that combined the two intersections. A dual-lane roundabout with single-lane northbound and southbound approaches, an 85-foot island diameter, a 32-foot circulating width, and a 149-foot inscribed circle diameter would operate at LOS A upon build out of the Updated Plan.~~ 4.13-~~8~~5 Majestic Pines/Meridian Boulevard Intersection: This intersection shall be improved by either a traffic signal, which would cause the intersection to operate at LOS ~~B~~C or better; or~~Or,~~ Meridian Boulevard shall be reduced to one lane in each direction in addition to constructing a single-lane roundabout with a 60-foot island diameter and a 20-foot circulating width. This roundabout would	

Table 2-3 (Continued)

Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation

Environmental Impacts	Mitigation Measures	Level of Significance After Mitigation
	operate at LOS A. The installation of a traffic signal would not require any widening of the roadway. 4.13-~~9~~6 Minaret Road/Forest Trail Intersection: This intersection shall be improved by the construction of a roundabout, which would operate a LOS B upon build out of the Updated Plan. 4.13-~~10~~7 Minaret Road/Old Mammoth Road Intersection: Due to the high volume of traffic that is expected on all four approaches upon build out of any of Updated Plan, a roundabout or traffic signal is recommended. If a traffic signal were installed, the following improvements would be required for the Updated Plan, which would result in an intersection LOS D. ~~:~~ - Construct a traffic signal with protected left-turn phasing. - Construct a separate northbound left-turn lane and a northbound through/right shared lane (remove left/through and right-turn lanes). - Construct s**e**parate southbound left, through, and right-turn lanes (remove left/through/right shared). Alternatively, if a roundabout with a 75-foot island diameter, 20-foot circulating width, and 16-foot entry width were constructed~~.; it~~ the intersection would operate at LOS C. 4.13-~~11~~8 Meridian Boulevard/Azimuth Drive: This intersection is forecast to exceed LOS	

Table 2-3 (Continued)

Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation

Environmental Impacts	Mitigation Measures	Level of Significance After Mitigation
	thresholds on the northbound and southbound approaches upon build out of the Updated Plan. This impact shall be mitigated by constructing a traffic signal~~. or roundabout. If a roundabout with a 60-foot island diameter, 20-foot circulating width, and 15-foot entry lanes were constructed; the intersection would operate at a LOS B or better under all 2024 scenarios. The intersection would operate at LOS D if a traffic signal with split phasing on all approaches were built in addition to a separate northbound left-turn lane~~ 4.13-9 Meridian Boulevard/Sierra Park Road: With growth in nearby land uses, this intersection is forecast to exceed LOS thresholds on the westbound approach with the existing all-way stop control. This impact shall be mitigated by constructing a traffic signal, which would operate at LOS C. 4.13-10 Main Street/ Mountain Boulevard: This intersection is forecast to provide LOS F conditions on the northbound and southbound approaches, with more than four vehicle-hours of delay on each. This impact shall be mitigated by constructing a traffic signal, which would operate at LOS D.	
Issue 4.13-3: The Updated Plan does not propose or require any modifications to the Mammoth Yosemite Airport Master Plan or the Airport Land Use Plan for the Mammoth Yosemite Airport. Thus, air traffic patterns would not be affected by development associated with implementation of the	No mitigation measures are required.	With policy and implementation measures contained in the Updated Plan, impacts regarding aviation facilities and associated air traffic patterns would be less than significant.

Table 2-3 (Continued)

Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation

Environmental Impacts	Mitigation Measures	Level of Significance After Mitigation
Updated Plan		
Issue 4.13-4: The Updated Plan does not specify design features for roads. Subsequent CEQA review would be conducted at such time as specific road improvements are proposed.	No mitigation measures are required.	Impacts regarding design features or incompatible uses would be less than significant.
Issue 4.13-5: The Updated Plan includes polices and implementation measures to ensure that the Town of Mammoth Lakes Emergency Operations Plan for Mammoth Lakes which was adopted in 2001 and revised in 2004, would be maintained and that appropriate evacuation routes would be incorporated into the Emergency Preparedness and Response Plan. In addition, all development projects would be subject to project-specific environmental and design review, which includes review of the provision of adequate emergency access.	No mitigation measures are required.	With the various policies and measures regarding emergency access and the Town's Emergency Operations Plan (2001), development associated with implementation of the Updated Plan would result in a less than significant impact with regard to emergency access.
Issue 4.13-6: Compliance with the Town Municipal Code parking requirements and implementation of the Updated Plan policies and mitigation measures would ensure that that each development adequately mitigates its impact on parking availability.	No mitigation measures are required.	Impacts regarding parking would be less than significant.
Issue 4.13-7: Implementation of the Updated Plan would create a significant demand for new labor, which would in turn add to the need for public transit options. The Updated Plan contains numerous policies and implementation measures to enhance alternative transportation facilities and	No mitigation measures are required.	With policies and implementation measures contained in the Updated Plan, impacts and/or conflicts to adopted policies, plans, or programs supporting alternative transportation would be less than significant.

Table 2-3 (Continued)

Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation

Environmental Impacts	Mitigation Measures	Level of Significance After Mitigation
programs (pedestrian, bicycle, bus).		
CULTURAL RESOURCES **Issue 4.14-1:** There are no known historic resources within the UGB; however, new development or redevelopment under the Updated Plan could result in the demolition or alteration of physical characteristics of an unknown historical resource that has historical significance that justifies its inclusion in, or eligibility for inclusion in, the California Register of Historical Resource. Therefore, the Updated Plan could result in the discovery of historical resources and potential impacts to historic resources.	4.14-1: A qualified historic archaeologist approved by the Town shall perform the following tasks prior to development approvals on any part of the Town: • Subsequent to a preliminary Town review, if evidence suggests the potential for historic resources, a field survey conducted using methodology that meets or exceeds state and federal guidelines for historical resources within portions of the project area not previously surveyed for cultural resources shall be conducted. • Subsequent to a preliminary Town review, if evidence suggests the potential for historic resources, the Town Archives shall be contacted for information on historical property records. A qualified cultural resources professional shall be contracted to review the records search data collected by PCR Services Corporation on behalf of the Town of Mammoth Lakes as part of the Draft General Plan Update process. • Subsequent to a preliminary Town review, if evidence suggests the potential for sacred land resources, the Native American Heritage Commission shall be contacted for information regarding sacred lands. • Inventory all historical resources within the project area, including archaeological and historic resources older than 50 years,	With incorporation of the mitigation measures, impacts to historic resources would be less than significant.

Table 2-3 (Continued)

Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation

Environmental Impacts	Mitigation Measures	Level of Significance After Mitigation
	using appropriate State record forms and following guidelines in the California Office of Historic Preservation's handbook "Instructions for Recording Historical Resources". The archaeologist will then submit two (2) copies of the completed forms to the Town for the assignment of trinomials. • Evaluate the significance and integrity of all historical resources within the project area, using criteria established in the CEQA Guidelines for important archaeological resources and/or 36 CFR 60.4 for eligibility for listing on the National Register of Historic Places. • Propose mitigation measures and recommend conditions of approval to eliminate adverse project effects on significant, important, and unique historical resources, following appropriate CEQA and/or National Historic Preservation Act's Section 106 guidelines. • Prepare a technical resources management report, documenting the inventory, evaluation, and proposed mitigation of resources within the project area, following guidelines for Archaeological Resource Management Reports prepared by the California Office of Historic Preservation, Preservation Planning Bulletin 4(a), December 1989. Submit one copy of the completed report, with original illustrations, to the Town for permanent	

Table 2-3 (Continued)

Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation

Environmental Impacts	Mitigation Measures	Level of Significance After Mitigation
	archiving. 4.14-2: If cultural materials or archaeological remains are encountered during the course of grading or construction, the developer shall cease any ground disturbing activities near the find. A qualified archeologist will be retained to evaluate significance of the resources and recommend appropriate treatment measures. Treatment measures may include avoidance, preservation, removal, data recovery, protection, or other measures developed in consultation with the Town and the developer. In addition, the Town shall: • Enact interim measures to protect undesignated sites from demolition or significant modification without an opportunity for the Town to establish its historic value. • Require, where appropriate, the incorporation of historic sites and buildings within new developments, using their special qualities as a theme or focal point. • Encourage the use of the State Historic Building Code on buildings of historic significance that can allow modification without imposing some of the potentially detrimental provisions of the current building codes. • Educate the public about the area's archaeological heritage. 4.14-3: Prior to the approval of any projects that propose to demolish or significantly alter a potentially significant historic resource as defined	

Table 2-3 (Continued)

Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation

Environmental Impacts	Mitigation Measures	Level of Significance After Mitigation
	pursuant to applicable state and federal laws, the applicant shall complete an historic survey report using methodology that meets or exceeds state and federal guidelines to determine potential historic significance. The determination of resource significance shall be made in accordance with CEQA Guidelines Section 15064.5. Where appropriate for a standing historic structure that will not be preserved in place, conservation can include documentation to Historic American Building Survey (HABS) standards and/or relocation	
Issue 4.14-2: New development or redevelopment under the Updated Plan could impact an archaeological site(s) during grading and excavation activities. Due to the primarily developed and disturbed condition of the lands within the UGB, where development would occur, the potential number and distribution of such sites or resources is anticipated to be limited. Nevertheless, future development within the Town could result in the discovery of cultural sites and potential impacts to prehistoric and historic resources.	4.14-4: A qualified archaeologist shall perform the following tasks prior to development activities on any part of the Town: • Subsequent to a preliminary ~~City~~Town review, if evidence suggests the potential for prehistoric resources, a field survey for prehistoric resources within portions of the project area not previously surveyed for cultural resources shall be conducted. • Subsequent to a preliminary ~~City~~Town review, if evidence suggests the potential for sacred land resources, the Native American Heritage Commission for information regarding sacred lands shall be consulted. • Inventory all prehistoric resources using appropriate State record forms and submit two (2) copies of the completed forms to the Town. • Evaluate the significance and integrity of	With incorporation of the mitigation measures, impacts to an archaeological resource would be less than significant.

Table 2-3 (Continued)

Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation

Environmental Impacts	Mitigation Measures	Level of Significance After Mitigation
	all prehistoric resources within the project area, using criteria established in the CEQA Guidelines for important archaeological resources. • If human remains are encountered on the project site, the Mono County Coroner's Office shall be contacted within 24 hours of the find, and all work should be halted until a clearance is given by that office and any other involved agencies. If the Coroner determines that the remains may be Native American, contact the Native American Heritage Commission for notification to the most likely descendants of the descendent and follow the required protocols specified in Public Resources Code Section 5097.98. • All resources and data collected within the project area should be permanently curated at an appropriate repository within the Town or County. 4.14-5: If cultural materials or archaeological remains are encountered during the course of grading or construction, the developer shall cease any ground disturbing activities near the find. A qualified archeologist approved by the Town will be retained to evaluate significance of the resources and recommend appropriate treatment measures. Treatment measures may include avoidance, preservation, removal, data recovery, protection, or other measures developed in consultation with the Town and the developer. With the assistance of the	

Table 2-3 (Continued)

Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation

Environmental Impacts	Mitigation Measures	Level of Significance After Mitigation
	archaeologist, the Town shall: • Consider establishing provisions to require incorporation of archaeological sites within new developments, using their special qualities as a theme or focal point. • Educate the public about the area's archaeological heritage. • Propose mitigation measures and recommend conditional of approval to eliminate adverse project effects on significant, important, and unique prehistoric resources, following appropriate CEQA guidelines. • Prepare a technical resources management report, documenting the inventory, evaluation, and proposed mitigation of resources within the project area. Submit one copy of the completed report, with original illustrations, to the Town for permanent archiving. 4.14-6: If during grading and excavation an archaeological resource is found, construction shall be temporarily diverted, redirected or halted as appropriate. Any discovery of such resources shall be treated in accordance with federal, state, and local regulations, including those outlined in the CEQA Guidelines Section 15064.5 (e) and as appropriate, the Native American Historical, Cultural and Sacred Sites Act. For archaeological remains, conservation of a resource for which preservation in place is not feasible, relocation and	

Table 2-3 (Continued)

Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation

Environmental Impacts	Mitigation Measures	Level of Significance After Mitigation
	if that is not feasible, documentation shall be required.	
Issue 4.14-3: There are no known unique paleontological resources or sites, and no known unique geologic features in the developable portions of the community. The soils within the UGB are glacial till and relatively recent volcanic materials; no paleontological resources would be expected. Therefore, the Updated Plan would not result in an impact to paleontological resources.	No mitigation measures are required.	With policy and implementation measures contained in the Updated Plan, impacts to paleontologial resources would be less than significant.
Issue 4.14-4: New development or redevelopment under the Updated Plan could result in the discovery of human remains during grading and excavation activities. However, due to the primarily developed and disturbed condition of the lands within the UGB where development would occur, the potential location of such sites or resources would be minimal. Nevertheless, future development within the Town could result in the discovery of human remains and potential impacts to these resources.	4.14-7: Should the existence of, or the probable likelihood, of Native American or other human remains be found during development of a site, the landowner shall contact the County Coroner and no further excavation or disturbance of the site or nearby area shall be permitted until the County Coroner determines that no investigation of the cause of death is required. If the remains are determined to be Native American, the Coroner shall, as required by Public Resources Code Section 5097.98, notify the Native American Heritage Commission, which shall contact the most likely descendants and those descendants shall have 24 hours to inspect and make a recommendation to the landowner as to the appropriate means for removal and nondestruction of the remains and artifacts found with the remains. If an agreement cannot be reached between the landowner and the descendants, the Native American Heritage Commission shall mediate the disagreement, and if resolution is not reached, the landowner shall reinter	With incorporation of the mitigation measure, impacts to human remains would be less than significant.

Table 2-3 (Continued)

Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation

Environmental Impacts	Mitigation Measures	Level of Significance After Mitigation
	the remains and items associated with Native American burials with appropriate dignity on the property in a location not subject to further subsurface disturbance. The applicant may develop a prospective agreement for treating or disposing of, with appropriate dignity, the human remains and any items associated with Native American burials with the appropriate Native Americans as identified by the Native American Heritage Commission.	

3.0 PROJECT DESCRIPTION

3.1 PROJECT LOCATION

The Town of Mammoth Lakes, incorporated in August of 1984, is a mountain resort community located in southwestern Mono County (see Figure 3-1 on page 3-2). The Town is situated on the eastern side of the Sierra Nevada mountains. The Town is approximately 300 miles north of Los Angeles, 170 miles south of Reno, Nevada and 35 air miles southeast of Yosemite Valley. Neighboring counties include: Alpine County to the north, ~~Fresno~~ Inyo County to the south, Fresno County to the southwest and Madera County to the ~~east~~ west.

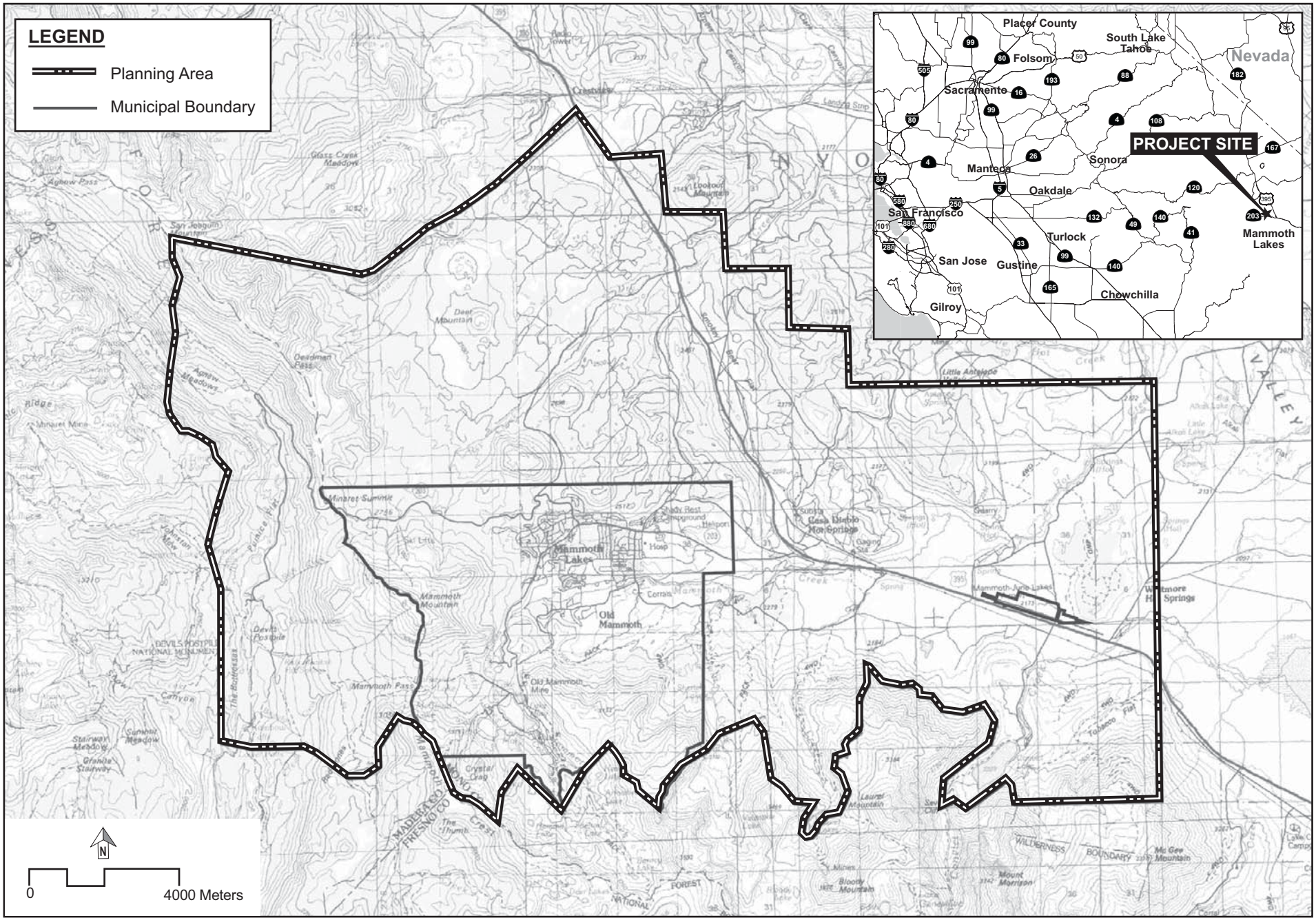
The Town's municipal boundary encompasses approximately 24 square miles. All but approximately four square miles within the municipal boundary are public lands administered by the Inyo National Forest.[4] The Town also includes the Mammoth Yosemite Airport, located southwest of the community is a non-contiguous annexation pursuant to Section 56742 of the California Government Code. The approximately four square miles of developable land within the Town and the Mammoth Yosemite Airport are contained within the Town's adopted Urban Growth Boundary (UGB). Other entities with land holdings outside the Municipal Boundary, but within the Town's Planning Area, include the Bureau of Land Management (BLM), the City of Los Angeles (LA), Mono County, and the National Park Service (NPS). Figure 3-2 on page 3-3 shows the Planning Area, Municipal Boundary, and UGB.

Regional access to the Town is provided via U.S. Highway 395, a state scenic highway which lies approximately three miles west of town. U.S. 395 is the major surface transportation corridor in the Eastern Sierra region and primary inter-regional route connecting systems across four states. The Town is served primarily by State ~~Road~~ Route 203, which connects U.S. Highway 395 to the Town. State ~~Road~~ Route 203 traverses the developed part of town ending at Minaret Vista, west of the Mammoth Mountain Ski Area (MMSA). Air access to the Town is also available through the Mammoth Yosemite airport.

3.2 EXISTING LAND USE CONDITIONS

Lands within the Municipal Boundary include the Mammoth Mountain Ski Area (MMSA) and the Lakes Basin, which are recreational and scenic resources that contribute to

[4] *Mammoth Mountain Ski Area (MMSA) operates their facilities as a permittee of the Inyo National Forest.*



Source: Town of Mammoth Lakes, 2005

Figure 3-1 Regional and Project Vicinity Map

Town of Mammoth Lakes

Explanation

- Planning Area
- Municipal Boundary
- Urban Growth Boundary

N

0 4,000 8,000 Meters

Base Map: Benton Range and Yosemite Valley 100k Quadrangles
Source: Town of Mammoth Lakes Updated Plan, 2005

Figure 3-2 Map Showing Planning Area, Municipal Boundary and Urban Growth Boundary

making the Town a year-round resort community. The Town's current land use designations are shown on Figure 3-3 on page 3-5. The dramatic mountain scenery, rich natural resources, and diverse recreational opportunities attract residents and visitors to the area. Today, the Mammoth Lakes area is enjoyed by skiers, snowboarders, hikers, sightseers, fishermen and other outdoor enthusiasts.

MMSA, one of the nation's leading ski resorts, hosted 1.2 and 1.25 million skier visits during the 2002 and 2003 ski season, respectively. Skier visitors in 2004 and 2005 were 1.43 million and with additional uses including Tamarack X-Country Ski Center, Scenic Gondola Rides and Snowmobile Adventures, MMSA accounted for a total of 1.46 million guests. The Lakes Basin is heavily used for fishing, Nordic skiing, snowmobiling, camping, rock climbing, bicycling, and boating. Public and private recreational facilities such as gymnasiums, tennis courts, swimming pools, skate parks, and softball and soccer fields are located throughout the community. Most facilities are located within Shady Rest Park, which is located outside of the UGB but accessible to the residents of and visitors to Mammoth Lakes.

Visitors to Mammoth Lakes are provided with a selection of resort services and accommodations throughout the Town, including: North Village, Juniper Ridge, Lodestar and Snowcreek. North Village is the most developed full service resort area providing lodging, shopping, restaurants and other amenities that enable visitors to have direct access to Mammoth Mountain and enjoyable stays without the need for essential services beyond the resort. Juniper Ridge, Lodestar and Snowcreek are also intended to be full service resort areas providing diverse lodging opportunities and resort amenities and services. The Juniper Ridge area is largely developed. Snowcreek and Sierra Star are part way through their development programs.

The Town's environment is the dominant feature in all public policy and development issues. While the environment provides the resources for a recreation and tourism based economy, the environment also places constraints on development due to weather, availability of private lands and the carrying capacity of the air, water and wildlife resources.

Today, Mammoth Lakes is the hub of recreational opportunities in the Eastern Sierra. Recreation is the Town's economic engine. Through the promotion of recreational activities, the Town has achieved greater economic stability.

3.3 BACKGROUND

Upon incorporation in 1984, the Town prepared the Mammoth Lakes General Plan and its associated EIR. The timeframe for this plan was 20 years, with updates expected to occur approximately every five to ten years. The existing General Plan was adopted in 1987, and although some of the Town's General Plan Elements have been revised within the past ten years, the existing General Plan has never undergone a comprehensive update since it was adopted.

Town of Mammoth Lakes

Explanation

- Commercial
- High Density Residential
- Institutional Public
- Low Density Residential
- Resort
- Rural Residential
- Specific Plan
- Urban Growth Boundary
- National Forest Lands
- National Forest Lands Outside the Municipal Boundary

PARCELS

1. Bell-Shape Parcel
2. Mammoth Creek Park
3. Water District
4. Foundation Parcel

N

0 250 500 1,000 Meters

Base Maps: Old Mammoth, Mammoth Mountain, Crystal Crag & Bloody Mountain
Source: Town of Mammoth Lakes

Figure 3-3 Existing Land Use Designations

3.4 PURPOSE OF THE 2005 UPDATED GENERAL PLAN

The General Plan is the primary policy document for the Town and is the basis for all decisions regarding physical development within the Town. It expresses the community's vision for its future and guides both long-term and day-to-day Town actions and decisions. The process of preparing and adopting the 2005 General Plan provided decision-makers and citizens with the opportunity to debate on policies involving a variety of social, economic and environmental issues. The 2005 General Plan is the culmination of over three years of review and debate generated through the following forums:

- Four public workshops, with over 100 attendees per workshop;
- Public Input and Planning Commission Review at over 45 publicly noticed Planning Commission Meetings; and
- Public Input and General Plan Advisory Group Review at over 50 publicly noticed General Plan Advisory Group Meetings.

Overall, the update process included the review of the existing General Plan, reaffirmation and clarification of the community's Vision Statement and supporting guiding principles. The Vision Statement and supporting guiding principles became the basis for all General Plan goals, objectives, policies and implementation measures and land use designations changes.

3.5 2005 GENERAL PLAN VISION STATEMENT

As expressed in the General Plan's "Vision Statement," the community envisions Mammoth Lakes, today and in the future, as a community that is:

> "Surrounded by uniquely spectacular scenery and diverse four-season recreation opportunities, the community of Mammoth Lakes is committed to providing the very highest quality of life for its residents and the highest quality of experience for its visitors."

It is the intent of the Town to maintain this identity and quality of life throughout the lifetime of this General Plan by maintaining adherence to the following Guiding Principles:

I The Mammoth Lakes community places a high value on the sustainability and continuity of our unique relationship with the natural environment. As stewards, we support that relationship with visitors as one way of maintaining our high quality of life.

II Mammoth Lakes is a great place to live and work because it is a strong, diverse yet cohesive, small-town community that supports families and individuals by providing a stable economy, high quality educational facilities and programs, and a broad range of community services including a participatory Town government.

III Mammoth Lakes has adequate and appropriate housing that its residents and workers can afford.

IV Mammoth Lakes is a year-round destination resort community based on diverse outdoor recreation and tourism.

V Mammoth Lakes has limited its urbanized area to protect its environment and to support its small-town atmosphere.

VI Mammoth Lakes has maintained high standards for development and design while allowing for a variety of styles that are complementary and appropriate to the Sierra Nevada alpine setting.

VII Mammoth Lakes has a variety of transportation options that emphasize connectivity, convenience, and alternatives to personal vehicle use with a strong pedestrian emphasis.

3.6 ORGANIZATION OF THE UPDATED GENERAL PLAN

The Town of Mammoth Lakes 2005 General Plan has been organized into seven "chapters," each of which examines and addresses several interrelated issues (see Table 3-1 on page 3-8). These chapters represent not only the seven state-mandated elements, but also the seven guiding principles of the Vision Statement. In accordance with California Government Code Section 65302, the General Plan must contain the following seven "elements": Land Use, Circulation, Housing, Conservation, Open Space, Noise and Safety.

Three of the adopted General Plan elements are not part of the current update. These elements include the optional Parks and Recreation Element, the Housing Element and the Noise Element.

Each chapter summarizes pertinent planning issues and contains a set of goals and objectives intended to address and resolve key issues. These chapters are further augmented with specific policies and implementation actions. State law mandates that each general plan element have equal stature, whereby no particular element is considered to supersede another element. The equal stature requirement assures the interdependency of the general plan elements.

Table 3-1

Organization of the Updated Plan

Chapters	Elements	Vision Statement Guiding Principles
Land Use	Land Use	Overarching Chapter
Environmental Sustainability	Conservation Element Land Use Element Open Space Element Noise Element [a]	I The Mammoth Lakes community places a high value on the sustainability and continuity of our unique relationship with the natural environment. As stewards, we support that relationship with visitors as one way of maintaining our high quality of life.
Community Health and Safety	Housing Element Conservation Element Open Space Element Safety Element Land Use Element	II Mammoth Lakes is a great place to live and work because it is a strong, diverse yet cohesive, small-town community that supports families and individuals by providing a stable economy, high quality educational facilities and programs, and a broad range of community services including a participatory Town government.
Housing	Housing Element [b] Land Use Element	III Mammoth Lakes has adequate and appropriate housing that its residents and workers can afford.
Destination Resort	Land Use Element Circulation Element	IV Mammoth Lakes is a year-round destination resort community based on diverse outdoor recreation and tourism.
Urban Growth Boundary	Land Use Element Open Space Element Parks and Recreation [c]	V Mammoth Lakes has limited its urbanized area to protect its environment and to support its small-town atmosphere.
Aesthetics	Land Use Element Housing Element Noise Element Safety Element	VI Mammoth Lakes has maintained high standards for development and design while allowing for a variety of styles that are complementary and appropriate to the Sierra Nevada alpine setting.
Transportation and Circulation	Circulation Element Housing Element Safety Element Land Use Element	VII Mammoth Lakes has a variety of transportation options that emphasize connectivity, convenience, and alternatives to personal vehicle use with a strong pedestrian emphasis.

[a] *Although additional noise policies have been added to the 2005 General Plan and additional noise analyses have been undertaken as part of this project, the 1997 Noise Element is not being updated at this time. The Town of Mammoth Lakes anticipates adoption of a revised Noise Element in 2006.*

[b] *Local Housing Elements are required to be updated every five years as prescribed through the State Housing Element Law. The current Town of Mammoth Lakes Housing Element covers the five year period from 2003 to 2008 and has been structured to include formatting consistent with the overall General Plan. However, the content is not being revised at this time. The Town of Mammoth Lakes anticipates adoption of an updated Housing Element during 2007.*

[c] *Although additional parks and recreation related policies have been added to the 2005 General Plan the 1990 Parks and Recreation Element is not being updated at this time. The Town of Mammoth Lakes anticipates adoption of a revised Parks and Recreation Element in 2006.*

Source: Town of Mammoth Lakes, 2005

The following description summarizes the goals of each General Plan Chapter. Implicit in these goals are objectives, policies and implementation programs which are discussed in detail in the individual environmental issue sections. Impacts of the specific policy implementation actions are discussed in Chapter 4.0 of this EIR.

3.7 LAND USE CHAPTER

The Land Use Chapter has an important role in determining land use and development decisions. Consisting of both text and maps, this element defines the various land uses and designates their distribution, location and extent throughout the Town. It contains standards for residential density as well as building intensity. Residential density is expressed in terms of dwelling units per acre while commercial and industrial building intensity is expressed in square feet.

Land Use designations define residential, commercial, industrial, institutional, public, open space and resort lands. Land use designations were developed based on community desires and in response to the specific characteristics of the General Plan Area. These designations are shown on the Land Use Map (Figure 3-4 on page 3-10).

The proposed Updated Plan consists of a series of objectives, policies, and implementation measures, as well as land use designations that would allow for development with a balance between resort development, environmental sustainability and workforce housing. The following sections describe the land use designations and definitions that would be applied under the project.

3.7.A Residential

Low Density Residential 1 (LDR-1)

The LDR-1 category provides for single family detached residential development at a maximum density of two units per gross acre. This density range is typical of residential subdivisions in Old Mammoth. Development standards, including larger minimum lot sizes, increased setbacks, and decreased lot coverage provide for large residential sites, preserve vegetation, scenic values and privacy, respect the varied topography, and protect streams and riparian areas.

Town of Mammoth Lakes

Explanation

Urban Growth Boundary

Project

- Commercial 1
- Commercial 2
- High Density Residential 1
- High Density Residential 2
- Industrial
- Institutional Public
- Low Density Residential 1
- Low Density Residential 2
- Open Space
- Resort
- Specific Plan
- National Forest Lands
- National Forest Lands Outside the Municipal Boundary
- Airport

PARCELS

1. Bell-Shape Parcel
2. Mammoth Creek Park
3. Water District
4. Foundation Parcel

N

0 250 500 1,000 Meters

Base Maps: Old Mammoth, Mammoth Mountain, Crystal Crag & Bloody Mountain

Source: Town of Mammoth Lakes Updated Plan, 2005

Figure 3-4 Proposed Land Use Designations

Low Density Residential 2 (LDR-2)

The LDR-2 category applies to single-family residential development of four dwelling units per gross acre. This density is typical of residential subdivisions in Mammoth Slopes, Mammoth Knolls and Majestic Pines. Development standards that include setbacks, height, and lot coverage are designed to provide for building separation, useable yards, snow storage, retention of native trees and other vegetation, and limited shading of adjoining parcels by structures.

High Density Residential 1 (HDR-1)

The HDR-1 designation is intended primarily to provide areas for development of multi-family housing at a maximum density of ten dwelling units per acre. These densities would accommodate townhouses, condominiums, and apartments. Density may be increased pursuant to state law or up to double for housing projects where all units are deed restricted for workforce housing pursuant to the provisions of the Housing Element in the General Plan. This designation includes standards that ensure compatibility with adjacent properties; provide adequate recreation space, snow storage, and building separation; and generally provide for well-designed livable developments. Setbacks and lot coverage also provide for preservation of existing trees. This designation applies to portions of Old Mammoth, the Sierra Valley Sites, and the Shady Rest Tract. The HDR-1 designation preserves areas of town for resident housing by prohibiting hotels, motels, timeshares, or other transient occupancies. The Shady Rest Tract is specifically designated for workforce housing.

High Density Residential 2 (HDR-2)

The HDR-2 designation permits transient occupancy and is intended for multi-family style developments including townhouses, condominiums, and apartments. A maximum density of ten dwelling units per acre is permitted. These developments have standards that ensure compatibility with adjacent properties; provide adequate recreation space, snow storage, and building separation; and generally provide for well-designed resort visitor developments. Setbacks and lot coverage also provide for preservation of existing trees.

3.7.B Commercial

Commercial 1 (C-1)

The C-1 designation[5] is intended primarily to provide small-scale development along Main Street and to provide areas for visitor lodging and commercial services for residents and visitors, as well as accessory affordable and small-scale workforce apartment development. Intensive large-scale development is not appropriate in this designation because of terrain and access issues. This designation is located along Main Street between North Village and Mono Street and is intended to create a transition zone between the intensive retail commercial at the eastern end of Main Street and the resort commercial of North Village. Density of 20 units per acre is permitted; this may be increased up to double for development that provides additional community benefits. Development standards and policies associated with maximum density shall be developed as an implementation measure of the General Plan. All commercial development is encouraged, if not required to provide workforce housing on site. Building setbacks and lot coverage provide for light, trees and landscaping, and snow storage. Where residential uses or mixed residential/commercial uses are developed, development standards shall be appropriate to the specific area.

Commercial 2 (C-2)

This designation is designed and intended to provide areas for commercial services and sales of goods. Development policies promote pedestrian use, reduce vehicular conflicts, and improve the visual appearance of street frontages. Ground-floor street frontage on arterial streets shall be limited to commercial uses to foster the development of a pedestrian-oriented commercial district along Old Mammoth Road and the eastern section of Main Street from Old Mammoth Road to Mono Street. Multi-unit housing is encouraged as an accessory use. Density of 20 units[6] per acre is permitted; this may be increased up to double for development which provides additional community benefits. Development standards and policies associated with maximum density shall be developed as an implementation measure of the General Plan. Development standards support a pedestrian-oriented retail experience while maintaining views and some native trees.

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[5] *Commercial Density was revised from the General Plan Draft circulated in April 2005, Council and Planning Commission direction to not revised densities of the Commercial Designations through the General Plan. Language has been revised to reflect existing density, with the only exception being that doubling of density is not solely linked to understructure parking but for additional community benefits.*

[6] *Studio and one-bedrooms equal to ½ dwelling unit of density.*

3.7.C Open Space (OS)

The OS designation is applied to lands that have significant recreational or environmental values. The OS designation permits development of facilities that support the environmental and recreational objectives of the community. This designation may include environmentally sensitive areas such as wetlands, floodplains, and streams. It may include recreation facilities such as parks, athletic fields, ski areas, golf courses, and community gathering spaces. This designation includes the patented mining claims located on Sherwin Ridge, the proposed future second nine holes of the Snowcreek golf course, Camp High Sierra, and Town properties along Mammoth Creek.

3.7.D Institutional Public (IP)

The IP designation allows for public facilities and institutional uses. This designation is applied to lands that are anticipated to be used for schools, hospitals, governmental offices and facilities, museums, and related uses. As these uses are among the largest employers within the Town, affordable housing, as defined by the Town, would be permitted on IP lands located south of Meridian Boulevard and east of Old Mammoth Road. For housing development within areas designated IP, the HDR-1 uses and development standards are applicable at a maximum density of up to four units per gross acre. Policies encouraging adequate pedestrian and transit facilities are included to promote alternatives to private vehicle access to places of employment, study, shopping, and recreation.

3.7.E Resort (R)

The R designation is intended to provide mixed uses consistent with a mountain resort community. Visitor lodging, amenities, and services are the primary emphasis. Affordable workforce housing is allowed within the major resort developments. Amenities within resort developments include recreation, meeting spaces, and commercial services that support the resort atmosphere. This designation is generally applied to large parcels capable of providing a complete resort experience as found in Sierra Star, Snowcreek, and Juniper Ridge. New developments are physically connected internally and to all visitor oriented destinations with an integrated system of streets, sidewalks, and recreational paths. The density range for the R designation is a maximum of six units per acre for residential development other than visitor lodging, and up to a maximum of eight dwelling units per acre for visitor lodging. Residential density may be increased pursuant to state law. Most resort development projects are required to provide support commercial within their development area. Resort projects must also demonstrate consistency with the overall community goals and must demonstrate sufficient amenities to make the projects attractive in their own right. Lot coverage is limited to a maximum of 50 percent overall to provide space for outdoor recreation amenities.

3.7.F Industrial (I)

The I designation is designed and intended to accommodate industrial uses needed to support a resort community. Uses allowed by right are generally those that are conducted entirely within an enclosed structure and may include light manufacturing, storage, and maintenance uses. Other permitted uses include heavy equipment storage and maintenance, batch plants, automobile repair and service, and similar uses. Policies require that industrial uses take measures to ensure screening, separation, and overall compatibility with adjacent properties.

3.7.G North Village Specific Plan

The North Village Specific Plan (North Village SP) area provides for the highest intensity uses consistent with a mountain resort community and includes a mix of visitor oriented commercial and visitor lodging. North Village is intended to be the primary visitor attraction in the community due to its access via gondola to MMSA and its commercial village. Total residential and commercial development density in the North Village SP is calculated in terms of rooms. For the purpose of assessment development within this land use designation, commercial development is converted from residential density at a rate of 450 square feet of commercial per room. The maximum density under the North Village SP is 3,020 rooms and 135,000 square feet of commercial (equivalent to 300 rooms). Limited density transfers are permitted within the SP area. Density is not uniform, but rather is allocated by districts as specified in the North Village SP. Within the Plaza Resort district, commercial development is required to support the lodging development and to assure a successful village atmosphere. Residential development under the SP is limited to visitor lodging development and workforce housing to assure a successful village atmosphere. Affordable workforce housing is encouraged to be provided onsite. Total density within the North Village SP area may be increased pursuant to density bonus and density transfer policies or provision of a high level of community amenities and services. The maximum density with increases is 3,800 rooms and 220,000 square feet of commercial. All increased density must be in projects located within 500 yards of the gondola terminal.

3.7.H Airport (A)

The A designation is applied to the Mammoth Yosemite Airport. Facilities and services associated with aviation including hangars, fueling, and fixed base operator services are permitted. Supporting uses including automobile rental, transient lodging, retail uses, and a RV park may be permitted. The Airport zone is designated for 250 visitor accommodation units and approximately 50,000 square feet of commercial development.

3.7.I National Forest (NF)

The NF designation is applied to lands administered by the Inyo National Forest that are outside the adopted UGB. National Forest Land is not subject to the land use jurisdiction of the Town; however, building codes and other specific Town regulations apply on National Forest land within the Municipal Boundary.

3.7.J Population Density and Intensity

California planning law requires that a General Plan include a statement of population intensity. Table 3-2 on page 3-16 shows the 2004 resident population estimates included 7,569 permanent residents. However, population intensity is more than just permanent residents and includes transient residents and visitors. Therefore, the General Plan uses the phrase "people at one time" (PAOT) to describe population intensity. The average peak population of 34,265 is the total number of PAOT, which represents the average winter Saturday. For the purposes of projecting PAOT, the Town applied a person/unit occupancy, based upon the 2000 census average of 2.4 people per household, for all units occupied by permanent residents and a person/unit occupancy of 4.0 was applied to all remaining visitor, second home, and seasonal resident units. This number was verified by the Town of Mammoth Lakes annual visitor survey and is similar to the unit occupancy factor of 4.1 which was used during the 1987 General Plan.

This number was verified through the following analysis (see Table 3-3 on page 3-16). The permanent population in 2003 was 7,460 as determined by the California Department of Finance. The skier number used was 18,476 (the highest day for the month was 21,630). An estimated 600 skiers from the 93546 zip code reduce this number (MMSA, Thom Heller oral communication). It was assumed that ¼ of the visitors were not skiing (either non-skiers or just not skiing on that day). This is somewhat lower than our peer resorts and is comparable to the ratio that was used in the 1987 population projections. It was also estimated that the Town has approximately 2000 seasonal residents. The sum of these numbers is 33,294 PAOT, which differs from the projection by approximately 3 percent.

Future Population Projection Assumptions

To facilitate the development of policies for the current General Plan update, a comprehensive review has been made of population and housing trends in Mammoth Lakes over the past 20 years, including issues that may impact population and housing in the years ahead. Estimates of future population are based on an analysis of the number of units that could be constructed by the project.

Table 3-2

Existing Population (2004)

Units / Population	Permanent Resident	Seasonal	Second Home	Visitor	Total
Units	3,115	566	1,942	4,166	9,871
Population	7,569	2,264	7,768	16,664	34,265 [a]

[a] *Population assumes seasonal, visitor, lodging and second home equal four people per dwelling. Permanent resident equal 2.4 per dwelling. 38.5 percent of residential units are permanent, 7 percent are seasonal, 24 percent are second home, and 29.5 percent are visitor. This does not equal 100 percent due to vacancies.*

Source: Town of Mammoth Lakes, 2005

Table 3-3

Verification Analysis of PAOT as of January 1, 2004

Skiers on MMSA	18,476
Permanent population	7,460
Locals skiing	-600
Non-skiing visitors/second homeowners	5,958
Seasonal residents	2,000
Total	33,294

Source: Town of Mammoth Lakes, 2005

Based on the 2005 General Plan, the Town of Mammoth Lakes forecasts the PAOT at build out could reach approximately 60,700 by 2024, an increase of approximately 26,400 from the current PAOT (see Table 3-4 on page 3-17). Figure 3-5 on page 3-18 shows the population density by area within the UGB. This forecast was based upon the land use designations, goals policies and objectives of the 2005 General Plan.

The Draft General Plan Update projects that the Town would be fully built out in twenty years. This projection is based upon the current level of construction activity and the number of units left to be developed. This projection assumes a higher rate of development than the community has seen over the past 20 years, but is justified on the basis of current building permit issuance (730 units in the last year) and the applications submitted for major development projects.

While factors outside the control of the Town, such as macro economic changes and changes in preferences in tourism, may result in a different rate of development, assuming a 20 year development horizon allows the Town to fully assess the interrelationships and impacts of full development and plan for the community's infrastructure and services.

Table 3-4

Incremental Development for Buildout of the Updated General Plan

Land Use	January 2004 Existing Development Units (Sq. Feet)/Acre	Potential Units at Build-out Proposed General Plan Units(Sq. Feet)/Acre
Single Family Non-transient	2,087 units / 409 acres	2,380 units / 576 acres
Single Family Transient	0	97 units / 24 acres
Mobile Home	136 units / 15 acres	144 units / 16 acres
Multi-Unit Non-Transient	827 units / 60 acres	2,091 units / 119 acres
Multi-Unit Transient	6,821 units / 402 acres	11,998 units / 559 acres
Industrial	296,941 sq. ft. / 36 acres	493,547 sq. ft. / 64 acres
Commercial/Office Uses	1,262,618 sq. ft. / 58 acres	1,365,002sq. ft. / 84.5 acres
Total Units	9,871	16,710
Population (persons)	34,265 [a]	~~60,727~~ 60,700

Notes:

Population assumptions: Seasonal, visitor, lodging & second home = 4 people per dwelling. Permanent resident = 2.4 per dwelling.

38.5% of residential units are permanent, 7% are seasonal, 24% are second home, 29.5% are visitor. Does not equal 100% due to vacancy

~~Based~~ Base population calculated utilizing the same assumptions ~~as~~ above, except 4 people per unit is assumed for student housing and ~~% of~~ workforce housing.

Includes bonus units for all development projects that provide ~~AH~~ affordable housing, state mandated density bonus units, doubling of density provision in existing code and student housing.

Source: Town of Mammoth Lakes, 2005

3.7.K ~~3.7.I~~ Key Land Use Policies

Although the goals, policies, objectives and implementation measures of all the General Plan Chapters have land use implications these will be discussed under each related chapter. Key policies of the Land Use Chapter are the following:

- Density Transfers, may be permitted between the Resort, Specific Plan, and HDR-2 designations, subject to the development of a density transfer ordinance. Transfers may only occur if vehicle miles traveled is decreased, PAOT does not increase, and benefits are provided to the community by protecting environmentally sensitive sites, providing additional public services and amenities, or providing additional workforce housing.
- Open space in and adjacent to town is preserved and maintained for outdoor recreation opportunities.
- The development of commercial nodes that are interconnected, specialized and distinct in character is encouraged. These nodes include North Village, Snowcreek, Sierra Star, Main Street, Old Mammoth Road and Eagle Lodge.

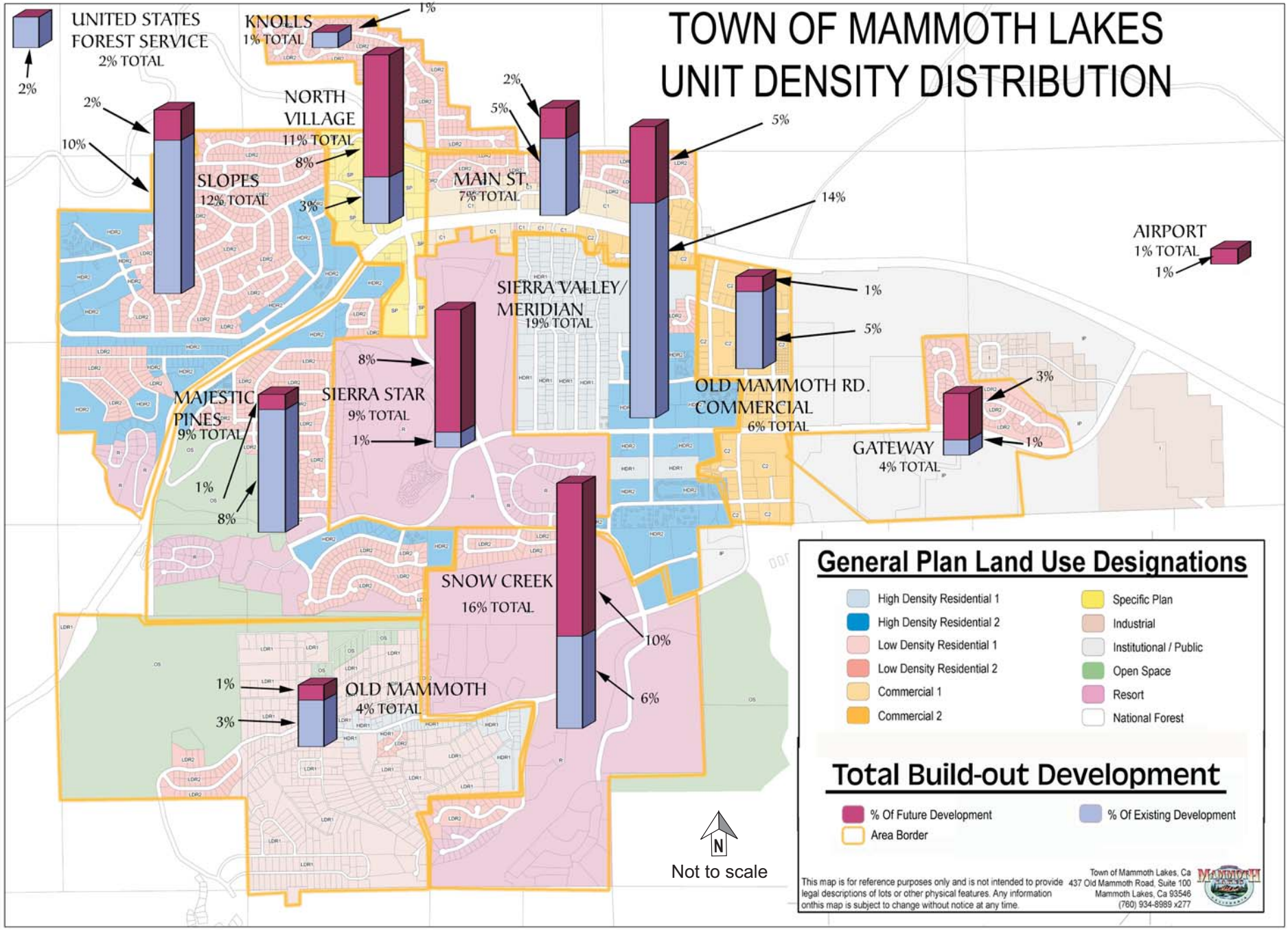


Figure 3-5 Population Density by Area within the UGB

3.8 ENVIRONMENTAL SUSTAINABILITY CHAPTER

The Environmental Sustainability Chapter addresses environmental issues with respect to community-wide resources, both natural and developed. This chapter integrates and updates the following elements from the 1987 General Plan: the Open Space and Conservation Element, the Noise Element and resource issues from the Land Use Element. Integration of these elements is intended to ensure internal consistency of the goals, objectives and policies and fulfill portions of the state Planning Act General Plan requirements (Government Code 65302 (a), 65302 (d), 65302(e), 65302(f)), 65563, 65564).

The Environmental Sustainability Chapter contains 12 individual General Plan Objectives, 24 specific policies and over 70 implementation measures designed to realize and support Guiding Principle I of the Vision Statement and supporting goals:

> "The Mammoth Lakes community places a high value on the sustainability and continuity of our unique relationship with the natural environment. As stewards of the natural environment, we support that relationship with our visitors as one way of maintaining our high quality of life."

I.1 Wildlife and the environment are protected.

I.2 The natural environment is evident throughout town.

I.3 Public lands, trails, lakes, streams and backcountry are maintained and accessible.

I.4 The quiet environs of Mammoth's alpine setting are protected.

I.5 There continue to be views from town to the surrounding mountains.

I.6 The ability to view a starry night sky is protected.

I.7 The quality of the air and water meet or exceed federal and state standards.

The goals, policies and implementation measures contained in this chapter are intended to ensure a balance between the built and natural environments within the Town. Maintaining a balance among the Town's existing resources is important since failure to do so will result in the disruption of fragile ecological cycles, and the deterioration of the natural alpine character upon which the Town's local economy is based. The livability and economic viability of Mammoth Lakes largely depends on the Town's ability to plan for and encourage development that is compatible with the area's natural resources.

3.9 COMMUNITY HEALTH AND SAFETY CHAPTER

The Community Health and Safety Chapter contains over 120 individual goals, objectives, policies and implementation measures intended to protect residents and visitors from natural hazards such as floods, snow, seismic, carbon dioxide ($C0_2$), geologic and fires. Overall, this chapter covers safety as prescribed by Safety Element provisions of the Government Code, Section 65302 (g). The intent of this section is to describe the scope of these hazards as well as the actions that the Town can take to eliminate or reduce the probability of these hazards leading to a loss of life or property. In addition to the state mandated topics, this chapter also covers optional items that relate to the overall social, physical and economic health of the resident community. These items have been added as a result of the high level of interest gathered from public input during the General Plan update process.

The goals, objectives, policies and implementation measures presented in this chapter are a product of public input and technical analysis. They are designed to help realize the community's Vision and support Guiding Principle II of the Vision Statement and supporting goals:

> "Mammoth Lakes is a great place to live and work because it is a strong and diverse yet cohesive small-town community that supports families and individuals by providing a stable economy, high-quality education programs, and a broad range of community services including a participatory government."

II.1 Residents can live, work, play, and raise a family.

II.2 A responsive and accessible government encourages community participation in order to maintain and improve the quality of life.

II.3 General public safety and related services and facilities are provided.

II.4 Potential hazards to public safety within the Town of Mammoth Lakes are minimized.

3.10 HOUSING CHAPTER

Local Housing Elements are required to be updated every five years as prescribed through the State Housing Element Law. The current Town of Mammoth Lakes Housing Element covers the five year period from 2003 to 2008 and has been structured to include formatting consistent with the overall General Plan; however, the content is not being revised at this time and is not a part of the project. The goals, policies, and implementation measures of the Housing Element are integrated with the General Plan Update and are considered in this EIR. The Town of Mammoth Lakes anticipates the adoption of an updated Housing Element in 2008.

3.11 RESORT ECONOMY CHAPTER

The Town of Mammoth Lakes is pursuing a comprehensive strategy to enhance the Town's resort economy. The strategy fosters a strong and sustainable economy, environment, and community so that the Town can achieve greater success as a destination resort community. The strategy includes achieving a wider range of visitor accommodations with an emphasis on facilities designed specifically for short-term stays; attracting commercial air service to the region; enhancing shopping, dining and nightlife opportunities; providing a variety of arts, cultural, and educational facilities and opportunities; enhancing recreation opportunities; enhancing a strong resident community; and protecting the natural environment. There are over 100 goals, objectives, policies and implementation measures in this chapter, which are a product of public input and designed to help realize the community's vision and support Guiding Principle IV of the Vision Statement and supporting goals:

> "Mammoth Lakes is a year-round destination resort community based on diverse outdoor recreation and tourism."

IV.1 The economy is strong and stable year round.

IV.2 There is a variety of facilities and programs that foster an understanding and appreciation of the natural environment.

IV.3 A wide variety of outdoor and indoor recreation is readily accessible to residents and visitors.

IV.4 Art and cultural facilities for residents and visitors offer diverse programming.

IV.5 Open space in and adjacent to town is preserved and maintained for outdoor recreation activities.

3.12 URBAN GROWTH BOUNDARY CHAPTER

The Town of Mammoth Lakes adopted an Urban Growth Boundary (UGB) policy in 1993. The policy maintains a clear delineation between the developed portions of the community and the surrounding National Forest lands, in order to prevent urban sprawl. The UGB policies provide that no intensive development may take place outside of the UGB and that development intensity and extent are to be the ultimate for the community. The policies specifically restrict the ultimate size and intensity of the community to those areas not designated for open space. The Town's UGB encompasses an area of approximately four (4) square miles including the airport and Pokonobe Lodge in the Lakes Basin.

A key element of the Vision Statement adopted for the General Plan Update states that "Mammoth Lakes has limited its urbanized area to protect its environment and to support its small-town atmosphere." This Guiding Principle reflects the sentiment, expressed by the public and decision-makers alike, that the physical extent of the Town should be no greater than originally envisioned in the 1987 General Plan and Environmental Impact Report (EIR). While true, this is not part of the draft plan.

The supporting goal of this Guiding Principle of the Vision Statement is:

V.1: A compact form is maintained to protect our small-town atmosphere and natural and outdoor recreation resources.

3.13 AESTHETICS CHAPTER

Much of the past development of the Town occurred without an overall plan that linked individual developments to common community goals. As a result, parking lots are a prominent part of the streetscape, pedestrian routes do not adequately link adjoining uses, and many structures present unappealing architectural faces to adjoining properties and public spaces. One goal of the Town is to make improvements ensuring that new development will support and enhance the desired community character and improve the functioning and attractiveness of the Town. In order to achieve this goal, the 2005 General Plan includes an Aesthetics Chapter. The purpose of the Aesthetics Chapter is to promote quality design for buildings, structures, paths, districts, nodes, landmarks, natural features and significant landscaping. This chapter does not entail specific design guidelines; rather it provides sufficiently detailed policies that enable its use in the design review process, which determines whether or not a project meets the community's expectations for design and development quality.

Over 65 goals, objectives, policies and implementation measures presented in this chapter acknowledge the connection between pleasant surroundings in the built environment and the natural beauty of the area. These goals, objectives and policies are a product of public input and are designed to help realize the Community's Vision and support Guiding Principle VI and supporting goals:

"Mammoth Lakes has maintained high standards for development and design while allowing for a variety of styles that are complementary and appropriate to the Sierra Nevada alpine setting."

VI.1 The built environment is well constructed, tastefully designed, and supports our community character.

VI.2 The built environment supports small resort-town resort character.

VI.3 Old Mammoth Road and Main Street are active retail shopping districts and serve as a prominent entrance to town.

VI.4 Development respects the natural and social resources and enhances the quality of life and experience for residents and visitors.

3.14 TRANSPORTATION AND CIRCULATION CHAPTER

An efficient and safe circulation system is a primary goal of the community, and is essential to the orderly development of the Town. California State law has, since 1955, required each jurisdiction to prepare a "Circulation Element" as a part of the General Plan. The *California Government Code,* Section 65302(b), states that a Circulation Element shall consist of the general location and extent of existing and proposed major thoroughfares, transportation routes, terminals and other local public facilities. These components of the circulation element are directly correlated with the land use element. All of the components required in a Circulation Element by State Law are covered in the Transportation and Circulation Chapter of the Town of Mammoth Lakes General Plan.

The Transportation and Circulation Chapter discusses not only the movement of people and goods, but also specific transportation facilities such as roads, parking lots, transit facilities and pedestrian paths. The goals, objectives, policies and implementation measures presented in this chapter are a product of public input and technical analysis. They are designed to help realize the community's vision and support Guiding Principle VII of the Vision Statement and supporting goals:

"Mammoth Lakes has a variety of transportation options that emphasize connectivity, convenience, and alternatives to personal vehicle use with a strong pedestrian emphasis."

VII.1 A comprehensive network of roads, parking locations, sidewalks and trails provides accessible, safe and convenient links year-round between recreation, commercial, and residential areas.

VII.2 Public transit meets the needs of Mammoth's workforce, residents, and visitors and provides a viable alternative to private vehicles year round.

VII.3 There is a comprehensive multi-modal transportation system providing convenient and safe transportation to the Eastern Sierra region and Mammoth's visitor markets.

3.15 UPDATED PLAN COMPARED TO EXISTING GENERAL PLAN

As shown in Table 3-5 on page 3-25, the anticipated population at build out under the current General Plan is 61,375. The anticipated population at build out from the project is now estimated to be approximately the same as the current General Plan (60,700). (See Table 3-6 on page 3-26 for the projected population under the current General Plan.) Figure 3-4 shows the locations of the various land uses under the project. The proposed Updated Plan that is addressed in this Revised Draft PEIR would:

- Retain the low density residential land use for the Old Mammoth area at two units per gross acre;
- Reduce density in the High Density Residential 1 and 2 land use designation from twelve to ten units per acre;
- Permit a restricted amount of workforce housing development in the Institutional/Public land use designation;
- Increase area being limited to non-transient use, existing properties zone RMF-2 along Old Mammoth and Meridian Blvd, will be designated HDR-1 which will limit future development to resident use only;
- Retain the same area designated Commercial but provides two C designations rather than one. These generally mirror the existing Commercial Lodging and Commercial General zoning designations and the policy direction for the Main Street Commercial District contained in the current General Plan. Three lots on Old Public Rd. (the Frontage Rd. from Manzanita to Joaquin) are added to the C-2 designation from C-1;
- Maintain the existing density of the Commercial designations; expect that doubling of density is no longer contingent on just understructure parking but community defined benefits which is an implementation measure of the GP;
- Maintain the Resort designations with small changes in the boundaries to reflect open space adjacent to the Juniper Ridge Master Plan and along the Mammoth Creek corridor;
- Allow for 6 units per acre for non-visitor lodging development and 8 units per acre for visitor lodging development within the Resort designation. This adds a definition to the existing General Plan density range of 6 to 8 units per acre;
- In addition to the clustering of density within individual resort developments that is already encouraged in the R designation, density transfers from off-site to properties within 500 yards of a ski lift terminus are permitted in the draft plan;
- Establish a new Industrial Designation which was a component of the SP designation;
- Provide for an additional 20 acres of industrial land by the Water District on property currently designated IP;

Table 3-5

Incremental Development for Buildout of the Proposed Project Compared with the Existing General Plan

Land Use	January 2004 Existing Development	1987 General Plan Build Out	Project Build Out	Incremental Change Between 1987 General Plan and Project
Single Family Non-transient	2,087 units/409 acres	2,400 units/576 acres	2,380 units/576 acres	-20 units/0 acres
Single Family Transient	0 unit/ 0 acres	97 units/24 acres	97 units/24 acres	0 units/0 acres
Mobile Home	136 units/15 acres	144 units/16 acres	144 units/16 acres	0 units/0 acres
Multi-Unit Non-Transient	827 units/60 acres	2,077 units/99 acres	2,091 units/119 acres	14 units/20 acres
Multi-Unit Transient	6,821 units/402 acres	12,678 units/559 acres	11,998 units/559 acres	-680 units/0 acres
Industrial	296,941 sq. ft./36 acres	339,314 sq. ft./44 acres	493,547 sq. ft./64 acres	154,233 sq. ft./20 acres
Commercial/Office Uses	1,262,618 sq. ft./58 acres	1,280,002 sq. ft./84.5 acres	1,365,002 sq. ft./84.5 acres	85,000 sq. ft./0 acres
Total Units	9,871	17,396 §§	16,710	
Population (persons)	34,265*	61,376**	60,700	

Notes:

Population assumptions: Seasonal, visitor, lodging & second home = 4 people per dwelling. Permanent resident = 2.4 per dwelling.

38.5% of residential units are permanent, 7% are seasonal, 24% are second home, 29.5% are visitor. Does not equal 100% due to vacancy

Base population calculated utilizing the same assumptions above, except 4 people per unit is assumed for student housing and workforce housing.

Includes bonus units for all development projects that provide affordable housing, state mandated density bonus units, doubling of density provision in existing code and student housing.

Source: Town of Mammoth Lakes, 2005

- Provides new designations within the existing SP designation these designations would more accurately identify the existing uses within this designation, these mirror existing zoning;
- Establish a component of the existing SP designation as the North Village Specific Plan Designation, the permitted density under this is currently 3,020 rooms and 135,000 sq. feet of commercial. Under the Updated Plan the density is increased to 3,720 rooms and 185,000 sq. feet of commercial use, however this density is only available as density bonuses for projects which provide a high level of community amenities and services;
- Maintain the basic distribution of land uses;
- Maintain the Urban Growth Boundary;
- Not increase the Town population at build-out;
- Maintain the commitment to transit and pedestrian facilities;
- Utilize the Vision Statement as the basis for the General Plan;

Table 3-6

Projected Population Under the Current General Plan

Residential Units / Population		Permanent Resident	Seasonal	Second Home	Visitor
Units	4,006	1,542	280	961	1,182
Population	13,396	3,702	1,122	3,846	4,727
Units (State Mandated Bonuses Residential)	660	254	46	158	195
Population	2,614	1,016	185	634	779
Units (State Mandated Bonuses Lodging)	675				675
Population	2,700				2,700
Units (Doubling of Density for AH)	333	333			
Population	800	800			
Units (Student Housing)	125		125		
Population	500		500		
Multi-Unit Transient/ Population		**Permanent Resident**	**Seasonal/ SH/Visitor**	**Second Home**	**Visitor**
Units	11,597	4,117	7,480		
Population	41,365	26,545	14,821		
Subtotal Population		32,062	16,627	4,479	8,206
Total Population	61,375				

Source: Town of Mammoth Lakes, 2005.

- Allow for density to be transferred between properties when it makes the community more efficient and successful;
- Establish height policies as part of the plan;
- Make tree and view preservation policies stronger;
- Aesthetic and design policies are more explicit;
- Provide more policies that support creation of amenities and services;
- Provide more policies that support retention and creation of workforce housing;
- Provide energy efficiency and other environmental policies that are stronger; ~~and~~
- Provide policies ~~which~~ that support resident oriented services ~~have been included~~ (child care, health care, education);
- Re-designate from OS to IP Mammoth Creek Park~~.~~; and
- Utilize only one Open Space Designation instead of three. Areas ~~designate~~ designated as Special Conservation Planning and Open Space/Stream Corridor would be designated OS under the Updated Plan. Additional policies and implementation measures have been included in the Updated Plan to ensure the intent of these existing designations are maintained.

Overall, the project would allow for a lesser number of dwelling units than build-out under the existing General Plan and the previously proposed project described in the original DEIR. The changes from the previously circulated version of the EIR and the impacts on overall population are summarized in the Table 3-7 on page 3-27.

Table 3-7

Population Projections

Description	Population
Existing Population (Est. as of 2003)	34,269
Existing General Plan	61,375
Version of General Plan that was the project and labeled as the "Project Alternative" in the Previously Circulated PEIR	71,200
Proposed Updated General Plan (the project)	Approx. 60,700

Source: Town of Mammoth Lakes, 2005.

3.16 PROJECT OBJECTIVES

Section 15124(b) of the CEQA Guidelines states that the Project Description shall contain "A statement of the objectives sought by the proposed project."

The underlying purpose of the proposed Updated Plan is to update the existing 1987 General Plan, as it has been amended through the intervening years, and to provide a comprehensive and cohesive set of updated policies to guide land use and other community decisions in a manner that reflects community goals and values for the future of the community. The community goals and values are summarized in a "Vision Statement" and in a list of "Guiding Principles" that correlate to each provision of the Vision Statement. The Updated Plan's "Vision Statement" responds to key areas of concern that were raised by the community during the General Plan update process. The key areas of concern, combined with the direction given in the Vision Statement, form the underlying objectives of the Updated Plan, and those objectives are summarized below:

- Sustain and protect the unique environmental setting of the Town while supporting the Town's important economic relationship with visitors so as to maintain a high quality of life.
- Retain and enhance the Town's strong, diverse and cohesive small-town community character by providing a stable economy, high quality educational facilities and programs, a broad range of community services, and a participatory Town government.
- Provide for adequate and appropriate housing that its residents and workers can afford.
- Enhance Mammoth Lakes as a year-round destination resort with diverse opportunities for outdoor recreation and tourism.

- Retain a limited urbanized area so as to protect the surrounding environment and the Town's small-town atmosphere.
- Maintain high standards of development and design while allowing for a variety of styles that are complementary and appropriate to the Sierra Nevada alpine setting.
- Provide transportation options that emphasize connectivity, convenience, and alternatives to personal vehicle use with a strong pedestrian emphasis.

3.17 REQUIRED APPROVALS

Approval of the 2005 Updated General Plan requires review by the Town. Discretionary approvals associated with the proposed Updated Plan may include, but are not limited to, the following:

- Certification of Final EIR
- Adoption of Updated Plan
- Zoning Amendments to comply with the Updated Plan
- Code Amendments to comply with the Updated Plan
- Amendments to other documents as necessary (i.e., Master Facility Plan)

4.0 DESCRIPTION OF ENVIRONMENTAL SETTING, PROJECT IMPACTS AND MITIGATION MEASURES

Chapter 4 of the Revised Draft PEIR discusses the environmental setting, evaluates the potential of the project to result in significant impacts to the environment as a result of implementation of the proposed elements of the Updated Plan, and identifies mitigation measures.

Each section contains a discussion of the local and regional environmental setting to "constitute the baseline physical conditions by which a lead agency determines whether an impact is significant" (CEQA Guidelines Section 15125(a)). The applicable federal, state, and local statutes and regulations that govern individual environmental resources must be considered by the Town in the decision making process and therefore, are included in the regulatory framework described for each environmental resource. Thresholds of significance, which are based primarily on Appendix G of the CEQA Guidelines, are presented in each section and are used to determine whether or not the implementation of the Updated Plan would result in a significant impact. Under CEQA, an EIR should identify and analyze the possible significant environmental impacts of a proposed project (CEQA Section 21100(b)(1); CEQA Guidelines Section 15126(a), 15126.2(a)). A significant effect on the environment means "a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historical or aesthetic significance…" In addition, "a social or economic change related to a physical change may be considered in determining whether the physical change is significant" (CEQA Guidelines Section 15382). "The significant effects should be discussed with emphasis in proportion to their severity and probability of occurrence (CEQA Guidelines Section 15143; see also CEQA Sections 21003.1(e), 21100(c); CEQA Guidelines Section 15128).

The Updated General Plan policies and implementation measures applicable to each threshold are provided. In many instances the policies and implementation measures in the Updated Plan serve to minimize or reduce potential impacts to the environment. If a significant impact is identified, mitigation measures to reduce the identified impact are presented. An analysis of the impacts after the implementation of mitigation measures is also provided. Any unavoidable significant adverse impacts (i.e., those effects that either cannot be mitigated or remain significant even after mitigation) are identified in the section and are summarized in Section 6.D of this EIR.

In certain instances, mitigation measures for potentially significant impacts could create their own secondary effects from implementation. According to the CEQA Guidelines (Section

15126.4(D)), ["If a mitigation measure would cause one or more significant effects in addition to those that would be caused by the project as proposed, the effects of the mitigation measure shall be discussed but in less detail than the significant effects of the project as proposed."] Therefore, Section 6.E of this Revised Draft PEIR provides an analysis of mitigation measure contained in Chapter 4 of this EIR.

4.1 AESTHETICS, LIGHT AND GLARE

This section evaluates the aesthetic impacts that could result from the implementation of the Updated Plan. Aesthetics refers to the overall visual qualities of an area or within a given field of view. As quantitative standards are not available to analyze visual quality and individuals respond differently to changes in the visual environment, the evaluation of aesthetic impacts can be termed a subjective exercise due to widely varying personal perceptions. What may be considered an improved visual scene to one person may be considered an adverse visual condition to another. This section also includes an analysis of light and glare impacts that could result from implementation of the Updated Plan.

4.1.1 EXISTING CONDITIONS

4.1.1.1 Visual Characteristics of Mammoth Lakes

The Town of Mammoth Lakes is situated in a dramatic mountain valley surrounded by majestic peaks. The surrounding forest weaves through the town creating a unique, forested, rustic environment. The forests, mountains, and meadows in and around the town primarily define its character.

More specifically, the Town is nestled against a backdrop of snowcapped 11,000-foot peaks that dominate the visual field. The urbanized portions of the Town are generally located between 7,800 and 8,600 feet above mean sea level (amsl). Native vegetation includes pine forest and meadow. Barren rock outcrops and avalanche slopes, and chaparral and sagebrush all add texture and color. Surface waters, in the form of streams, lakes, seeps, and snow, are also contributing elements to the visual aesthetics of the landscape.

A viewshed (or viewpoint) is an area that can be seen from a particular position (i.e., viewed from various locations in the Town and along roadways to and within the community). The Sierra Nevada Mountain Range forms the backdrop of views to the west, north, and south of the Town. To the east are views of the Great Basin and high desert vegetation. The rugged terrain in portions of the community serves to provide both excellent viewpoints and also restrict views, depending upon the viewer's location. Included among the important viewpoints within the area are Mammoth Crest, Crystal Crag, Lake Mary Road, the ski slopes on Mammoth Mountain, Lincoln Mountain, Sherwin Mountain, SR 203 east of Old Mammoth Road, U.S. Highway 395 along its entire length in the Planning Area, the White Mountains, Old Mammoth Road south of Mammoth Creek, and many other striking features. Mammoth Mountain and

portions of the Sierra Nevada mountain range and White Mountains can be seen from nearly all points within the Town (Cover Photograph). The majority of the Town is forested with a mix of pine and fir. The southeast portion is open meadow and sagebrush.

Against this vast backdrop of dramatic natural landscapes, urban development in the Town provides a visual contrast (Figures 4.1-1, 4.1-2, 4.1-3 on pages 4-5, 4-6, and 4-7, respectively). Roads, buildings, utility poles, and other man made structures provide forms, textures, and colors that contrast with the natural environment and are often visible from distant vantage points (for example, the paved expanses of shopping center parking lots along Main Street and Old Mammoth Road are readily discernable from Mammoth Mountain, and the Town as a whole can be seen from long stretches of U.S. Highway 395, particularly at night). Visual contrast is somewhat reduced in residential areas, particularly the older established neighborhoods because of the use of natural materials and colors and the screening afforded by trees and vegetation. Figure 4.1-4 on page 4-8 depicts the major view corridors throughout the Town.

4.1.1.2 Light and Glare

There are primarily two sources of light intrusion: 1) light emanating from structural interiors and passing through windows; and 2) light from exterior sources, such as street lighting, building illumination, security lighting, event lighting in the resort areas, traffic headlights, slope grooming, and landscape lighting. Uses such as residences, hospitals, and hotels are considered light sensitive since they are typically occupied by persons who have expectations for privacy during evening hours and who are subject to disturbance by bright light sources. Glare results mainly from sunlight reflection off flat building surfaces with glass and reflective metal surfaces typically contributing to the highest degree of reflectivity. At night, lights from the Town illuminate the developed areas, providing contrast with the generally uninterrupted darkness of the surrounding mountains and NF lands. Preservation of dark night skies through appropriate lighting controls has been identified as an important community goal. Glare can also be produced during evening and nighttime hours by the reflection of artificial light sources, such as automobile headlights. Glare generation is typically related to either moving vehicles or sun angles, although glare resulting from reflected sunlight can occur regularly at certain times of the year. Glare-sensitive uses generally include residences and transportation corridors (i.e., roadways).

4.1.1.3 Scenic Highways

The California Department of Transportation (Caltrans) has designated U.S. Highway 395 as a scenic highway throughout the Planning Area (Figure 1.1.1). State Route 203 is eligible for designation as a scenic highway in its entirety but has not been formally established as a



Figure 4.1-1 Typical Mountain Vista as Seen From Various Locations in the Town



Figure 4.1-2 Resort Development-North Village

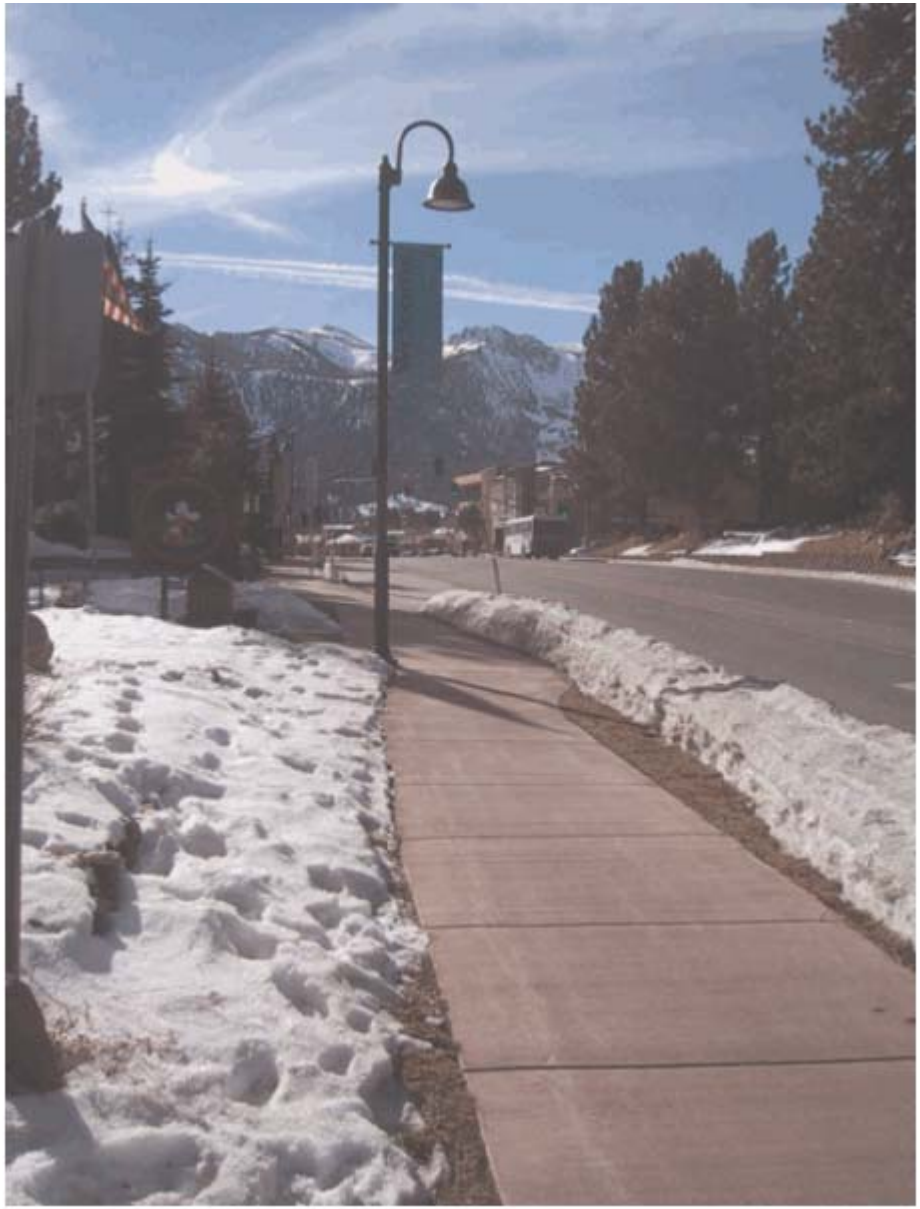
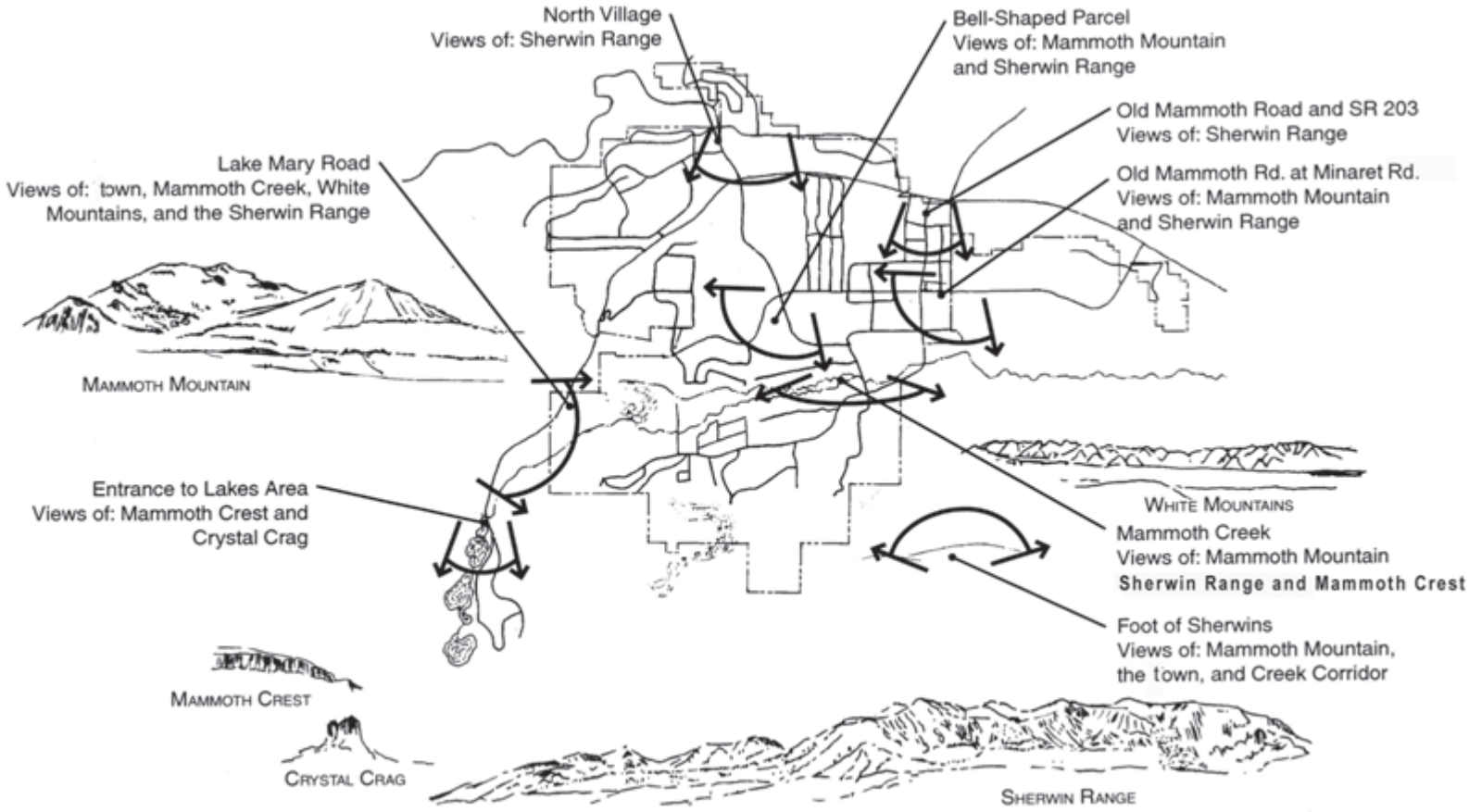


Figure 4.1-3 Urban Development in the Town Against Dramatic Natural Landscape



Major View Corridors and Vistas

Figure 4.1-4 Major Viewpoints from the Town

scenic highway. The current conditions on State Route 203 within the UGB limit the views of the landscape because of the localized topography, tree canopy and existing development.

The Scenic Highway Program was created in 1963 to preserve and protect highway corridors located in areas of outstanding natural beauty from changes that would diminish the aesthetic value of the adjacent lands (California Department of Transportation, Scenic Program Highway website, www.dot.ca.gov/hq/LandArch/scenic/scpr.htm). The scenic designation is based on how much of the landscape can be seen by travelers, the scenic quality of the landscape, and the extent to which views are compromised by development.

The purpose of the scenic designation is to protect and enhance the visual environment in areas of important scenic value. The first step in the nomination process is a visual assessment based on Caltrans' guidelines, coupled with adoption by the local jurisdiction of a scenic corridor protection program. Step 2 is consultation with Caltrans; Step 3 is preparation of a scenic highway resolution package; Step 4 is Caltrans' review of the resolution; and Step 5 is a review of the resolution package by the Departmental Transportation Advisory Committee (DTAC).

4.1.2 REGULATORY FRAMEWORK

4.1.2.1 Undergrounding of Electric and Communication Distribution Facilities near State Scenic Highways

The state has adopted a policy (Public Utilities Code Division 1, Part 1, Chapter 2 Section 320) to locate all future electric and communication facilities underground whenever feasible and consistent with sound environmental planning, if such facilities are proposed to be built near a designated state scenic highway and would be visible from the scenic highways if erected above ground.[6] Pursuant to this policy, which was adopted in 1972, the undergrounding of utilities must be coordinated with the local governments and planning commissions concerned. Above ground power lines are currently present within the UGB and along the U.S. Highway 395 Scenic Corridor.

4.1.2.2 Outdoor Advertising Act

Within the Town of Mammoth Lakes, signage is regulated by Chapter 17.40, Signs, of the Town's Municipal Code or other land management agency standards as applicable. Outside of the Mammoth Lakes Municipal Boundary, signage is regulated by the Mono County Sign

[6] *Note that this policy does not apply to facilities necessary to the operation of any railroad.*

Ordinance or other land management agency standards as applicable. In addition, the U.S. Forest Service and California Department of Transportation have standards that would apply to land within their jurisdictions.

To protect scenic values along designated State Scenic Highways, outdoor advertising is strictly controlled by the provisions included in ~~along State Scenic Highways (~~Section 5440.1 of the Business and Professions Code~~)~~. In general, Section 5440.1 provides that no advertising display may be placed or maintained along any highway that has been officially designated as a scenic highway or scenic byway.

4.1.2.3 Town Design Review Ordinance and Guidelines

Town Municipal Code (Section 17.32.120 [Ord. 90-06 and 89-05]) regulates the aesthetic characteristics of all development in Mammoth Lakes other than single-family residences. These regulations are enforced through application of Design Guidelines. The purposes of Design Review are as follows:

- To implement the goals, policies and objectives of the General Plan;
- To regulate the design, coloration, materials, illumination and landscaping of new construction, renovations, and signage within the town in order to maintain and enhance the image, attractiveness and environmental qualities of the town;
- To ensure that property development or redevelopment and building construction or renovation do not detract from the value or utility of adjoining properties as a result of inappropriate, inharmonious, or inadequate design;
- To prevent indiscriminate destruction of trees and natural vegetation, excessive or unsightly grading, indiscriminate clearing of property, and destruction of natural significant landforms;
- To ensure that the architectural design of structures and their materials and colors are appropriate to the function of the project and are visually harmonious with surrounding development and natural landforms, trees, and vegetation; and
- To ensure that the location, size, design, and illumination of signs, their material, and colors are consistent with the scale and design of the building to which they are attached or which is located on the same site, and to assure that signs are visually harmonious with the surrounding environment.

4.1.2.4 Town Outdoor Lighting Regulations

Town Municipal Code Chapter 17.34, which was adopted in May 2003, regulates outdoor lighting within the Town. The ordinance provides rules and regulations for outdoor lighting within the Town in order to promote a safe and pleasant nighttime environment, to protect and

improve safe travel, to prevent nuisances caused by unnecessary light, to protect the ability to view the night sky, to phase out nonconforming fixtures, and to promote energy conservation. The ordinance implements requirements to utilize the most effective design standards for lighting to "address nuisances caused by improperly installed, unshielded, or misdirected fixtures, all existing outdoor lighting fixtures shall be adjusted or modified to the extent practical to reduce or eliminate glare, light trespass, and light pollution."[7]

4.1.2.5 Specific Plans, Master Plans, and Area Plan Documents

Aesthetic and design standards for a number of parcels throughout Mammoth Lakes are governed by existing adopted Specific Plans and Area Plans, which are not being changed by this project. These documents effectively establish zoning standards for the development of particular areas. These plans are often used to ensure that multiple property owners and developers adhere to a unified development plan, and at the same time, these plans provide flexibility in development standards to address unique site conditions or achieve specific planning goals. The Town has utilized Specific Plans, Master Plans, and Area Plans (often in conjunction with Development Agreements) to define development standards for some of the most visually prominent lands in the Town including the North Village, Juniper Ridge, Snow Creek, and Sierra Star/Lodestar.

4.1.2.6 State Scenic Highway Regulations

The California Scenic Highway Program is governed by state laws found in Streets and Highways Code, Section 260 et seq. In order to obtain a scenic highway designation, preparation and adoption of a scenic corridor protection program must be completed by the local jurisdiction in the form of ordinances to apply to the area of land within the scenic corridor. Such regulations may already exist in various portions of local codes. They should, however, be assembled under an easy to read format that includes, at a minimum, the five legislatively required standards listed below. They should be written in sufficient detail to avoid broad discretionary interpretation. Scenic Corridor Protection Programs do not preclude development but ensure compatible development that is consistent with the community's scenic values and goals of the California Scenic Highway Program.

The five minimum requirements under Section 261 of the Streets and Highways Code are as follows:

- Regulation of land use and density of development (i.e., density classifications and types of allowable land uses).
- Detailed land and site planning (i.e., permit or design review authority and regulations for the review of proposed developments).

[7] *17.34 Outdoor Lighting*

- Prohibition of off-site outdoor advertising and control of on-site outdoor advertising.
- Careful attention to and control of earthmoving and landscaping (i.e., grading ordinances, grading permit requirements, design review authority, landscaping and vegetation requirements).
- The design and appearance of structures and equipment (i.e., placement of utility structures, microwave receptors, etc.).

4.1.3 THRESHOLDS OF SIGNIFICANCE

Based upon CEQA Guidelines Appendix G, the project would be considered to have a significant impact on aesthetics, light, and glare if the project were to:

- Have a substantial adverse effect on a scenic vista;
- Substantially damage scenic resources, including but not limited to, trees, rock outcrops, and historic buildings within a state scenic highway;
- Substantially degrade the existing visual character or quality of the site and its surroundings; and/or
- Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

As indicated previously, the standards used to evaluate the significance of impacts are qualitative rather than quantitative because appropriate quantitative standards are not available.

4.1.4 IMPACTS AND MITIGATION

Issue 4.1-1: *Would development associated with implementation of the Updated Plan adversely affect scenic vistas within the Town?*

Discussion: Continued development within the UGB would permanently replace some existing views and scenic vistas with more intensive urban type uses. Development of new structures may result in building heights, building mass, and building placement that obstruct view corridors from public spaces and ways, as well as protrude above the treeline in forested areas. Ridgeline development and development in other elevated or exposed areas may result in these structures intruding on important public views. Road, trail, sidewalk, and transit facilities, and related infrastructure such as lighting and signage may be developed in a manner that is inconsistent with the community character. Under the Updated Plan, the aesthetic impacts and intrusion upon scenic vistas would be most pronounced in and around the major resort nodes,

where development intensification (through density transfers and bonuses for community benefits and amenities) would occur.

The primary area of visual impact would be Snowcreek, because the Snowcreek Meadow, lacks screening by native trees. The proposed resort development in this area will be readily evident and will be a substantial change from the existing largely undeveloped view. Changes would also be evident in the vicinity of North Village, since this development surrounds a major town intersection through which a large number of residents and visitors regularly travel. Development of other resort nodes that are somewhat removed from major intersections and in the trees will result in less of an impact, based upon design and tree retention policies in the general plan.

Policies and Implementation Measures in the Updated Plan

The Updated Plan proposes the adoption of polices and implementation measures to reduce potential impacts to scenic vistas. These policies and measures are described below.

I.1.B.d.1 Site design shall make every effort as feasible to save large specimen trees and pursue aggressive replanting with native trees to retain the forested character of the Town; site development adjustments may be offered to achieve this.

I.2.A.a.2 Through the review of discretionary projects, the Town, consistent with any limitations imposed by State law, shall encourage the protection, planting, restoration, and regeneration of native trees in new development.

I.2.A.a.4 New development shall utilize clustering as feasible to retain and preserve existing trees and open space.

I.5.A.a.1 The Town shall enforce its Design Guidelines and zoning regulations to ensure that building height, massing, and placement maintain view corridors from public spaces and ways.

I.5.A.a.2 The Town shall ensure through zoning regulations and development review that new construction is at a scale appropriate to the use designation and lot area, and compatible with adjacent land uses including preservation of existing views, light and solar access.

I.5.B.b.2 The Town shall develop a plan that identifies areas suitable for the undergrounding of utilities based on a review of overall costs and benefits and coordinate with

service providers and land developers in areas where undergrounding is recommended.

I.5.B.b.3 The Town shall encourage through the design review process that all new development shall be zoned, located, sited, and designed to be subordinate to and/or complement on site and surrounding land features.

II.3.B.a The Town shall limit the creation of new parcels on slopes over 30 percent.

I.5.B.b.4 No new development shall be permitted on prominent ridgelines and bluffs. Discretionary actions for lands previously developed on prominent areas shall incorporate measures to minimize visual intrusion and to ensure that these primary scenic areas are protected and/or enhanced.

I.5.B.b.5 Building heights shall remain below the average tree tops in the forested portions of the community. For single-family designations building heights shall be 35 feet. (17.16 Residential Zones) For other designations, the heights may generally not be more than 55 feet including concessions for understructure parking and affordable housing. (This is consistent with Resort but not commercial 10 feet higher than existing height limits)

VI.1.A.a.2 The Town will continue to enforce the site planning standards outlined in the Town Design Guidelines.

VI.4.B.a.2 Through development review and approval, the Town shall ensure that new construction is at a scale appropriate to the use designation and lot area, and is compatible with adjacent land uses including preservation of existing views, light, and solar access.

VII.3.C.a.1 The Town shall work with Caltrans and other jurisdictions to implement Scenic Highway status for the US 395 and State Route 203 corridors.

In addition, Implementation Measure VI.1.A.c.1~~I.5.b.3~~ would allow exemptions to height limitations for development projects. However, this implementation measure further states that any such exemption would be subject to rigorous visual analysis acceptable to the Town, showing that the exception is warranted in light of other community goals and benefits and does not significantly impact views. Thus, this implementation measure would not result in significant impacts regarding effects to scenic vistas.

All major development projects would undergo environmental and design review on a site-specific basis, per CEQA, the Town's Municipal Code and all applicable regulatory requirements, to ensure that facilities and structures would be sited in a way that would not have substantial adverse effects to scenic vistas. In addition, Policies and Implementation Measures are contained in the General Plan to ensure that no new development is permitted on prominent ridgelines and bluffs (I.5.B.b.4), building heights remain below average tree tops in the forested portions of the community (I.5.B.b.5), and new construction is determined through the development review process to ensure that the scale is appropriate and appropriate with adjacent land uses, including preservation of existing views, light and solar access. The maintenance of the existing UGB will further assist in limiting development from additional areas of the Town that could have an effect on a scenic vista. Therefore, the Updated Plan's policies and implementation measures, along with project-specific environmental and design review by the City, would reduce impacts to scenic vistas to a less than significant level.

Mitigation Measures

The Updated Plan would not result in impacts to scenic vistas. Therefore, no mitigation measures are required.

Level of Significance After Mitigation Measures

Impacts to scenic vistas would be less than significant.

Issue 4.1-2: *Would development associated with implementation of the Updated Plan damage scenic resources, including but not limited to, trees, rock outcrops, and historic buildings within a state scenic highway?*

Discussion: The Updated Plan would provide the opportunity for new development in the Urban Growth Boundary, which could result in the loss of scenic resources such as trees and rock outcrops. Development consistent with Updated Plan standards and designations would result in similar land uses in and around Mammoth Creek, and along the Lake Mary Road corridor leading to the Lakes Basin. New developments would be required to meet design review requirements and thereby be subject to codes and policies intended to blend with established architectural themes and aesthetic standards. Additionally, goals, policies and implementation measures contained within the Updated Plan would contribute to enhanced scenic qualities within the community along SR 203, which is recognized in the Updated Plan as a major gateway corridor. The Updated Plan proposes the adoption of several implementation measures to reduce potential impacts to scenic resources. These implementation measures are described below.

Implementation Measures in the Updated Plan:

I.1.B.d.1 Site design shall make every effort as feasible to save large specimen trees and pursue aggressive replanting with native trees to retain the forested character of the Town, site development adjustments may be offered to achieve this.

I.2.A.a.2 Through the review of discretionary projects, the Town, consistent with any limitations imposed by State law, shall encourage the protection, planting, restoration, and regeneration of native trees in new development.

I.2.A.a.4 New development shall utilize clustering as feasible to retain and preserve existing trees and open space.

I.2.A.a.5 A tree survey, preservation, and replacement plan may be required to be filed with the Town prior to issuance of a grading permit for discretionary development applications.

I.5.B.b.3 The Town shall encourage through the design review process that all new development shall be zoned, located, sited, and designed to be subordinate to and/or complement on site and surrounding land features.

VI.1.A.a.2 The Town will continue to enforce the site planning standards outlined in the Town Design Guidelines.

VI.1.A.d.1 The Town shall preserve the alpine resort character of Mammoth Lakes through the adoption of tree preservation standards that promote the general health of the forest.

VII.3.C.a.1 The Town shall work with Caltrans and other jurisdictions to implement Scenic Highway status for the US 395 and State Route 203 corridors.

The Town has already secured an easement along most of Mammoth Creek within the Urban Growth Boundary in order to protect this important environmental, scenic and recreational corridor, and a mitigation measure is included below that would extend this easement to the remaining unsecured parcels. Additionally, to ensure that public and private facilities in the vicinity of the Main Street (SR203) and the Old Mammoth Road intersection are designed to present an attractive face to the road, mitigation has been recommended that the Town design review guidelines be revised accordingly.

As stated in this Section, Policies and Implementation Measures are contained in the General Plan, that require site plan review to make every feasible effort to save large specimen

trees (I.1.B.d.1), to cluster development so as to retain and preserve existing trees and open space (I.2.A.a.4), that no new development is permitted on prominent ridgelines and bluffs (I.5.B.b.4), building heights remain below average tree tops in the forested portions of the community (I.5.B.b.5) and for the Town to work with Caltrans to implement Scenic Highway status for US 395 and State Route 203 Corridors (VII.3.C.a.1). Implementation of the Town design review requirements, along with the Updated Plan implementation measures and recommended mitigation measures, would reduce impacts to scenic resources, including views from U.S. Highway 203, and local trees and rock outcrops to a less than significant level.

Mitigation Measures

In addition to the implementation measures stated above, the following mitigation measures are recommended to ensure that impacts to scenic resources are reduced to a less than significant level.

4.1-1 ~~The Town shall extend the existing easement along Mammoth Creek to the remaining undeveloped parcels to protect scenic resources along this corridor.~~ The Town shall enforce the existing setback requirements along Mammoth Creek as they apply to the remaining undeveloped parcels to protect this important biological and scenic corridor. While necessary to protect the resources, the Town shall secure easements as the remaining parcels develop to ensure that the corridor is permanently protected.

4.1-2 The Town shall amend the Design Review Guidelines to include standards to assure that public and private facilities in the vicinity of the Main Street (SR203) and the Old Mammoth Road intersection shall be designed to present an attractive face to the road. The standards shall address such issues as building height and massing, tree preservation, and lighting to ensure that public and private development in proximity to SR203, which is eligible for designation as a scenic highway, do not detract from scenic resources.

4.1-3 The Town through its environmental and design review process shall ensure that development at the Mammoth Yosemite Airport that is visible from Highway 395 is consistent with State scenic highway regulations for Highway 395.

Level of Significance After Mitigation Measures

With the incorporation of mitigation measures above, impacts to scenic resources would be less than significant.

Issue 4.1-3: *Would development associated with implementation of the Updated Plan degrade the existing visual character or quality within the Town?*

Discussion: The Updated Plan would provide the opportunity for new development in the Urban Growth Boundary. As new development occurs, temporary exposed graded surfaces, construction debris, the presence of construction equipment, construction cranes, truck traffic, and stockpiled equipment resulting from future construction may impact views of individual sites from surrounding uses and roadways. However, these impacts are short term and would cease upon completion of an individual project.

New development would result in the construction of structures that are consistent with the designs and materials that have been previously determined appropriate to Mammoth Lakes, its setting, and history through the adopted Design Guidelines. As new development would be subject to design review requirements of the Town, the new development or redevelopment would result in a quality of development that is consistent with the community character. The Updated Plan proposes the adoption of polices and implementation measures to reduce potential impacts regarding the visual quality and character of the Town. These policies are described below.

Policies and Implementation Measures in the Updated Plan:

I.1.B.d.1 Site design shall make every effort as feasible to save large specimen trees and pursue aggressive replanting with native trees to retain the forested character of the Town; site development adjustments may be offered to achieve this.

I.2.A.a.2 Through the review of discretionary projects, the Town, consistent with any limitations imposed by State law, shall encourage the protection, planting, restoration, and regeneration of native trees in new development.

I.2.A.a.4 New development shall utilize clustering as feasible to retain and preserve existing trees and open space.

I.5.A.a.1 The Town shall enforce its Design Guidelines and zoning regulations to ensure that building height, massing, and placement maintain view corridors from public spaces and ways.

I.5.A.a.2 The Town shall ensure through zoning regulations and development review that new construction is at a scale appropriate to the use designation and lot area, and compatible with adjacent land uses including preservation of existing views, light and solar access.

I.5.B.b.1 The Town shall control the scale and mass of single- and multi-story buildings through design review. Use flexible guidelines to ensure that buildings do not look alike, and to recognize that the absence of setbacks may add to the character of Mammoth Lakes in designated mixed use areas.

I.5.B.b.2 The Town shall develop a plan that identifies areas suitable for the undergrounding of utilities based on a review of overall costs and benefits and coordinate with service providers and land developers in areas where undergrounding is recommended.

I.5.B.b.3 The Town shall encourage through the design review process that all new development shall be located, sited, and designed to be subordinate to and/or complement on site and surrounding land features.

II.3.B.a The Town shall limit the creation of new parcels on slopes over 30 percent.

I.5.B.b.4 No new development shall be permitted on prominent ridgelines and bluffs. Discretionary actions for lands previously developed on prominent areas shall incorporate measures to minimize visual intrusion and to ensure that these primary scenic areas are protected and/or enhanced.

I.5.B.b.5 Building heights shall remain below the average tree tops in the forested portions of the community. For single-family designations, building heights shall be 35 feet. (17.16 Residential Zones) For other designations, the heights may generally not be more than 55 feet including concessions for understructure parking and affordable housing.

V.1.A.a Maintain the Urban Growth Boundary to prevent sprawl and to maintain access to public lands and a compact urban area.

VI.1.A.a.2 The Town will continue to enforce the site planning standards outlined in the Town Design Guidelines.

VI.1.A.d.1 The Town shall preserve the alpine resort character of Mammoth Lakes through the adoption of tree preservation standards that promote the general health of the forest.

VI.4.B.a.2 Through development review and approval, the Town shall ensure that new construction is at a scale appropriate to the use designation and lot area, and is compatible with adjacent land uses including preservation of existing views, light, and solar access.

Although the above polices and implementation measures would ensure that new development would be consistent with the existing character of the Town, development associated with implementation of the Updated Plan would involve the replacement of undeveloped vacant areas with building structures, landscaping, fuel modification zones, etc. As stated in the General Plan, the forests, mountains, and meadows in and around the Town define its character. Therefore, the replacement of undeveloped areas with urbanized uses would result in impacts to the visual character and/or quality of the Town. Despite that all development projects would be subject to project-specific environmental and design review, and the applicable Updated Plan policies and implementation measures would be implemented, which would reduce the overall visual impacts resulting from development within the Town, the existing visual character of the Town would still be permanently changed with implementation of the Updated Plan. Thus, due to the permanent change in visual character of newly developed areas of the Town, it is concluded that impacts to the Town's visual character and quality are significant and unavoidable.

Mitigation Measures

No mitigation measures are feasible to reduce the potential impacts from development on visual quality and character.

Level of Significance After Mitigation Measures

Impacts to the Town's visual character and quality would be significant and unavoidable.

Issue 4.1-4: *Would development associated with implementation of the Updated Plan create a new source of substantial light or glare, which would adversely affect day or nighttime views in the Town?*

Discussion: Given the isolated mountain setting, some fugitive light and glare impacts already exist in the Planning Area due to existing developments and land uses that do not meet the current requirements of the lighting ordinance. These impacts reduce the quality of star-gazing for residents and visitors. The intensification of development would incrementally contribute to the existing built environment. The Updated Plan proposes the adoption of several implementation measures to reduce potential light and glare impacts. These implementation measures are described below.

Implementation Measures in the Updated Plan:

I.6.B.a.1 The Town shall educate the public on and enforce the design standards and lighting ordinance during the design review process.

I.6.B.a.2 The Town shall work with other agencies such as Southern California Edison to expedite the implementation of the lighting ordinance.

I.6.A.a.2 The Town will require all exterior lighting to conform to the Lighting Ordinance to eliminate glare. Temporary exceptions may be permitted for special events.

Development projects would be subject to environmental and design review on a site-specific basis to ensure that light and glare impacts do not substantially increase the amount and intensity of nighttime lighting nor cause light spillover onto adjoining properties, do not reduce night sky visibility, and do not increase the potential for glare onto adjacent areas including the U.S. Highway 395 Scenic Corridor. Additionally, all new development would be required to comply with the requirements of the Town's Lighting Ordinance (17.34). While the Town has policies and regulations regarding lighting, given the increase in development that would occur under the Updated Plan compared with existing conditions, the Update Plan would result in an increase in lights at night which would impact the night sky. Therefore, the Updated Plan would result in a significant impact with regard to night lighting and a reduction in the quality of star-gazing for residents and visitors. ~~that would result.~~

Mitigation Measures

~~Even with the policies and measures regarding lighting in the Updated Plan as well as the Town's lighting regulations, development~~Development associated with the Updated Plan would result in a significant impact with regard to night lighting due to the impacts to the night sky and a reduction in the quality of star-gazing. ~~However, no feasible mitigation measures have been identified to reduce the impact.~~ In addition to the implementation measures stated above, the following mitigation measure is recommended to further reduce potential impacts to night lighting:

4.1-4 The Town shall review the existing Lighting Ordinance and revise the ordinance, where feasible, to protect views of the night sky and to ensure that the intent of the Lighting Ordinance is met. The Lighting Ordinance shall be amended to consider the feasibility of restrictions on lighting that include, but are not limited to: unshielded bulbs wattage restrictions, complete shielding on fixtures, shielding of all lights on buildings over approximately 35 feet tall, cumulative wattage limits, and holiday lighting timing limits.

Level of Significance After Mitigation Measures

Even with the policies and measures regarding lighting in the Updated Plan as well as the Town's lighting regulations and Mitigation Measure 4.1-4, development associated with the Updated Plan would result in a significant impact with regard to night lighting due to the impacts

to the night sky and a reduction in the quality of star-gazing. This impact would remain significant and unavoidable.

4.2 AIR QUALITY

This section addresses potential impacts to air quality associated with the projected air emissions generated from implementation of the Updated Plan. The analysis also addresses the consistency of the Updated Plan with the air quality policies set forth in the Air Quality Management Plan for the Town of Mammoth Lakes (AQMP). The analysis of implementation of the Updated Plan focuses on whether the Updated Plan would cause an exceedance of an ambient air quality standard or a significance threshold established by the Great Basin Unified Air Pollution Control District (APCD).

4.2.1 EXISTING CONDITIONS

Air quality in any location is dependent on the regional air quality and local pollutant sources. Regional air quality is primarily a function of local topography and wind patterns, which tend to contain primary pollutants as they react with each other and sunlight to form existing emissions of pollutants. The State of California is divided into multiple air basins that are grouped into geographical areas with similar climate, topographical and meteorological conditions. Mono County is located in the Great Basin Valleys Air Basin (GBVAB), which also encompasses Alpine and Inyo Counties. The GBVAB is defined by the Sierra Nevada mountain range to the west, the White, Inyo, and Coso ranges to the east, Mono Lake to the north, and Little Lake to the south.

The climate of Mono County is characterized by wide fluctuations in daily temperatures, clear skies, excellent visibility and ~~hot~~ warm summers. The Town is located at an average elevation of 8,000 feet amsl and receives an annual average snowfall greater than 200 inches per year. Typically, the majority of the precipitation occurs between December and February with an annual average of 43 inches of water (equivalent to approximately 29 feet of snowpack) recorded at Mammoth Pass. The average minimum temperature is in the upper 20~~s~~ degrees Fahrenheit (F) with the average maximum temperatures in the mid to high 50s. Spring is the windiest season with fast-moving northerly weather fronts. Due to the increased elevation of the Town relative to some of the lower lying area in the basin, winds are primarily light and variable. Occasionally a westerly "Zephyr" wind blows beginning in the early afternoon until the early evening during the summer months.[8] ~~Summer winds are northerly at night as a result of cool air draining off the sides of the surrounding mountains. Southerly winds during the day result from~~

[8] *Phone conversation with Howard Sheckter (MammothWeather.com Meteorologist), December 2006.*

~~strong solar heating of the mountain slopes causing up-slope circulation.~~ The mean annual wind speed in the Town is less than 11 miles per hour (mph). Mean annual wind speeds measured just outside of the Town at elevations of 8,900 feet amsl and 7,800 feet amsl are 21.7 and 11.5 mph, respectively.

The Town is located in the GBVAB and jurisdictionally governed by the Great Basin Unified Air Pollution Control District (APCD) and the California Air Resources Board (CARB). Under the provisions of the federal Clean Air Act (CAA), the Environmental Protection Agency (EPA) was required to classify each air pollution control district with respect to attainment or nonattainment status relative to the federal standards. The CARB has a similar responsibility relative to the state standards. Areas that violate federal or state ambient air quality standards are referred to as nonattainment areas for the respective pollutants. Effective July 23, 2005, the Mono County portion of the GBVAB has a nonattainment designation for O_3 (State standards only). All of the GBVAB is designated as nonattainment for PM_{10} state standard. The Mammoth Lakes area is designated nonattainment of the federal PM_{10} standard. The Mammoth Lakes area and Mono County are considered in attainment or are unclassified with regards to all other federal and State standards.

~~Although Mono County is categorized as nonattainment of the state O_3 standard, there is no ozone implementation plan for attaining the ozone standard in Mono County, nor is one required as outlined in the 2001 CARB Ozone transport review (CARB 2001, page 45). This document states that "Transport from the central portion of the (San Joaquin) Valley is responsible for ozone violations in Mammoth Lakes . . ." and that the impacts on the Town's air quality from sources in the San Joaquin Valley were "overwhelming".~~

Although Mono County is categorized as nonattainment of the state O_3 standard, there is no ozone implementation plan for attainment in Mono County, nor is one required under State law. As outlined in the 2001 CARB Ozone transport review, the CARB classifies the contribution of transported pollution from one air basin to another to be either overwhelming, significant, inconsequential, or some combination of the three. The CARB Ozone Transport Review is a statewide assessment of ozone transport between air basins. The study states that; "Transport from the central portion of the (San Joaquin) Valley is responsible for ozone violations in Mammoth Lakes," and that the resulting impacts on the Town's air quality were classified as "overwhelming". According to the CARB ozone levels should improve in the air basin only when substantial mitigation measures are more fully implemented in upwind air basins. Local sources are not considered to have a considerable impact on ambient levels due to the climactic patterns of the eastern slopes of the Sierra Nevada Mountains~~s~~.

The Air Quality Management Plan (AQMP) for the Town (adopted by the Town Council and APCD Board of Directors in November and December 1990) is the primary document for the Town to satisfy the CAA requirement to develop a State Implementation Plan (SIP) to

demonstrate how the Mammoth Lakes area will attain and maintain the National Ambient Air Quality Standards (NAAQS) for PM_{10}. The AQMP includes analyses of PM_{10} sources, their impact, and the effectiveness of control measures to improve the PM_{10} levels, concluding that the primary sources of PM_{10} emissions in the Town are generated by wood smoke and road cinders. Control measures contained in the AQMP include, but are not limited to, vacuum street sweepers for cinders and road dust, reduction in vehicle traffic, wood stove replacement, opacity limits, fees, and penalties. A Progress Report on the Implementation of the Mammoth Lakes AQMP was prepared by the APCD in April 1995, which documents the progress of the 1990 Plan control measures.

Currently, most air quality management areas in California are not in attainment of the state PM_{10} standard. ~~As of~~ In December 2006, the GBUAPCD amended Rules 401 and 431 to comply with Senate Bill (SB) 656[9]. These amendments include application of BACT for reductions in fugitive dust, community designations for high wood smoke areas, and voluntary curtailment in high wood smoke areas. ~~August 2005 the implementation schedule required under Senate Bill 656 (SB656) (further discussed below) for the control measures has yet to be determined.~~

4.2.1.1 Ambient Air Quality

The APCD operates several air quality monitoring stations within the GBVAB. One air quality monitoring station is located within the Town. Air quality monitoring is performed by the APCD at the corner of Highway 203 and Old Mammoth Road. The site is equipped with a state of the art continuous-reading TEOM PM_{10} monitor. However, the APCD continues to use a co-located Partisol PM_{10} monitor operated every third day to demonstrate compliance with the ambient standards. Ozone and CO concentrations were monitored in the past, but these monitoring programs have been discontinued as well. A summary of the air quality data from 1991 to 2004 for the Mammoth Lakes Monitoring Station is provided in Table 4.2-1 on page 4-27. The following air quality information briefly describes the various types of pollutants and their monitored levels at the Mammoth Lakes Monitoring Station.

Carbon Monoxide

CO is a colorless and odorless gas. Motor vehicles are the primary source of this pollutant in the GBVAB. CARB and the EPA classify Mono County in attainment of the CO

[9] *SB 656 requires each Air District to perform an annual assessment of Particulate Matter ~~and conduct an evaluation of CARB's list of resources~~ based on methods provided by the California Air Resource Board (CARB).*

Table 4.2-1

Local Air Quality Levels

Pollutant	California Standard	Federal Primary Standard	Year	Maximum Concentration	Days State/Federal Standard Exceeded[1]
Carbon Monoxide 1-Hour average	20 ppm	35 ppm	1991	--	
			1992	8.02	0/0
			1993	13.0[2]	0/0
			1994	9.0[2]	0/0
			1995	10	0/0
			1996	6.0	0/0
			1997	8.2	0/0
			1998	6.7[2]	0/0
			1999	--	
			2000	4.2[2]	0/0
			2001	15.4	0/0
			2002		0/0
Carbon Monoxide 8-Hour average	9 ppm	9 ppm	1991	--	
			1992	4.4[2]	0/0
			1993	4.5[2]	0/0
			1994	5.7[2]	0/0
			1995	5.4	0/0
			1996	3.0	0/0
			1997	3.4	0/0
			1998	3.0[2]	0/0
			1999	--	0/0
			2000	2.5[2]	0/0
			2001	2.5	0/0
			2002		0/0
Ozone 1-Hour Average	0.09 ppm	~~0.12 ppm~~N/A[4]	1991		
			1992	0.15[2]	5/3
			1993	0.09	0/0
			1994	0.13	14/1
			1995	0.11	2/0
			1996	0.09	0/0
			1997	0.09[2]	0/0
			1998	0.08[2]	0/0
			1999	--	
			2000	--	
			2001	0.10[2]	4/0
			2002	0.10[2]	6/0

Table 4.2-1 (Continued)

Local Air Quality Levels

Pollutant	California Standard	Federal Primary Standard	Year	Maximum Concentration	Days State/Federal Standard Exceeded[1]
Ozone 8-Hour Average	~~No State Standard has been promulgated~~N/A	0.08 ppm	1991	0.07	
			1992	0.10	-/9
			1993	0.08	-/0
			1994	0.09	-/3
			1995	0.10	-/2
			1996	0.09	-/1
			1997	0.08	-/2
			1998	0.08	-/2
			1999	--	
			2000	--	
			2001	0.08	-/2
			2002	0.07	-/1
PM_{10} ~~24 Hour~~24-hour Average	50 mg/m^3	150 mg/m^3	1991	134	
			1992	138	14/0
			1993	178	10/1
			1994	92	10/0
			1995	122	6/0
			1996	74	3/0
			1997	112	6/0
			1998	106[2]	3/0
			1999	--	
			2000	70[2]	2/0
			2001	134	4/0
			2002	129[2]	4/0
PM_{10}-Annual Average[5]	20 mg/m^3	50 mg/m^3	1991	28	1/0
			1992	37	1/0
			1993	34[3]	1/0
			1994	30[3]	1/0
			1995	26[3]	1/0
			1996	25[3]	0/0
			1997	27[3]	0/0
			1998	24[2,3]	0/0
			1999	--	
			2000	27[2,3]	1/0
			2001	26	1/0
			2002	30[3]	1/0

Table 4.2-1 (Continued)

Local Air Quality Levels

Pollutant	California Standard	Federal Primary Standard	Year	Maximum Concentration	Days State/Federal Standard Exceeded[1]
$PM_{2.5}$ ~~24 Hour~~24-hour Standard[5]	No separate State Standard	35~~65~~ mg/m^3	2000	31[2]	-/0
			2001	41[2]	-/0
			2002	--	
			2003	30[2]	-/0
$PM_{2.5}$-Annual Standard	12 mg/m^3	15 mg/m^3	2000	18.0[2]	-/-
			2001	10.3[2]	-/-
			2002	--	
			2003	6.7[2]	-/-

[1] *The number of days above the standard is not necessarily the number of violations of the standard for the year. Data from CARB (http://www.arb.ca.gov/adam/welcome.html) unless otherwise noted.*

[2] *Years with incomplete data.*

[3] *1993-2002 Values posted from EPA (http://www.epa.gov/air/data/).*

[4] *The NAAQS for one-hour Ozone was revoked on June 15, 2005 for all areas except Early Action Compact areas.*

[5] *As of October 2006, the Federal annual PM_{10} standard has been revoked, and the federal24-hour $PM_{2.5}$ standard was changed from 65 ug/m3 to 35 ug/m3. The data presented in this Table represents the standards that were applicable during those reporting years.*

[6] *N/A refers to an item that is not applicable.*

Source: PCR Services Corporation, 200~~5~~7

standards. CO monitoring in the Town was discontinued in 2002. The State one-hour standard of CO is 20.0 parts per million (ppm), while the federal standard is 35 ppm. The maximum one-hour concentration per calendar year has fluctuated at the Mammoth Lakes Monitoring Station from 4.2 ppm in 2000 to 15.4 ppm in 2001. Both the State and federal eight-hour standard for CO is 9.0 ppm. The maximum eight-hour concentration per calendar year has varied at the Mammoth Lakes Monitoring Station from 2.5 ppm in 2001 to 5.7 ppm in 1994.

Ozone

Ozone (O_3) is one of a number of substances called photochemical oxidants. These oxidants are formed when nitrogen oxides and hydrocarbons and related compounds, called volatile organic compounds and reactive organic compounds, both exhausted from internal combustion engines, interact in the presence of ultraviolet sunlight. O_3 is present in relatively high levels during warm sunny weather. The State standard for O_3 is 0.09 ppm averaged over one hour.

~~The federal standard is 0.12 ppm averaged over one hour.~~

The maximum O_3 concentration at the Mammoth Lakes Station has varied yearly from 0.15 ppm in 1992 to 0.08 ppm in 1998. State standard exceedances have occurred in five of the ten years of O_3 data presented in Table 4.2.1. An exceedance of the federal 8-hr standard occurs when the fourth highest value exceeds the standard. The federal 8-hr standard has not been surpassed more than ~~three~~ nine times in any calendar year, so the Town remains in compliance with the federal standard. On April 15, 2004, EPA implemented the final designations of areas for the eight-hour ozone ~~NAAQS~~. The GBVAB was designated in attainment. ~~The state has yet to promulgate an eight-hour ozone standard.~~

Particulate Matter (PM_{10})

PM_{10} arises from sources such as road dust, diesel soot, combustion products, construction operations, and dust storms. The Owens Valley dry lake bed is a significant source of PM_{10} in some areas of the GBVAB. The State 24-hour standard is 50 micrograms per cubic meter (ug/m^3) averaged over 24 hours. The federal 24-hour standard is 150 $\mu g/m^3$. Maximum concentrations on a calendar year basis at the Mammoth Lakes Monitoring Station ranged from 178 $\mu g/m^3$ in 1993 to 92 $\mu g/m^3$ in 1994. The annual number of exceedances of the State standard has varied from 18 exceedances in 1992 to three in 1996. The federal standard was exceeded once, in 1993. As of June 5, 2003, the State annual PM_{10} standard is 20 $\mu g/m^3$ based on the geometric mean of the monitored one-hour values. This is a reduction from the previous state annual standard of 30 $\mu g/m^3$. ~~The federal standard[10] is 50 $\mu g/m^3$ based on the average of the one-hour values.~~ The State standard has been exceeded in all but one of the years for which there are PM_{10} monitoring data. As of October 2006, the Federal annual PM_{10} standard has been revoked. There ~~has been~~were no exceedances of the federal annual standard during the last fifteen years.

Fine Particulate Matter

$PM_{2.5}$ is primarily a result of combustion products emitted into the atmosphere as well as those particles that are formed in the atmosphere from gaseous pollutants as a result atmospheric chemistry (secondary formation). Generally, $PM_{2.5}$ poses a greater health risk than the larger particulates because these particles can deposit deep in the lungs and contain chemicals that are particularly harmful to health. In addition to health impacts, these particles can reside in the

~~[10] *As of October 2006, the Federal annual PM10 standard has been revoked, and the federal24 hour PM2.5 standard was changed from 65 ug/m3 to 35 ug/m3. It should be noted that the values presented in this table remain valid, as the new standards take affect after this data was published.*~~

atmosphere for long periods of time and are the main contributors to reduced visibility and regional haze.[11]

The State established a 24-hour standard for $PM_{2.5}$ ~~in 2003, coincident with the federal standard~~ of 65 µg/m^3~~.~~, ~~However, while the State standard~~which is not to be exceeded once per year~~.~~ ~~,~~ As of October 2006, the Federal 24-hour $PM_{2.5}$ standard was changed from 65 ug/m^3 to 35 ug/m^3. T~~t~~he federal standard is met when the three-year average of the annual 98th percentile of the distributions of concentrations at each monitoring site does not exceed the standard. The APCD began monitoring for $PM_{2.5}$ in 2000. With monitoring data through a portion of 2004, no exceedance of the State standard has been reported. The State $PM_{2.5}$ annual standard is 12 µg/m^3 (not to be exceeded), while the federal standard is 15 µg/m^3 (averaged over three years). No full year of data collected from the monitor in the Town violates the State standard. EPA issued official designations for the $PM_{2.5}$ standard on December 17, 2004 and made modifications in April 2005. Mono County is designated as unclassifiable/attainment.

Toxic Air Contaminants

The APCD implements Toxic Air Contaminants (TAC) controls through federal, state and local programs. Federally, the EPA regulates TACs under Title III of the CAA. At the state level, the CARB has designated all 189 federal hazardous air pollutants as TACs, under the authority of AB 1870. The Air Toxics Hot Spots Information and Assessment Act (AB 2588) requires inventories and public notices for facilities that emit TACs. SB 1731 amended AB 2588 to require facilities with "significant risks" to prepare a risk reduction plan (reflected in APCD Rules and Regulations). The APCD also regulates source-specific TACs.

Odor

The scent of Jeffrey pines and other vegetation is one of the natural resources that contributes to the ambiance of the Town, and protection of this resource is integral to the Vision Statement. Sources of odors within Mammoth Lakes include the MCWD wastewater treatment plant, odors associated with industrial operations in the Industrial Park, smoke from wood burning stoves and fireplaces, vehicle exhaust from tour buses, RVs, diesel powered vehicles, as well as, food odors from restaurant exhaust vents, exhaust from the chemistry labs at the local high school and college, and other land uses. The MCWD facility and the Industrial Park are located downwind of the developed part of the Town, at the easternmost boundary of the UGB. MCWD utilizes a variety of odor management practices, and odors from this source do not generally impact in-Town uses.

[11] *http://www.arb.ca.gov/aaqm/partic.htm.*

4.2.1.2 Sensitive Receptors

Sensitive populations are more susceptible to the effects of air pollution than is the general population. Sensitive populations that are in proximity to localized sources of toxics and CO are of particular concern and are termed sensitive receptors. Land uses considered sensitive receptors include residences, schools, playgrounds, childcare centers, athletic facilities, long-term health care facilities, rehabilitation centers, convalescent centers, and retirement homes. Numerous existing sensitive receptors are located throughout the Town area.

4.2.2 REGULATORY FRAMEWORK

The Federal and California Clean Air Acts require that federal, State, and local authorities adopt air pollution reduction measures to meet health-based air quality standards (ambient air quality standards) for six specific (known as "criteria") pollutants within certain timelines. The State standards are stricter than the federal standards. The current air quality planning efforts, and the responsibilities of agencies involved in these efforts, are described below.

4.2.2.1 Federal

In 1990, the U.S. Congress adopted the amendments to the CAA, which updated the nation's air pollution control program. The amendments established a number of requirements, including new deadlines for achieving federal clean air standards.

The Environmental Protection Agency (EPA) is the federal agency charged with administering the CAA and other air quality-related legislation. As a regulatory agency, EPA's principal functions include setting national ambient air quality standards (NAAQS); establishing minimum national emission limits for major sources of pollution; and promulgating regulations. The CAA requires the EPA to approve SIPs to meet and/or maintain the national NAAQS.

Title I of the CAA identifies attainment, nonattainment, and unclassifiable areas with regard to the criteria pollutants, and sets deadlines for all areas to reach attainment for the following criteria pollutants: ozone; nitrogen dioxide (NO_2); sulfur dioxide (SO_2); particulates (PM_{10}); carbon monoxide (CO); and lead (Pb). The CAA required each state with one or more nonattainment areas to prepare a SIP to describe how and when each area of the state would meet attainment for all criteria pollutants.

Title II of the CAA contains a number of provisions with regard to mobile sources, including requirements for reformulated gasoline, new tailpipe emissions standards for cars and

trucks, nitrogen oxides (NOx) standards for heavy-duty vehicles, and a program for cleaner fleet vehicles. Identification and regulation of hazardous air pollutants are addressed in Title III. Under Title V, conditions for operating permits are specified. In July 1997, the EPA promulgated amendments to the NAAQS for ozone and particulate matter. EPA set the new ozone NAAQS at 0.08 ppm daily maximum eight-hour average. Under the new eight-hour standard, an area is in nonattainment whenever the average of the annual fourth highest daily maximum eight-hour ozone concentration exceeds 0.08 ppm. EPA established a new NAAQS for particulate matter having an aerodynamic diameter less than or equal to 2.5 micrometers, known as $PM_{2.5}$; and revised the NAAQS for particulate matter with an aerodynamic diameter less than or equal to 10 micrometers, known as PM_{10}. As of October 2006, the Federal annual PM_{10} standard has been revoked, and the federal 24-hour $PM_{2.5}$ standard was changed from 65 ug/m^3 to 35 ug/m^3.

4.2.2.2 State

In 1988, the State legislature adopted the California Clean Air Act (CCAA), which established a statewide air pollution control program. The CCAA's requirements included annual emission reductions, increased development and use of low emission vehicles, and submittal of air quality attainment plans by air districts.

The CARB is the state agency responsible for coordinating both state and federal air pollution control programs in California. The ARB approves local air quality management plans (AQMPs) which address attainment and maintenance of state AAQS as mandated by the CCAA. The CARB also coordinates and approves local plans which eventually become part of the SIP for submittal to the EPA.

In 2003, the California Legislature enacted SB 656, codified as Health and Safety Code section 39614, to reduce public exposure to particulate matter (i.e., PM_{10} and $PM_{2.5}$). SB 656 required the CARB to develop a list of the most readily available, feasible, and cost-effective control measures that could be employed to reduce PM emissions and thus make progress toward attainment of state and national PM_{10} and $PM_{2.5}$ standards. The CARB list of control measures is based on California rules and regulations existing as of January 1, 2004, and was adopted by the CARB Board in November 2004. Subsequently, under SB 656, each air district was required to perform an assessment of PM air quality and conduct an evaluation of CARB's list of measures. Upon identification of feasible and cost-effective measures, each air district was required to adopt an implementation schedule for locally appropriate control measures by July 31, 2005. The APCD has met those deadlines, and control measures designed to aid the Town in meeting the State PM_{10} standard was approved at the September 2005 APCD Board meeting. ~~Proposed c~~Control measure RWC-2 calls for mandatory "No Burn" days for all wood-burning appliances during periods of poor air quality including EPA-certified wood burning stoves.~~.~~ ~~Proposed c~~Control measure FD-1 requires that all government agencies and contractors that use street

sweepers in the Town purchase PM_{10} efficient sweepers compliant with Rule 1186 of the South Coast Air Quality Management District (SCAQMD) when buying or replacing street sweepers. The South Coast Air Quality Management District tests and certifies street sweeping equipment. Certification requires an 80 percent PM_{10} collection efficiency under Rule 1186. The implementation schedule for the control measures has yet to be determined; however, these control measures are considered to be implemented in their current form in the analysis for this Revised Draft PEIR.

4.2.2.3 Local

The purpose of Chapter 8.30 of the Mammoth Lakes Municipal Code (Town Particulate Matter Ordinance) is to improve and maintain the level of air quality of the town so as to protect and enhance the health of its citizens by controlling the emissions of particulate matter into the air. Chapter 8.30 largely implements mitigation measures identified in the AQMP. Section 8.30.030 sets standards for regulation of solid fuel appliances and requires that such appliances installed within the town must be certified as meeting the emission requirements of the USEPA for Phase II certification. Section 8.30.040 allows no more than one solid fuel appliance to be installed in any new dwelling or nonresidential property and requires that the appliance be the primary form of heat in any new construction. Section 8.30.050 requires replacement of noncertified appliances upon the sale of property within the town. Section 8.30.080 prohibits burning of any fuels or materials other than untreated wood, uncolored paper, manufactured logs, pellets, and similar manufactured fuels.

- Section 8.30.090 requires the town council to appoint an air quality manager, in which the duty of the air quality manager shall be to determine when curtailment of solid fuel combustion in the town is necessary and to notify the community that curtailment is required, and to make such other determinations as are necessary to carry out the objective of the chapter. Determination that curtailment is required shall be made when PM_{10} levels have reached one hundred thirty micrograms/m^3 or when adverse meteorological conditions are predicted to persist. Should it be determined that one hundred thirty micrograms/m^3 is not a low enough threshold to prevent the town from violating the National Ambient Air Quality Standard for twenty-four hours (NAAQS, 24 hours), that threshold may be lowered by resolution of the town council of the town.

- Section 8.30.100 requires that the town undertake public education programs.

- Section 8.30.110 requires that the town undertake a vacuum street sweeping program to reduce PM_{10} emissions resulting from excessive accumulations of cinders and dirt. This program has been in effect since 1991 and requires a one-time payment of $70.26 per unit towards the Town's street sweeper program to address road dust

impacts and has programmed two street sweepers to be funded 100 percent by new development through Development Impact Fees. In addition, the town shall, in its review of proposed development projects, incorporate such measures which reduce projected total vehicle miles traveled (VMT). The town's ~~goal~~ mandate is to limit peak VMT to 106,600 on any given day. Measures that reduce VMT include, but are not limited to, circulation system improvements, mass transit facilities, private shuttles and design and location of facilities to encourage pedestrian circulation.

4.2.3 THRESHOLDS OF SIGNIFICANCE

Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. The APCD is responsible for establishing significance criteria for construction and operational activities within the Great Basin Valley Air Basin. The APCD does not have numerical thresholds for criteria pollutants to determine the significance of potential impacts associated with proposed projects. For construction impacts, the GBUAPCD requires that project proponents adopt comprehensive mitigation measures to mitigate fugitive dust impacts. With regard to emissions associated with the operation of stationary sources, the GBUAPCD considers stationary emissions to be less than significant if they are exempt from Rule 200, pursuant to Rule 209-A(B) (2) (see Section 3.3.3.3) (GBUAPCD, 2002). Based upon consideration of Appendix G in the CEQA Guidelines, implementation of the Updated Plan would be considered to have a significant impact on air quality if the project would:

- Conflict with or obstruct implementation of the applicable air quality plan;
- Violate any air quality standard or contribute substantially to an existing or projected air quality violation;
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project's region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors);
- Expose sensitive receptors to substantial pollutant concentrations; or
- Create objectionable odors affecting a substantial number of people.

4.2.4 IMPACTS AND MITIGATION

Issue 4.2-1: *Would development associated with implementation of the Updated Plan conflict with or obstruct implementation of the applicable air quality plan?*

Discussion: The AQMP is the only SIP that applies to the Town. The purpose of the AQMP is to assist the Town in attaining the federal PM_{10} standard. The AQMP includes a road dust reduction measure which limits peak day traffic loads to 106,600 vehicle miles traveled (VMT) and has been incorporated into the Municipal Code (Section 8.30.110). Traffic loads, in the Town were modeled for 2004, as well as for the buildout year (2024) for the average peak winter weekend traffic conditions (see Appendix F for the traffic study and Section 4.13, Transportation and Circulation, for a summary of the technical report). Based on the same set of roads used by the AQMP, the traffic engineer calculated a current average peak winter weekend day traffic load of 77,557 VMT. Based on the revised Traffic Study (October 2006), ~~I~~implementation of the Updated Plan is projected to produce a traffic load of ~~159,961~~ 128,270 VMT at buildout, which would exceed the AQMP target by about ~~53,400~~ 21,670 VMT.[12]

Implementation Measures in the Updated Plan:

The Updated Plan incorporates the following implementation measures that either directly or indirectly reduce PM_{10} emissions:

I.1.C.a.4 Town policies will support the utilization of fuel efficient vehicles and development of housing close to work, commercial services, recreation areas, and transit routes to reduce fuel consumption.

I.7.B.a.2 The Town shall promote land use patterns that reduce the number and length of motor vehicle trips.

I.7.B.a.3 To the extent feasible, the Town shall continue to provide and promote the development of workforce housing in-town so that Mammoth's workforce has ease of access to their places of employment.

I.7.B.a.4 Higher density residential and mixed-use development shall be encouraged adjacent to commercial centers, mountain portals and transit corridors to reduce vehicle trips.

[12] *Traffic circulation is discussed in greater detail in Section 4.13 of the EIR and detailed calculations of the VMT are provided in the revised traffic study in Appendix F (Mammoth Lakes Transportation Model Validation Report, Appendix C).*

1.7.B.a.5 Employment areas should include a mix of support services to minimize the number of trips.

I.7.B.b.1 New development shall be required to mitigate its impacts on air quality through design, participation in Town air pollution reduction programs, or other measures that assure compliance with adopted air quality standards.

I.7.B.b.2 Developers shall implement best management practices to reduce air pollutant emissions associated with construction.

~~I.7.B.b.3 No solid fuel burning appliance shall be permitted to be installed within any multi-unit development within the Town of Mammoth Lakes. Exceptions will be made for pellet stoves or any other appliance of equal or lower emissions.~~

I.7.B.c.1 The Town of Mammoth Lakes will conduct pilot projects and work with all applicable agencies to determine the feasibility of utilizing alternative traction control methods.

I.7.B.c.2 The Town shall review and when needed modify the street sweeping program to reduce PM_{10} emissions resulting from excessive accumulations of cinders and dirt.

I.7.B.c.3 The Town shall, in its review of proposed development projects, incorporate measures that reduce projected total vehicle miles traveled. Examples of such measures include, but are not limited to, circulation system improvements, mass transit facilities, private shuttles and design and location of facilities to encourage pedestrian circulation.

I.7.B.d.1 The Town shall continue to implement the Particulate Emissions Regulations and update them when needed to incorporate any technological advancement that would enhance and protect air quality within the Town of Mammoth Lakes.

I.7.B.d.2 The Town shall continue to conduct public education programs to reduce particulate air pollution within the town, including particulate emissions from sources other than solid fuel burning devices.

I.7.B.d.3 The Town shall review its street sweeping program and revise as necessary.

II.1.B.b.1 Require that new development areas and associated community-wide facilities (open space resources, parks libraries, etc) be linked and oriented to existing

developed areas of the community through road networks, public transit systems, open space systems, bicycle and pedestrian systems.

II.1.B.b.3 The Town shall revise zoning regulations to allow and encourage town residents to work from their homes provided that their home-based occupation does not create adverse impacts on adjacent residences (such as increased traffic, noise, exterior signage, or other nuisances).

III.1.B.b.1 The Town shall promote, through development standards, mixed housing and commercial developments in commercial designations.

V.1.A Maintain the Urban Growth Boundary to prevent sprawl and to maintain access to public lands and a compact urban area.

VI.1.D.a.1 The Town, through development approvals and other Town programs shall support the development of land use patterns and mixed use developments that integrate residential and non-residential land uses, such that residents and visitors may easily walk to shopping, services and employment and leisure activities.

VI.2.B.a.2 The Town shall continue to support the development of a town wide regional transit system designed to meet the needs of both Mammoth Lake's residents and workforce.

VII.1.A.a.1 The Town shall work with the Parks and Recreation Commission to continue implementation of the *Mammoth Lakes Trail System Plan* and the *General Bikeway Plan* to establish a comprehensive and safe system of bicycle routes and pedestrian trails for short-range commuting, shopping trips, and for recreational use.

VII.1.A.a6 The Town, through the development approval process, shall require developers to finance and install pedestrian walkways, and multi-use trails in new development, consistent with adopted plans and policies, or as appropriate and necessary to address circulation needs.

VII.1.B.b.3 The Town shall implement improvements necessary to address the increase mitigation of significant project-related impacts may require improvements beyond those addressed by the Town of Mammoth Lakes Capital Improvement Program and the Town of Mammoth Lakes Air Quality Management Plan and Particulate Emissions Regulations.

VII.1.F.a.5 Parking facilities shall be strategically located to promote visitors parking their vehicles and using alternate modes of transportation.

VII.2.B.a.1 The Town shall require major traffic generators, including the school district and ski resorts, to develop and implement trip- reduction measures. In particular, ski area operations should be managed to reduce the overall P.M. peak traffic generation and to disperse these trips between the various mountain portals.

VII.2.B.b.1 The Town shall encourage the clustering of land use density near established transit stops and the provision of convenient pedestrian connections to transit stops.

VII.2.B.c.2 The Town shall, through development standards and conditions of development approval, provide for the development of a transportation and circulation system that maintains and preserves air quality in and around the Town. All new multi-family development shall be required to pay the street sweeping fee.

The implementation measures provided above would directly or indirectly reduce pollutant emissions. A number of the measures would serve to reduce vehicle trips and associated PM_{10}. As an example, higher density residential and mixed-use development adjacent to commercial centers, mountain portals and transit corridors would inherently reduce the number of vehicle trips, VMT, and encourage alternative modes of transportation.

Mitigation Measures

4.2-1 ~~The Town shall evaluate PM_{10} levels on an annual basis using the AQMP model.~~ The Town shall limit the total Town VMT to the~~a~~ level specified in Municipal Code Section 8.30.110~~, currently 106,600. that, when modeled, shows PM_{10} levels are less than the federal standard of 150 µg/m^3. Offset credits should be included from elimination or reduction in emissions from other sources (e.g., wood stoves, fire places, the use of any traction material, more suitable than cinders, that resists being milled into sub-10 micron diameter particles, etc.).~~ The Town shall require a VMT analysis for specific projects in those cases where the project would result in 500 daily vehicle trips for incorporation into the AQMP model. VMT analyses shall be ~~required to demonstrate compliance with the federal standard of 150 µg/m^3 and be~~ conducted early in the environmental review process so that mitigation may be included in the project design.

Level of Significance After Mitigation

Incorporation of the ~~I~~implementation ~~of the~~ measures and mitigation measure provided above would ensure that the Updated Plan wound not conflict with or obstruct implementation of the AQMP. The Town shall not grant approval to any project which would cause peak VMT to exceed the level specified in the Town ordinance, currently set at 106,600, which has been established as the maximum VMT level, which would not cause an exceedance of the federal PM_{10} standard. If and when it can be reliably determined that a higher VMT level may be sustained without exceeding the NAAQS, due to reductions from other emission sources or to refined analytic inputs and/or methodologies, then appropriate amendments to the Town Municipal Code and AQMP may be considered. With the incorporation of mitigation, this impact would be less than significant.

Issue 4.2-2: *Would development associated with implementation of the Updated Plan violate any air quality standard or contribute substantially to an existing or projected air quality violation?*

Discussion: The Mammoth Lakes portion of the GBVAB is designated as nonattainment for O_3 (State standard only). However, the O_3 impact is primarily the result of pollution generated in the San Joaquin Valley, transported by air currents and winds over the Sierra Nevada~~s~~ Mountains into the Planning Area during limited periods of the year and is not a condition substantially generated by Town activities, policies, or the Updated Plan. In fact, exceedances of the O_3 standard would likely occur without any contribution of emissions of O_3 precursors (nitrogen oxides and hydrocarbons) from Town activity. The State ~~24 hour~~24-hour PM_{10} standard has been violated every year that adequate records have been maintained and the Town is also considered to be in nonattainment of the federal ~~24 hour~~24-hour PM_{10} standard. Air quality impacts primarily consist of mobile (e.g., vehicles) source emissions from traffic and stationary source emissions (generated directly from fireplaces and stoves). Air quality impacts from vehicles as the majority source occur on winter weekends when visitor counts are the highest and traction materials have been applied to roads. Air quality impacts from wood burning activities as the majority source occur on cold, calm winter days with stagnant air conditions. Occasionally, these two events can coincide and have previously yielded two to six violations of the State 24-hour PM_{10} standard per year for the last five years. The federal standard has not been violated since 1993 (see Table 4.2-1).

The AQMP model was based on monitored exceedences of the federal and State 24-hour PM_{10} standard in the Town. The analysis employed in the AQMP, and this ~~Review Draft PEIR~~ Revised Final Program ~~P~~EIR employs a technique called the "rollback method." In the rollback method, total pollutant emissions are estimated for the maximum exceedence period, then the emission reductions are calculated by using a ratio of the pollutant's regulatory standard to the exceedence. For example, if the monitored pollutant concentrations exceed the standard by

100 percent, then the emissions need to be reduced (rolled back) by at least 50 percent to meet the standard. The AQMP refined the method by weighing the relative impacts from the two dominant PM_{10} sources recognized by analyzing the PM_{10} particles collected in the samplers. The particulate matter that caused the monitored violation was primarily road dust and soot from wood combustion. The model incorporates daily VMT and the number and type of wood-burning devices being operated. The AQMP considered two scenarios: the impacts of pollutants 1) when conditions are such that air quality is strongly affected by wood burning; and 2) when air quality is primarily impacted by road dust. There are additional considerations, such as general background concentrations of the pollutant, but the rollback method is a common, EPA-accepted strategy for estimating the degree of emission reduction necessary to attain a standard, and the AQMP has been effective so far. The model predicts a high PM_{10} value for the current (2004) conditions of 143~~2.4~~ ug/m^3 (see Table 4.2-2 on page 4-42 and Appendix C). The highest monitored value for the years 2001 to 2004 is 134.0 ug/m^3 (see Table 4.2-1), suggesting that on the whole, the model still provides reasonable predictions of air quality impacts.

In either scenario considered by the AQMP, tailpipe emissions constitute a minor or negligible component of the total impact. Tailpipe emissions from heavy duty diesel engines, such as those used in snow-removal equipment, have been greatly reduced since the analysis was completed for the AQMP. For example, the engines in vehicles purchased today emit less than 20 percent the amount of PM_{10} that equivalent vehicles emitted during the AQMP's sample collection period. ~~State and federal programs, including the low-sulfur diesel fuel requirements would be phased in starting in 2006 which would further reduce diesel particulate emissions.~~ When fully implemented in 2010, heavy duty on road diesel engines would be up to 95 percent cleaner than today's models (EPA 2002). The federal off-road engine program should be fully implemented by 2012. Once approved by the EPA, CARB would adopt the standard and estimates a 90 percent reduction in particulate emissions for new on and off-road engines as a result of these programs. CARB also has implemented programs to encourage retrofitting emission controls for existing heavy duty diesel engines.[13]

While it is likely that large sport utility vehicles (SUVs) constitute a larger portion of vehicle fleet in the Town now as compared to when the model was first created and larger vehicles tend to entrain (disperse) more particulate material up off the road in their wakes, there is no practicable way to access fleet data for comparison, nor is it clear that the difference would be meaningful at the reduced vehicle speeds common on high-traffic weekends. In addition, just as it would have been difficult to predict the characteristics of the 2004 vehicle fleet in 1990, it would be highly speculative to predict the size of vehicles that would be operating on the Town's roads in 2024.

[13] *http://www.arb.ca.gov/ diesel/factsheets/dieselpmfs.pdf.*

Table 4.2-2

Modeled 24-hour Impacts ~~from the Updated Plan With Unlimited VMT Relative to the Federal Standard of 150 (~~ug/m$^{3)}$

	Current (2004) [a]	~~Updated Plan~~Unmitigated Updated Plan (2024) [b]
Wood burning dominated day (ug/m^3)	134~~28.7128.7[1]75.2~~	84~~1.3~~
Road dust dominated day (ug/m^3)	143~~2.409.3~~	~~162~~16051~~.9~~

~~[a][1] Considers EPA-approved stoves exempt from burning ban.~~
See Appendix C for details ~~2 Does not account for the benefits of recently promulgated mandatory "No Burn" days, in amended Rule 431.~~

Source: Enviroscientists, 2005 and PCR Services Corporation 2007

The Town is in the process of replacing equipment in the snow removal fleet and should have all of the older, more pollutant emitting, equipment off the road by 2008.[14] Therefore, within the next few years all of the snow removal fleet would emit considerably less PM_{10} per hour of operation than when the model was created, although actual hours of operation have, and would likely continue to increase. These vehicles are programmed in the Town's Capital Improvement Program, which was adopted with the updated Development Impact Fee Schedule and Master Facilities Plan in 2005. All vehicles are to be funded 100 percent by new development and the Town is currently collecting funds for vehicle replacement.

Mobile Sources: As discussed above, particulate matter along roadways disturbed during motor vehicle travel would constitute the primary source of fugitive dust emissions associated with buildout of the Project. Based on the same set of roads used by the AQMP, the traffic engineer calculated a current (2004) winter weekend day traffic load of ~~77,557~~74,051 VMT. The Updated Plan at buildout would produce a traffic load of ~~159,961~~ 128,270 VMT on an average peak winter weekend day.~~[15]~~

Stationary Sources: Wood combustion constitutes a secondary source of particulate emissions. While traffic loads would ~~more than double~~ increase under the Updated Plan relative to current conditions, emissions from wood burning stoves and fireplaces would decrease because of the prohibition of wood burning appliances in multifamily dwellings (Section 8.30.030 of the Municipal Code), the mandatory curtailment of solid fuel combustion on poor air quality days being implemented by the APCD (8.30.090 of the Municipal Code), ~~and~~ the

[14] *Memo from Cashbaugh to Porter, June 30, 2005.*

~~[15] For comparison purposes, the buildout of the existing General Plan would produce a traffic load of 154,471 VMT which is only 3.5 percent less than the Updated Plan. The actual unit numbers within the Traffic Analysis are 10 percent higher than the projected land use due to assumptions of density transfers.~~

ongoing wood burning stove replacement program (8.30.050 of the Municipal Code), and the mandatory "No Burn" days policy (GBUAPCD Rule 431 amendment).

Development: The difference in development style between high rise versus low rise could conceivably impact air quality in three different ways:

- High rise development could create microclimates that either lessen ground-level winds that can disperse gaseous pollutants, or funnel them into high-velocity corridors that could disperse fine particulates. Either impact would require a dense clustering of tall structures to be effective.
- High rise development can require larger boilers reflecting the greater living space per square foot of development. Boilers, if they burn propane or natural gas, produce little particulate pollution.
- High rise development would create more discrete destination centers that would tend to make public transportation more efficient.

Parking: Parking problems impact air quality via traffic congestion. People looking for parking spaces on streets impede traffic flow. Free flowing traffic would produce fewer gaseous (tailpipe) emissions; however, as discussed above tailpipe emissions are a negligible source relative to the total air quality impact analyzed for the Updated Plan.

The AQMP's air quality impact model was used to evaluate the potential impacts of the Updated Plan (see Appendix D of this EIR). The results are summarized in Table 4.2-2, which includes the total VMT of 128,270~~159,961~~ used in the traffic and circulation analysis in Section 4.13 of this ~~Draft EIR~~ Revised Final Program EIR. Wood burning dominated day impacts decrease due to the implementation of a solid fuel burn ban on poor air quality days. The model predicts exceedences of the federal 24-hour PM_{10} standard on road dust dominated days.[16]

Implementation Measures in the Updated Plan:

Implementation measures provided under Issue 4.2-1 would also be applicable to this issue.

Mitigation Measures

4.2-2 The Town shall evaluate PM_{10} levels on an annual basis using the AQMP model. The Town shall conduct surveys, as needed, to establish an accurate inventory of

[16] *The model predicts compliance with the federal standard up to a daily VMT of 130,000.*

wood burning and pellet burning appliances, to validate assumptions regarding annual and daily wood and pellet usage patterns, to determine compliance rates with "No Burn" days, and to monitor effectiveness of VMT-reducing implementation measures. The Town shall condition or restrict future development as necessary to manage Town wide VMT at levels that ensure compliance with federal PM_{10} NAAQS. The Town shall limit the total Town VMT to a level that, when modeled, shows PM_{10} levels are less than the federal standard of 150 $\mu g/m^3$. ~~Offset credits should be included from elimination or reduction in emissions from other sources (e.g., wood stoves, fire places, the use of any traction material, more suitable than cinders, that resists being milled into sub-10 micron diameter particles, etc.). The Town shall require a VMT analysis for specific projects in those cases where the project would result in 500 daily vehicle trips for incorporation into the AQMP model. VMT analyses shall be required to demonstrate compliance with the federal standard of 150 $\mu g/m^3$ and be conducted early in the environmental review process so that mitigation may be included in the project design.~~

Level of Significance After Mitigation

The Draft General Plan Update is a long-range plan guiding future growth in the Town and does not contain project level details. Therefore, it is not practical to quantify the reductions attributable to the Implementation Measures at this time. Specific performance criteria for approval of development projects are established by Municipal Code, AQMP, and corresponding GBUAPCD Rules. As a result, the impacts of specific mitigation measures cannot be accurately quantified at this time.

With the incorporation of the implementation measures in the Updated Plan and the above mitigation measure, maintenance of the federal ~~24-hour~~24-hour PM_{10} standard~~s~~ can be expected.[17] As noted above, the State ~~24-hour~~24-hour PM_{10} and one~~-~~-hour O_3 standards continue to be exceeded. However, the O_3 impact is primarily the result of pollution generated in the San Joaquin Valley, transported by air currents and winds over the Sierra Nevada Mountains into the Planning Area during limited periods of the year and is not a condition substantially generated by Town activities, policies, or the Updated Plan. In fact, exceedances of the O_3 standard would likely occur without any contribution of emissions of O_3 precursors (nitrogen oxides and hydrocarbons) from Town activity. Mitigation measures would decrease the long-term impacts to air quality from wood burning, vehicle exhaust, and road dust, but attainment of the State standard for PM_{10} and one-~~1~~-hour standard for O_3 are not expected, and the impact

~~[17] While the reduction in PM_{10} from specific implementation measures is not quantifiable at this time, measures such as alternative traction control could provide emission offsets that would allow for the implementation of the Updated Plan (i.e., 159,961 VMT).~~

remains significant and unavoidable. This significant and unavoidable impact would also occur under the existing General Plan.

Issue 4.2-3: Would development associated with implementation of the Updated Plan result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions, which exceed quantitative thresholds for ozone precursors)?

Discussion: The Mammoth Lakes portion of the GBVAB is designated as nonattainment for O_3 (State standard only) and a nonattainment area of PM_{10} (State and federal standards). The APCD does not have numerical thresholds for criteria pollutants to determine whether the Updated Plan would result in a cumulatively considerable net increase of PM_{10} or O_3 precursors.

Table 4.2-3 on page 4-46 presents the increase in emissions of ozone precursors and PM_{10} emissions, along with "attainment" criteria pollutants such as carbon monoxide (CO) and sulfur dioxide (SO_2), resulting from buildout under the Draft General Plan Update. Data from the California Air Resources Board representing the total emissions estimated to be generated in Mono County for 2005 are also presented in Table 4.2-3. As shown, the increase in emissions at full buildout represents a 1 percent increase for both PM_{10} and SO_2, 2 percent change for CO, 5 percent increase for VOCs, and 4 percent increase for NOx.

The implementation measures and mitigation measures provided above under Issues 4.2-1 and 4.2-2 would ensure that the Updated Plan would not cause an exceedance of the federal PM_{10} standard. Nonetheless, an increase in PM_{10} emissions would be cumulatively considerable with respect to the State 24-hour PM_{10} standard.

~~However, the~~Ground-level ozone in the GBVAB ~~O_3 impact~~ is primarily the result of pollution generated in the San Joaquin Valley, transported by air currents and winds over the Sierra Nevada~~s~~ Mountains into the Planning Area during limited periods of the year and is not a condition substantially generated by Town activities, policies, or the Updated Plan. In fact, exceedances of the O_3 standard would likely occur without any contribution of emissions of O_3 precursors (nitrogen oxides and hydrocarbons) from Town activity. Thus, an increase of O_3 precursor emissions as a result of implementation of the Updated Plan would not substantially contribute to the exceedances of the State O_3 standard.

~~Table 4.2-3 on page 4-432 presents the modeled PM_{10} emissions from the Updated Plan relative to current conditions (Year 2004) and the Current Plan (2024). The Updated Plan would result in a three percent increase in PM_{10} emissions in comparison to the Existing General Plan and a 44 percent increase in PM_{10} emissions in comparison to the Existing Conditions (2004). However, implementation measures and mitigation measures provided above under Issue 4.2-2~~

~~**Table 4.2-3**~~

~~**Comparison of Modeled PM_{10} Emissions**~~

	~~Existing Conditions (2004)~~	~~Existing Plan[1] (2024)~~	~~Updated Plan[1] (2024)~~
~~Wood burning emissions (kg/day)~~	~~941~~	~~551~~	~~551~~
~~Vehicle-related emissions (kg/day)~~	~~1,843~~	~~3,377~~	~~3,455~~
~~Total emissions (kg/day)~~	~~2,784~~	~~3,888~~	~~4,007~~

~~[1] *Includes burn ban for EPA-approved stoves.*~~

~~*Source: Enviroscientists,Inc.2005.*~~

Table 4.2-3

Increase in Annual Emissions at Full Buildout Under the Draft General Plan Update (tpy)

Source Category	NOx	VOC	PM_{10}	CO	SO_2
Mobile	16	3	110	38	0.2
Stationary	19	138	49	314	1.0
Total	**35**	**141**	**159**	**352**	**1.1**
Mono County 2005	978	2,873	14,155	19,206	110
Percent increase	4%	5%	1%	2%	1%

See Appendix C for details
Source: PCR Services Corporation, 2007

~~would ensure that the Updated Plan would meet the federal standards. Nonetheless, a 44 percent increase in PM_{10} emissions in comparison to the Existing Conditions combined with that the State 24 hour PM_{10} standard has been violated every year that adequate records have been maintained would thus be considered cumulatively considerable.~~

~~Table 4.2-3~~Table 4.2-3 ~~on page 4-43~~ presents the increase in emissions of ozone precursors and PM_{10} emissions, along with "attainment" criteria pollutants such as carbon monoxide (CO) and sulfur dioxide (SO_2), resulting from buildout under the Draft General Plan Update. Data from the California Air Resources Board representing the total emissions estimated to be generated in Mono County for 2005 are also presented in Table 4.2-3. As shown, the increase in emissions at full buildout represents a 1 percent increase for both PM_{10} and SO_2, 23 percent change for CO, 56 percent increase for VOCs, and 47 percent increase for NOx.

Implementation Measures

In addition to the implementation measures identified above in Issue 4.2-1, the following measures would be implemented:

I.1.C.b.3 The Town shall work collaboratively with other public agencies and private stakeholders to develop a geothermal heating district for the Town and, in pursuit of this, shall seek additional funding sources to initiate geothermal heating projects.

I.1.C.b.4 The Town shall establish regulatory framework to encourage and facilitate the use of geothermal heating, including provisions for installation and operation of district heating, and requirements and future buildings be constructed with heating systems that can readily convert to geothermal.

I.1.C.b.5 The Town shall encourage the use of renewable fuels, such as biodiesel, and develop a regulatory framework and incentives to facilitate the use of these resources.

I.7.B.b.2 Developers shall implement best management practices to reduce air pollutant emissions associated with construction.

I.7.B.b.3 No solid fuel burning appliance shall be permitted to be installed within any multi-unit development within the Town of Mammoth Lakes. Exceptions will be made for pellet stoves or any other appliance of equal or lower emissions.

VII.1.E.a.1 The Town shall develop a town-wide plan that utilizes site-specific characteristics and design measures to identify areas suitable for solar snow melt.

VII.1.E.a.2 The Town shall continue to investigate and work with private businesses and public agencies to pursue the development of geothermal heating opportunities for snow removal operation.

The implementation measures provided above would directly or indirectly reduce pollutant emissions. As an example use of geothermal heating could further reduce the use of wood burning stoves in the Town.

Mitigation Measures

As discussed above, ~~a~~ mitigation measures are ~~is~~ provided under Issues 4.2-1 and 4.2-2 to ensure that the Updated Plan would meet the federal standards, but not the State standards and thus, the ~~increase in~~increase in emissions would be considered ~~cumulatively considerable~~significant. No additional feasible mitigation measures were identified.

Level of Significance After Mitigation

Implementation of the measures and mitigation measure outlined under Issue 4.2-2 would be expected to ensure that the Updated Plan would meet the federal PM_{10} standard. Nonetheless, the Mammoth Lakes portion of the GBVAB is designated as nonattainment for O_3 (State standard only) and a nonattainment area for PM_{10} (State and federal standards). In addition, the State 24-hour PM_{10} and one~~1~~-hour O_3 standard continue to be exceeded. Therefore, the increase in pollutant emissions associated with implementation of the Updated Plan would be considered cumulatively considerable and significant and unavoidable. ~~As discussed above, the O_3 impact is primarily the result of pollution generated in the San Joaquin Valley, transported by air currents and winds over the Sierra Nevadas into the Planning Area during limited periods of the year and is not a condition substantially generated by Town activities, policies, or the Updated Plan. In fact, exceedances of the O_3 standard would likely occur without any contribution of emissions of O_3 precursors (nitrogen oxides and hydrocarbons) from Town activity. In addition this significant and unavoidable impact would also occur under the existing General Plan.~~

Issue 4.2-4: *Would development associated with implementation of the Updated Plan expose sensitive receptors to substantial pollutant concentrations?*

Discussion: Certain segments of the population, such as children, the elderly, and those individuals with compromised respiratory systems are more sensitive to the effects of air pollution than is the general population. Those sensitive populations that are in proximity to localized sources of fine particulates, toxics and CO are of concern and are termed sensitive receptors. Land uses considered sensitive receptors include residences, schools, playgrounds, childcare centers, athletic facilities, long-term health care facilities, rehabilitation centers, convalescent centers, and retirement homes. Sensitive receptors are also affected by ground level O_3 more than the general population.

As discussed above, the Mammoth Lakes portion of the GBVAB is designated as nonattainment for O_3 (State standard only) and a nonattainment area of PM_{10} (State and federal standards). Exceedances of the State O_3 standard and State PM_{10} standard have occurred in recent years and, as such, sensitive receptors in the Town have likely been exposed to substantial pollutant concentrations. As discussed above in Issue 4.2-2, implementation of the Updated Plan would not result in an exceedance of the federal PM_{10} standard. However, sensitive receptors would still likely be exposed to exceedances of the State PM_{10} and ozone standards. ~~In addition, the O_3 impact is primarily the result of pollution generated in the San Joaquin Valley, transported by air currents and winds over the Sierra Nevadas into the Planning Area during limited periods of the year and is not a condition substantially generated by Town activities, policies, or the Updated Plan. In fact, exceedances of the O_3 standard would likely occur without any contribution of emissions of O_3 precursors (nitrogen oxides and hydrocarbons) from Town~~

~~activity. Thus, PM_{10} and O_3 exceedances of the State standards within the Town would occur regardless of implementation of the Updated Plan.~~

Mitigation Measures

As discussed above, ~~a~~ mitigation measures ~~is~~are provided under Issues 4.2-1 and 4.2-2 to ensure that the Updated Plan would meet the federal standards, but not the State standards and thus implementation of the Updated Plan would expose sensitive receptors to substantial pollutant concentrations. No additional feasible mitigation measures were identified.

Level of Significance After Mitigation

Implementation of the measures and mitigation measures outlined under Issues 4.2-1 and 4.2.-2 would be expected to ensure that the Updated Plan would not expose sensitive receptors to PM_{10} concentrations that would exceed the federal standard. Nonetheless, the State ~~24 hour~~24-hour PM_{10} and one~~1~~-hour O_3 standard continue to be exceeded. Therefore, sensitive receptors could be exposed to substantial pollutant concentrations associated with implementation of the Updated Plan and increasing the total population within the Town will likely lead to some increase in exposure of sensitive receptors to substantial pollutant concentrations. However, the O_3 impact is ~~primarily~~ overwhelmingly the result of pollution generated in the San Joaquin Valley, transported by air currents and winds over the Sierra Nevadas into the Planning Area during limited periods of the year and is not a condition substantially generated by Town activities, policies, or the Updated Plan. In fact, exceedances of the O_3 standard would likely occur without any contribution of emissions of O_3 precursors (nitrogen oxides and hydrocarbons) from Town activity and, because of the time of day of their occurrence and the wind direction associated with exceedances, emission of O_3 precursors would not measurably alter O_3 concentrations. In addition this significant and unavoidable impact would also occur under the existing General Plan.

Issue 4.2-5: *Would development associated with implementation of the Updated Plan create objectionable odors affecting a substantial number of people?*

Discussion: Since the Updated Plan does not propose any specific development projects, no specific sources of objectionable odors can be identified. However, it can be concluded that any specific development projects would be required to comply with standards established in the local general plan or applicable standards of other agencies. Town policies prohibiting installation of wood-burning stoves in new construction would reduce smoke odors over time and exhaust from local businesses are regulated by the Town (Section 8.30.030). In addition, objectionable odors are considered air contaminants by the APCD (Rule 109.B.2) and compliance with APCD Rule 402 prohibits the discharge of air contaminants that cause injury, detriment, nuisance, or annoyance to any considerable number of people. Thus, implementation

of the Updated Plan would not create objectionable odors affecting a substantial number of people and oversight by the appropriate agencies and compliance with the applicable regulations would ensure that impacts would be less than significant.

Mitigation Measures

The Updated Plan would not create objectionable odors affecting a substantial number of people. Therefore, no mitigation measures are required.

Level of Significance After Mitigation Measures

Impacts related to the creation of objectionable odors affecting a substantial number of people would be less than significant.

4.3 BIOLOGICAL RESOURCES

This section provides a description of the biological resources within the Planning Area, including vegetation, wildlife, special status species, and rare natural communities. The section also provides an analysis of potential impacts that could occur to biological resources as a result of implementation of the Updated Plan.

Information in this section is based on existing descriptions in The Town of Mammoth Lakes General Plan EIR (1987) and other previous environmental reports from the area, including CH2M Hill 2000, Dodge 1994, ERM 2001, Howald 2000, Jones & Stokes 2001 (p. 4-5), Jones & Stokes 1995 (p. 4-25), Orr and Howald 2000, Paulus 2001, RBF Consulting 1997, Taylor 1995, Taylor 1996, Town 1997, USDA 2001b, USDA 2001c, USDI 1998, and USDI 2003. In addition, this section offers current information on special status species from the California Natural Diversity Data Base (CNDDB) and the U.S. Fish and Wildlife Service (USFWS).

4.3.1. EXISTING CONDITIONS

This section describes the existing biological environment and those resources that are rare or unique to the area, as well as resources likely to be affected by the project.

4.3.1.1 Vegetation

The Planning Area is located along the eastern slope of the Sierra Nevadas, where the Sierra Nevadan and Great Basin geographical regions and biotic communities converge. In addition to being within a biotic transition zone, the high degree of variation in topography and geologic conditions and the wide range in precipitation levels support a high diversity of vegetation communities within the Planning Area. A vegetation community is a repeatable association of dominant and subordinate plants that are found growing together consistently in similar habitat.

The major vegetation communities in the Mammoth Lakes Basin consist of species that have adapted to cold, snowy winters and arid summers. The five major vegetation communities within the Planning Area are Mixed Conifer Fir, Upper Montane Mixed Shrub, Basin Sagebrush, Wet Meadow, and Alder Wouldow Riparian. Each major vegetation community is described in the following sections based on the U.S. Forest Service (USFS) CALVEG system. CALVEG is

a hierarchical classification system of vegetation designed to assess vegetation-related resources throughout California. The system was devised in the late 1970s by the Pacific Southwest Region of the USFS to describe and map natural vegetation in the state.

Mixed Conifer Fir

The Mixed Conifer Fir community is the most widespread plant community within the Planning Area. It is dominated by red fir (*Abies magnifica*) on steep, north facing slopes at higher elevations (9,000 to 11,000 feet at mean sea level [amsl]). Western white pine (*Pinus monticola*) and mountain hemlock (*Tsuga mertensiana*) are common associates. Jeffrey pine (*Pinus* jeffreyi) is dominant on gradual slopes at lower elevations (7,000 to 10,000 feet amsl). White fir (*Abies concolor*) can be found in association with Jeffrey pine. Lodgepole pine (*Pinus contorta ssp. murrayana*) is dominant in areas with ample moisture at elevations of 7,000 to 12,000 feet amsl, in association with white fir. The dominant understory shrubs are greenleaf manzanita (*Arctostaphylos patula*), huckleberry oak (*Quercus vaccinifolia*), and snowbush (*Ceanothus* cordulatus).

Upper Montane Mixed Shrub

The Upper Montane Mixed Shrub community intermixes with the Mixed Conifer Fir community in open areas created by disturbance, on steep slopes or on rocky sites where conifers are unable to establish, on south facing slopes, and in drier areas. Upper Montane Mixed Shrub may typically be found at elevations between 6,000 and 9,000 feet amsl. Major shrub species include greenleaf manzanita, tobacco brush (*Ceanothus veluntinus*), curlleaf mountain mahogany (*Cercocarpus ledifolius*), snowbush, huckleberry oak, and bitter cherry (*Prunus emarginata*).

Basin Sagebrush

The Basin Sagebrush community generally occurs on dry slopes and plains at low elevations within the Planning Area. The community is dominated by soft woody shrubs; basin big sagebrush (*Artemisia tridentata ssp. tridentata*); low sagebrush (*Artemesia arbuscula spp. arbuscula*); Wyoming big sagebrush (*Artemesia tridentata spp. wyomingensis*); silver sagebrush (*Artemesia cana spp. viscidula*); mountain big sagebrush (*Artemesia tridentata spp. vaseyana*); antelope bitterbrush (*Purshia tridentata*); and snowberry (*Symphoriocarpus vacciniodes*). Other associated species include annuals and perennial bunchgrasses that are sparsely distributed between shrubs.

Wet Meadow

The Wet Meadow community occurs in areas where water is at or near the surface during most of the growing season, following spring runoff. This community is characterized by perennial vegetation, including corn lily (*Veratrum californicum*); cow parsnip (*Heracleum*

sphondylium); meadow lupine (*Lupinus polyphyllus*); willow herb (*Epilobium exaltatum, E. pringleanum*); meadow paintbrush (*Castilleja miniata*); sedge (*Carex jonesii*); and wire rush (*Juncus balticus*). Lodgepole pine and willows (*Salix spp*.) are associated with high elevation Wet Meadow communities.

Alder-Willow Riparian

The Alder Willow Riparian community occurs along the banks of Mammoth Creek and most drainages within the Planning Area. Typical plant species are quaking aspen (*Populus tremuloides*), mountain alder (*Alnus tenuifolia*), American dogwood (*Cornus stolonifera*), and willow (*S. caudata, S. planifolia*). Various herbaceous species provide significant understory cover in the Alder Willow Riparian community.

4.3.1.2 Wildlife

The diversity of vegetation communities within the Planning Area provides habitat for a variety of wildlife species. The coniferous forests at higher elevations support typical montane species. A distinctly different wildlife association exists in the sagebrush habitat at lower elevations. Riparian areas provide important and high-quality habitat for wildlife species and may be used as migration corridors.

Approximately 75 species of mammals occur in the Planning Area, including deer, coyote, marmot, beaver, squirrel, chipmunk, mountain lion, marten, and black bear. More than 150 bird species have been identified in the Mammoth Lakes area, including red tailed hawk, sage-grouse, various woodpeckers, chickadee, nuthatch, northern goshawk, and gray crowned rosy finch. The area also supports approximately 15 species of amphibians and reptiles, including the western toad, Pacific tree frog, sagebrush lizard, and western terrestrial garter snake.

Although the Mammoth Lakes Basin has no historic native fish, trout have flourished since their introduction to the lakes and streams within the Planning Area. The Hot Creek Fish Hatchery is one of the most productive fisheries in the state. The viability of this hatchery depends upon the quality and availability of surface water from Mammoth Creek and on continued constant natural flows from the year-round springs.

4.3.1.3. Special Status Species

The USFS defines sensitive species as those plant and animal species identified by a regional forester for which population viability is a concern, based on documentation of a significant current or predicted downward trend in habitat capability that would reduce a species'

existing distribution. The federal Endangered Species Act (ESA) of 1973, as amended, and the California Endangered Species Act (CESA) of 1984 provide legal protection for specifically listed plant and animal species. The California Native Plant Society (CNPS) helps to determine which plant species and habitats should be listed as "special status" under the CESA. The ESA requires the USFWS to provide a findings report on any federally accredited actions that could jeopardize the existence of any federally listed species. The California Department of Fish and Game (CDFG) analyzes projects for possible impacts to species as well as their habitats.

Special Status Wildlife

Animal species are considered to have special status if they are listed or proposed to be listed as rare, threatened, or endangered by a state or federal agency; meet the definitions of rare or endangered under CEQA; are tracked by the CNDDB; are a CDFG-protected species, species of special concern or a harvest species; or are included in the sensitive animal or watch lists prepared by the USFS. Special status animal species occurring or potentially occurring within the Planning Area were identified through a review of previous environmental reports from the area (CH2M Hill 2000, Dodge 1994, ERM 2001, Paulus 2001, RBF Consulting 1997, Taylor 1995, Taylor 1996, TOWN 1997, USDA 2001a, USDA 2001b, USDA 2001c, USDI 1998, USDI 2003). In addition, updated information was obtained from a CNDDB search (CNDDB 2003), a list of species potentially occurring in the Planning Area prepared by the USFWS, Ventura Office, and a list of USFS Sensitive Animal Species prepared by the USFS.

Two federally listed species known to occur within the Planning Area include the bald eagle (*Haliaeetus leucocephalus*) and the Owens tui chub (*Gila bicolor snyderi*). Populations of a third listed species, Sierra Nevada bighorn sheep (*Ovis canadensis californiania*), occur in the vicinity of the Planning Area, but not in the Planning Area. These species are discussed below in this section. The sage-grouse (*Centrocercus urophasianus*) is also discussed in this section because it occurs in the Planning Area and it has been petitioned for listing as a threatened species under the ESA.

In addition to the listed and proposed species mentioned above, six special status animal species are known to occur within the Municipal Boundary and seven others are known to occur within the Planning Area outside of the Municipal Boundary (Table 4.3-1 on page 4-54). In addition, habitat exists for six special status species within the Planning Area, including the willow flycatcher, California wolverine, pallid bat, Townsend's big eared bat, Western red bat, and California spotted owl. However, there are no recorded occurrences of these species. The locations of the known sitings or populations within the Planning Area, as well as those adjacent to the Planning Area boundary, are mapped in Figure 4.3-1 on page 4-56. The protection status and habitat associations of the identified special status animals are listed in Table 4.3-2 on page 4-57.

Table 4.3-1

Occurrences of Special Status Wildlife Species within the Planning Area or Vicinity

Species	Occurrence within the Planning Area
Within the Municipal Boundary	
American (= pine) marten *Martes americana*	Occur throughout the Mammoth Lakes basin and on the Valentine Reserve.
Bald eagle *Haliaeetus leucocephalus*	Winter roost sites around Lake Mary and Twin Lakes. Occasionally reported foraging along Mammoth Creek.
Golden eagle *Aquila chrysaetos*	Potential nest sites in the Mammoth Rock area and proposed Sherwin Ski Area.
Great gray owl *Strix nebulosa*	Known occurrences in upper portion of Mammoth Creek drainage and Valentine Reserve, a probable breeding area.
Northern goshawk *Accipiter gentilis*	Known occurrences of foraging in upper portion of Mammoth Creek drainage, Lakes Basin, Valentine Reserve. Probable nesting territory near Lake Mary. Historic nest sites in Dry Creek.
Northern harrier *Circus cyaneus*	Observed foraging in Eastern Sierra College Center site. Same site offers high quality nesting habitat although no nests were located.
Pacific fisher *Martes pennanti pacifica*	Observed in Mammoth Lodge area during 1970s.
Prairie falcon *Falco mexicanus*	Observed foraging above Mammoth Rock and Solitude Canyon; Minaret Summit
Sierra Nevada mountain beaver *Aplodontia rufa californica*	Known to inhabit Mammoth Creek and adjacent riparian habitats. Present on the Valentine Reserve.
Willow flycatcher *Empidonax traillii*	Potential habitat along Mammoth Creek directly upstream of U.S. Highway 395 and upstream from the creek's intersection with Minaret Road.
Yosemite toad *Bufo canorus*	Occurrences in Lake Mary.
Outside of the Municipal Boundary	
Bald eagle *Haliaeetus leucocephalus*	Winter roost sites around Convict Lake, Hot Creek Gorge, Hot Creek Fish Hatchery, and Laurel Lakes. Occasionally reported foraging along Mammoth Creek, Hot Creek, Upper Owens River, Convict Creek, and alkali ponds and flats east of the Mammoth Yosemite Airport.
Bank swallow *Riparia riparia*	Observed nesting in an abandoned gravel quarry north of the Mammoth Yosemite Airport.
California wolverine *Gulo gulo luteus*	Species distribution includes Planning Area but no occurrences reported. Chiefly found in subalpine forests and alpine fellfields and meadows.
Sage-grouse *Centrocercus urophasianus urophasianus*	Occurs in sagebrush habitats adjacent to lower reaches of Mammoth Creek. One active lek reported one mile north of Mammoth Yosemite Airport.
Mountain yellow-legged frog *Rana muscosa*	Known to occur in Convict Creek drainages. Federal listing refers to populations in the San Gabriel, San Jacinto, and San Bernardino Mountains only.
Northern goshawk *Accipiter gentilis*	Historic nest sites in Dry Creek.

Table 4.3-1 (Continued)

Occurrences of Special Status Wildlife Species within the Planning Area or Vicinity

Species	Occurrence within the Planning Area
Owens speckled dace *Rhinichthys osculus* ssp. 2	Several isolated locations in Owens Valley and Long Valley, including Whitmore Hot Springs and Little Alkali Lake.
Owens sucker *Catostomus fumeiventris*	Common in Convict Lake. Present in Mammoth Creek and Hot Creek near Hot Creek Fish Hatchery and in Hot Creek Gorge.
Owens tui chub *Gila bicolor snyderi*	Hot Creek headsprings, Sotcher Lake
Pallid bat *Antrozous pallidus*	Species distribution includes Planning Area but no occurrences reported. Possible rare migrant.
Prairie falcon *Falco mexicanus*	Observed foraging above Mammoth Rock and Solitude Canyon; Minaret Summit
Sierra Nevada red fox *Vulpes vulpes necator*	Occurrence along Deadman Creek.
Townsend's big-eared bat *Corynorhinus townsendii townsendii*	Known distribution includes Planning Area, but no occurrences reported. Possible rare migrant.
Western red bat *Lasiurus blossevillii*	Known distribution includes Planning Area, but no occurrences reported. Possible rare migrant in riparian habitat.
Willow flycatcher *Empidonax traillii*	Potential habitat along Mammoth Creek directly upstream of U. S. Highway 395 and upstream from the creek's intersection with Minaret Road.
Yosemite toad *Bufo canorus*	Occurrences within the Red Cones area.
Adjacent to Planning Area	
California (= Sierra Nevada) bighorn sheep *Ovis canadensis californiania*	Natural populations known only in Inyo County. Reintroduced populations in localized areas of Mono County. No occurrences reported within the Planning Area.
California spotted owl *Strix occidentalis occidentalis*	Occurrences on Inyo NF in coniferous forests but none within Planning Area. May be rare migrant.
Northern goshawk *Accipiter gentilis*	Historic nest sites in Glass Creek Camp.
Owens tui chub *Gila bicolor snyderi*	Owens River downstream from Crowley Lake, Little Hot Creek
Owens Valley springsnail *Pyrgulopsis owensensis*	Nearest population is in Cowley Lake.
Wong's springsnail *Pyrgulopsis wongi*	Nearest population is in Cowley Lake.

Sources: CNDDB, Wildlife & Habitat Analysis Branch, Department of Fish and Game, 8/25/2003; Dodge 1994; NatureServe Explorer 2003; CH2M Hill 2000; USDA Forest Service 2001a

Lupinus duranii

Martes pennanti pacifica

Lupinus duranii

Lupinus duranii

Lupinus duranii

Strix nebulosa

Potamogeton robbinsii

Pokenobe Lodge

Bufo canorus

Town of Mammoth Lakes

Explanation

- Species
- Private Property
- Municipal Boundary

N

0 1,000 2,000 Meters

Base Maps: Old Mammoth, Mammoth Mountain, Crystal Crag, and Bloody Mountain Quads

Source: California Natural Diversity Database, Division of California Department of Fish and Game

Figure 4.3-1 Special Status Species Map

Table 4.3-2

Protection Level and Habitat Associations of Special Status Animals within the Planning Area or Vicinity

Species	Status					Habitat Associations
	ESA	CESA	CNDDB	CDFG	USFS	
Birds						
Bald eagle *Haliaeetus leucocephalus* Nesting and wintering	T, PD	E(rev)	G4 S2	FP; DF - S	S	Coniferous forest features (large trees, hollow trees, and snags); large, fish-bearing waters. Breeding habitat most commonly includes areas close to (within 4km) coastal areas, bays, rivers, lakes, or other bodies of water that reflect the general availability of primary food sources including fish, waterfowl, and seabirds.
Bank swallow *Riparia riparia* Nesting	SC	T	G5 S2S3	None	None	Open and partly open situations, frequently near flowing water. Nests in steep sand, dirt, or gravel banks, in a burrow dug near the top of the bank, along the edge of inland water or along the coast, or in gravel pits, road embankments, etc.
California spotted owl *Strix occidentalis occidentalis*	SC	None	G3T3 S3	CSC	S	Typically in dense, multi-layered evergreen forest that includes a diversity of tree species, large trees (some greater than 83 cm DBH), some trees with evidence of decadence, and open areas under the canopy; most often on lower, north-facing slopes of canyons, usually within 0.3 km of water.
Golden eagle *Aquila chrysaetos* Nesting and wintering	None	None	G5 S3	CSC	None	Generally open country, in prairies, arctic and alpine tundra, open wooded country, and barren areas, especially in hilly or mountainous regions. Nests on rock ledge of cliff or in large tree.
Great gray owl *Strix nebulosa* Nesting	None	E	G5 S1	DF - S	S	Dense coniferous forest, near water, foraging in wet meadows. Special habitat features - hollow trees and standing snags.
Sage-grouse *Centrocercus urophasianus urophasianus* Nesting	PS:C	None	G4 S3	CSC	S, MIS	Foothills, plains, and mountain slopes where sagebrush is present. Leks are located on relatively open sites surrounded by sagebrush, or in areas where sagebrush density is low. Nest in thick cover in sagebrush habitat, beneath a sagebrush or other shrub

Table 4.3-2 (Continued)

Protection Level and Habitat Associations of Special Status Animals within the Planning Area or Vicinity

Species	Status					Habitat Associations
	ESA	CESA	CNDDB	CDFG	USFS	
Northern goshawk *Accipiter gentilis* Nesting	SC	None	G5 S3	CSC DF - S	S	Typically nests in mature or old-growth forests. Forages in both heavily forested and relatively open habitats.
Norther harrier *Circus cyaneus* Nesting	None	None	G5 S3	CSC	None	Marshes, meadows, grasslands, and cultivated fields. Nests on the ground, commonly near low shrubs, in tall weeds or reeds, sometimes in bog; or on top of low bush above water, or on knoll of dry ground, or on higher shrubby ground near water, or on dry marsh vegetation.
Prairie falcon *Falco mexicanus* Nesting	None	None	G5 S3	CSC	None	Primarily open situations, especially in mountainous areas, steppe, plains or prairies. Typically nests in pot hole or well-sheltered ledge on rocky cliff or steep earth embankment, 10 to more than 100 meters above base.
Willow flycatcher *Empidonax traillii* Nesting	None	E	G5 S1S2	None	S	Strongly tied to brushy areas of willow and similar shrubs. Common in mountain meadows and along streams. The presence of water (running water, pools, or saturated soils) and willow, alder or other deciduous riparian shrubs are essential habitat elements.
Fish						
Owens tui chub *Gila bicolor snyderi*	E	E	G4 T1 S1	None	None	Generally found in shallow water associated with submerged objects or beds of aquatic vegetation, or in the quiet waters of sluggish rivers. Primary habitat requirements appear to include clear, clean water, adequate cover in the form of rocks, undercut banks, or aquatic vegetation, and adequate insect food.
Owens sucker *Catostomus fumeiventris*	None	None	G3 S3	SSC	None	Silty to rocky pools and runs of creeks . In the lower Owens River and tributaries, most abundant in sections with long runs and few riffles, over substrates of mostly fine material (some gravel and rubble). Adults occur in cool

Table 4.3-2 (Continued)

Protection Level and Habitat Associations of Special Status Animals within the Planning Area or Vicinity

Species	Status					Habitat Associations
	ESA	CESA	CNDDB	CDFG	USFS	
						permanent streams with deep (1+ m) pools, also do well in lakes and reservoirs. Larvae are abundant in weedy edges and backwaters of streams. Spawns in gravelly riffles in tributary streams.
Owens speckled dace *Rhinichthys osculus* ssp. 2	None	None	G5T1T2, S1S2	SSC	None	Small streams, spring systems, irrigation ditches.
Mammals						
American (= pine) marten *Martes americana*	SC	None	G5 S3S4	None	S	Dense coniferous upland and lowland forest. May use rocky alpine areas. When inactive, occupies hole in dead or live tree or stump, abandoned squirrel nest, conifer crown, rock pile, burrow, snow cavity, etc.; uses mainly subnivean sites, often associated with coarse woody debris, in winter. Young are born in a den, usually in a hollow tree, sometimes in rock den.
California (= Sierra Nevada) bighorn sheep *Ovis canadensis californiania* pop 3	E	E	G4T1 S1	FP	S	Rocky, steep slopes and canyons with adjacent open areas; forages in meadows and brushlands.
California wolverine *Gulo gulo luteus*	SC	T	G4T3 S2	FP	S	Chiefly in subalpine forest and alpine fellfields; alpine meadows, forests of lodgepole pine and red fir. Dens in cave, rock crevice, under fallen tree or tree roots, in thicket, or similar site.
Pacific fisher *Martes pennanti pacifica*	SC	None	G5T3T4, S2S3	CSC	S	Coniferous forests.
Pallid bat *Antrozous pallidus*	None	None	G5 S3	CSC	S	Arid deserts and grasslands, often near rocky outcrops and water. Less abundant in evergreen and mixed conifer woodland. Usually roosts in rock crevice or building, less often in cave, tree hollow, mine, etc.
Sierra Nevada mountain beaver *Aplodontia rufa californica*	SC	SC	G5T3T4 S3?	CSC	None	Mountain streams with dense deciduous riparian vegetation.
Sierra Nevada red fox	SC	T	G5T3 S1	None	S	Various habitats in alpine and

Table 4.3-2 (Continued)

Protection Level and Habitat Associations of Special Status Animals within the Planning Area or Vicinity

Species	Status					Habitat Associations
	ESA	CESA	CNDDB	CDFG	USFS	
Vulpes vulpes necator						subalpine zones; preferred habitat red fir and lodgepole pine forests and alpine fell-fields; may hunt in forest openings, meadows, and barren rocky areas. Dens are likely to be in rock slides.
Townsend's big-eared bat *Corynorhinus townsendii townsendii*	SC	None	G4T3T4 S2S3	CSC	S	Commonly occurs in mesic habitats characterized by coniferous and deciduous forests, but occupies a broad range of habitats. Maternity and hibernation colonies typically are in caves and mine tunnels.
Western red bat *Lasiurus blossevillii*	None	None	G5 S?	None	S	Sonoran and Transition life zones in California. Young are born and perch among tree foliage.
Amphibians						
Mountain yellow-legged frog *Rana muscosa*	PS:E	None	G2 S2	CSC	S	Sunny riverbanks, meadow streams, isolated pools and lake borders in the Sierra Nevada. Seems to prefer sloping banks with rocks or vegetation to the water's edge.
Yosemite toad *Bufo canorus*	None	None	G1G2 S1S2	CSC	S	Wet mountain meadows and borders of forests. Breeds in shallow edges of snowmelt pools and ponds or along edges of lakes and slow-moving streams.
Invertebrates						
Owens Valley springsnail *Pyrgulopsis owensensis*	None	None	G1G2 S1S2	None	S	Freshwater
Wong's springsnail *Pyrgulopsis wongi*	None	None	G1G2 S1S2	None	S	Freshwater

Status Codes:

ESA *Endangered Species Act of 1972 as amended*
E *Listed as Endangered*
T *Listed as Threatened*
C *Candidate species for which the USFWS has on file sufficient information on the biological vulnerability and threats to support proposals to list as endangered or threatened, but are not yet the subject of a proposed rule.*
PD *Proposed for delisting*
PS *Partial status; status for an infraspecific population but not the full species indicated. The value that follows represents the status in only a portion of the species' range.*
SC *Species of Concern. Species for which the U.S. Fish & Wildlife Service has information indicating that proposing to list them as threatened or endangered species may be appropriate.*
CESA *California Endangered Species Act*
E *Listed as Endangered*

Table 4.3-2 (Continued)

Protection Level and Habitat Associations of Special Status Animals within the Planning Area or Vicinity

Species	Status					Habitat Associations
	ESA	CESA	CNDDB	CDFG	USFS	

T Listed as Threatened
Rev Status under review
SC Species of Concern
CNDDB California Natural Diversity Data Base
G, T, S-rank
CNDDB element ranking. The global rank (G-rank) is a reflection of the overall condition of an element throughout its global range, with G1 being the most rare and G5 the least rare. Subspecies receive a T-rank attached to the G-rank. The state rank (S-rank) is a reflection of the overall condition of an element throughout California, sometimes with a threat designation attached.
CDFG California Department of Fish and Game
CSC Species of Special Concern (terrestrial vertebrate animals only)
FP Fully protected
USFS USDA Forest Service, Pacific Southwest Region
MIS Management Indicator Species
S Sensitive Species

Sources: CNDDB, Wildlife & Habitat Analysis Branch, Department of Fish and Game, 8/25/2003; NatureServe Explorer 2003; CH2M Hill 2000; USDA Forest Service 2001a

Bald Eagle. The bald eagle is a federally listed threatened species; however, it was proposed for delisting by the USFWS in 1999 (64 Federal Register 36454). Critical Habitat is not currently mapped or proposed for the bald eagle in the Sierra Nevada. A Recovery Plan was released in 1986 for the recovery and maintenance of bald eagle populations in the seven state Pacific recovery region, which includes California. This Recovery Plan is being followed on all National Forest lands within the range of the bald eagle (USDA 2001b).

The current bald eagle nesting distribution in California is mainly restricted to mountainous habitats in the northern Sierra Nevada, Cascade Range, and northern Coast Ranges (CDFG 1992). Bald eagle nesting territories in California are found primarily in ponderosa pine and mixed conifer forests (Lehman 1979). Nest sites are always associated with a lake, river, or other water body. There are no known nesting bald eagle territories in the Inyo National Forest (USDA 2001b).

Bald eagles winter at lakes and reservoirs and along river systems throughout most of central and northern California and in a few southern California localities (CDFG 1992). This species often roosts communally during the winter, typically in mature trees, or snags with open branching structures. Winter roost areas usually are isolated from human disturbance, support adequate fish or waterbird prey, and have mature trees or large snags available for perch sites (Jones & Stokes 2001). A pair of wintering bald eagles has been observed by CDFG personnel perched on telephone poles at the Hot Creek Fish Hatchery. This pair has also been observed roosting on sagebrush at the hatchery. The pair forages for fish along Hot Creek, the Upper Owens River, and the fish hatchery. Biologists from the USFS have recorded up to six bald eagles at one time during the winter months at Laurel Pond, located approximately one mile

southwest of the Mammoth Yosemite Airport. BLM biologists have observed wintering bald eagles foraging in the project vicinity along Convict Creek, Crowley Lake, and the alkali ponds and flats east of the Mammoth Yosemite Airport. Winter resident bald eagles probably roost at the Alpers Fish Hatchery located approximately seven miles northwest of the Mammoth Yosemite Airport, Hot Creek gorge approximately two miles north of the Mammoth Yosemite Airport, and Convict Lake approximately two miles south of the Mammoth Yosemite Airport (ERM 2001).

Sierra Nevada Bighorn Sheep. The Sierra Nevada bighorn sheep is one of three bighorn sheep subspecies to occur in California, and the only population of California bighorn sheep inhabiting the Sierra Nevada. Due to a serious decline in populations, Sierra Nevada bighorn sheep were emergency listed as endangered by the USFWS in April 1999 and formally listed endangered in January 2000. Sierra Nevada bighorn sheep were listed as endangered by the State of California under CESA in March 1999. Management direction and recovery objectives for the Sierra Nevada bighorn sheep are set forth in the Draft Sierra Nevada Bighorn Sheep Recovery Plan (USDI 2003).

Five distinct subpopulations of Sierra Nevada bighorn sheep occur along the eastern Sierra Nevada in Mono and Inyo counties. Specifically, these populations occur at Lee Vining Canyon, Wheeler Crest, Mount Baxter, Mount Williamson, and Mount Langley. As of 2001, the number of Sierra Nevada bighorn sheep that comprised the five subpopulations were thought to total approximately 250 animals (USFWS 2003). Continued existence of the Sierra Nevada bighorn sheep is threatened by disease, mountain lion predation, and loss of genetic variability because of the small number and isolated nature of the populations.

The current habitat of the Sierra Nevada bighorn sheep exists almost entirely on public land, most of which is managed by the USFS. During the summer, Sierra Nevada bighorn sheep inhabit the alpine and subalpine zones (10,000 to 14,000 feet amsl). In winter, they move to high, wind-swept ridges, or migrate to the lower elevation (4,800 feet amsl) sagebrush steppe habitat (Wehausen 1980). Lambing areas occur on safe parts of steep, rocky slopes. The increased presence of mountain lions appears to have changed the winter habitat use patterns of the sheep, causing them to avoid lower terrain and move to higher elevations.

There are no populations of bighorn sheep within the Planning Area. The closest populations of bighorn sheep are the Wheeler Crest population, located approximately 15 miles southeast of the Planning Area, and the Lee Vining Canyon population, located approximately 20 miles northwest of Planning Area. The southern Planning Area boundary is adjacent to the Central Recovery Unit established in the draft recovery plan (USFWS 2003). The Central Recovery Unit is divided into three herd units that designate potential bighorn sheep habitat. Geographic distribution, in terms of herd units occupied by females within recovery units, is a criterion for delisting. A translocation program is proposed to introduce sheep into herd units

that are unoccupied. The Wheeler Ridge and Convict Creek Herd Units are approximately ten and five miles south of the Planning Area, respectively. Currently, the Convict Creek Herd Unit is unoccupied. The Northern Recovery Unit is located north of the Planning Area. Within the Northern Recovery Unit, the Mt. Gibbs Herd Unit is located approximately ten miles north of the Planning Area.

Owens Tui Chub. The Owens tui chub is a federally listed endangered species. Critical habitat for this species was designated on August 5, 1985 (50 Federal Register 31592) and includes two areas: (1) the Owens River and 50 feet of riparian vegetation on either side of the river, from the Long Valley Dam downstream for a distance of eight stream miles, encompassing approximately 97 acres in the Owens Gorge; and (2) two spring provinces, including 50 feet of riparian vegetation on either side of spring brooks, encompassing approximately five acres at Hot Creek Fish Hatchery. Constituent elements of critical habitat for the tui chub include high-quality, cool water with adequate cover in the form of rocks, undercut banks, or aquatic vegetation, and a sufficient insect food base.

The decline of the Owens tui chub has been attributed to the introduction of the Lahontan tui chub into Crowley Lake (Miller 1973). Hybridization of the Lahontan tui chub and the Owens tui chub has spread throughout the lower reaches of the Owens River system. Only those populations of Owens tui chub that are isolated by barriers have not hybridized. Water development, competition and predation by exotic species, and habitat alteration and destruction have also led to the decline of native populations (Williams 1985). Activities described in the final rule that may adversely modify designated critical habitat include the following: introduction of exotic aquatic animals; activities that decrease available water or cause a significant change in the physical or chemical properties (e.g. temperature, pH, or dissolved gases) of the water; removal of natural riparian or submerged vegetation, except what might be required to maintain an open water habitat for the Owens tui chub; pollution of aquatic habitats or adjacent terrestrial habitats; channelization or diversion of water flows; and overgrazing of adjacent riparian areas.

The Owens tui chub is endemic to the Owens River basin in Mono County and is restricted to six isolated locations: Cabin Bar Ranch, Mule Spring, Owens Gorge, Hot Creek Fish Hatchery, Sotcher Lake, and Silver Lake (USDA 2001c). Sotcher Lake and the Hot Creek headsprings at the Hot Creek Fish Hatchery are located within the Planning Area, and Little Hot Creek is directly north of the northeast corner of the Planning Area. The populations in Sotcher Lake and the Hot Creek headsprings are considered to be genetically pure.

Recovery goals and delisting criteria for the Owens tui chub are presented in the "Owens Basin Wetland and Aquatic Species Recovery Plan, Inyo and Mono Counties, California" (USDI 1998). The recovery plan identifies eight conservation areas necessary for the recovery and protection of the Owens tui chub. Two conservation areas lie partially within the Planning Area,

Hot Creek and Whitmore. Two other conservation areas, Little Hot Creek and Little Alkali, are adjacent to the Planning Area boundary. Each conservation area has an approved management plan and implementing agreement between the landowner and the USFWS.

Mule Deer. Mule deer are considered an important harvest species by the CDFG. The Planning Area is located within the Eastern Sierra Nevada Deer Assessment Unit (CDFG et al. 1998). Deer populations within the Planning Area comprise Rocky Mountain mule deer (*Odocoileus hemiomus hemiomus*) from the Round Valley and Casa Diablo herds. Both are migratory deer herds that move from winter to summer range on a seasonal basis. In addition to migrants, the Planning Area is used by both holdover and summer resident mule deer (USDA 1990; Kucera 1988).

Maintenance of mule deer historic summer and winter ranges and annual migration routes are vital to their long-term survival. Deer herd management plans were prepared by the CDFG in the mid-1980s for both herds (Thomas 1986). The management plans were designed to give guidance to public agencies that have regulatory authority over lands that make up part of the deer herd habitat. Management objectives include enhancing important winter, holding, migratory, and fawning habitats. Of particular concern are the portions of the herds' range known as Critical Winter Range. These are areas determined by state and federal agencies to be critical to the life cycle of migratory deer.

Migratory movements typically occur over a six- to ten-week period. In dry years, deer might begin their spring migration in early April, while in years with heavy snowfall, they might not start moving until late May. Prior to spring migration, deer remain in holding areas, browsing on herbaceous growth and regaining strength and stamina lost over the winter. When snow recedes and high quality forage is available at their higher elevation summer ranges, they migrate to their summer range. Generally, deer leave their holding areas for summer range by mid-June.

Round Valley Herd of Mule Deer: The most recent population estimate for the Round Valley deer herd (formerly known as the Sherwin Grade and Buttermilk herds) based on a January 2004 survey is approximately 2,700 animals (Timothy Taylor, CDFG, personal communication, January 14, 2004). The Round Valley deer herd is a migratory herd that winters at lower elevations in Round Valley, approximately 18 miles south of the Planning Area. Beginning in early April, approximately 75 percent of the Round Valley herd migrates north from the Round Valley winter range to the Sherwin Holding Area near Mammoth Lakes (Taylor 1996). The Sherwin Holding Area is an expansion of the migration corridor where deer congregate for eight weeks in the spring and for a shorter period in the fall. The holding area comprises approximately 11,300 acres at elevations ranging from 7,200 to 8,000 feet amsl. The holding area extends west from Convict Road, including the informally named Convict Knolls, to the Town (Taylor 1988; USDA 1991a). The migration corridor between the winter range in

Round Valley and the holding area near the Town follows the base of the Sierra Nevada escarpment and passes immediately south of the Mammoth Yosemite Airport (Kucera 1988).

The summer range for the Round Valley herd encompasses approximately 2,000 square miles and includes the west slope of the Sierra Nevada to the San Joaquin Ridge (Kucera 1988). Migration corridors to summer range include Mammoth Pass, Hopkins Pass, Solitude/Duck Pass, and San Joaquin Ridge (Kucera 1988; Taylor 1995). The groups of deer that use each of these different crossings are collectively referred to as herd segments. The deer use the same migration routes and holding areas during their fall migration when they return to winter range.

The migration corridors that are within the Planning Area are described below (Taylor 1996):

1. The Solitude/Duck Pass herd segment occupies the Sherwin Holding Area during the spring, and then migrates to summer range over two passes: Solitude Pass, located in the Sherwin Range, and Duck Pass, located approximately three miles south of the holding area on the Sierra crest. The mitigation routes to both passes are along the eastern front of the range south of the Urban Growth Boundary.

2. The Mammoth Pass herd segment occupies primarily the western portion of the Sherwin Holding Area during the spring. The route used by this herd segment heads westerly below Mammoth Rock and south of the Urban Growth Boundary, passes through the Mammoth Lakes Basin, and then crosses over Mammoth Pass into the Middle Fork of the San Joaquin River drainage.

3. After migrating along the eastern front of the range below Mammoth Rock and south of the Urban Growth Boundary, the San Joaquin herd segment moves northwesterly from the Sherwin Holding Area and crosses the Sierra crest over San Joaquin Ridge between Minaret Summit and Deadman Pass.

Some deer are summer residents in the Mammoth Lakes Basin. Approximately 200 deer from the Round Valley herd use the Doe Ridge area (a resurgent dome located about one mile east of the Mammoth Yosemite Airport) throughout the summer (USDA 1990). Heavy fall use by deer from the Round Valley herd occurs west of the airport in the vicinity of Hot Creek Road, and south and east of the airport toward Whitmore Road.

Casa Diablo Herd of Mule Deer: The estimated size of the Casa Diablo herd was between 1,500 and 2,000 individuals in 1993. Winter range for mule deer from the Casa Diablo deer herd is extensive and includes the lower elevations near Benton, California (approximately 31 miles northeast of the Planning Area) to the north end of Owens Valley. The migratory

movements of some deer from this herd occur across Doe Ridge and continue toward their summer range on the higher elevations of the eastern slopes of the Sierra Nevada between Lee Vining and June Lake. A small number of deer from the Casa Diablo herd spend the summer on Doe Ridge (USDA 1990). The primary migration periods are during early April and October. The Arcularius Ranch is a major holding area for the Casa Diablo herd. Arcularius Ranch is not within the Planning Area but is located immediately to the northeast of the Planning Area.

Sage-grouse. The sage-grouse is a USFWS and CDFG species of special concern. It is also a USFS sensitive and management indicator species. Sage-grouse populations are declining throughout their range, likely as a result of cumulative, long-term impacts including drought and habitat loss and conversion. A petition to list the Mono Basin area sage-grouse as an endangered distinct population segment under the ESA was denied in December 2002 (67 Federal Register 78811). However, CEQA Section 15380(d) provides that a plant or animal may be treated as rare or endangered if it meets the definition of a rare species even if it has not been placed on an official list. Sage-grouse fits the definition of endangered, rare, or threatened under CEQA Section 15380(2)(A) and (B).

The sage-grouse is found in sagebrush (*Artemisia* spp.) dominated habitats across western North America. The sage-grouse that occupies the Mono County area is described as the eastern subspecies of the sage-grouse (*Centrocercus urophasianus urophasianus*), hereafter referred to as sage-grouse. The Mono Basin area population occurs in Mono County and neighboring Lyon County, Nevada. The CDFG recognizes this sage-grouse population as genetically distinct from other sage-grouse populations. Due to its small size and genetic isolation, this population is considered vulnerable. The CDFG is in the process of preparing a "Species Conservation Plan for Sage-grouse in Mono County." The Town, Mono County, USFS, U.S. Geological Survey (USGS), BLM, Los Angeles Department of Water and Power, and Nevada Department of Wildlife (NDOW) are partners in the conservation planning effort.

Sage-grouse habitat consists principally of sagebrush-dominated rangelands, primarily that of big sagebrush *(A. tridentata* ssp. *tridentata* and ssp. *wyomingensis*). Sage-grouse occupy seasonal habitats, using mesic areas during summer and sagebrush habitats during winter (Connelly et al. 1988). Throughout much of the year, adult sage-grouse rely on sagebrush to provide roosting cover and food. During winter they depend almost exclusively on sagebrush for food. The type and condition of shrub steppe plant communities strongly affect habitat use by sage-grouse populations. However, these populations also exhibit strong loyalty to a particular area (67 Federal Register 78812).

In spring, male sage-grouse assemble on leks, where they display communally. Leks are usually situated at a point intermediate between winter and summer range (Klebenow 1969). Leks are located in openings or clearings in sagebrush or in areas where the sagebrush is low and scattered. Besides natural openings, leks can also form on landing strips, roads, cropland, and

burned areas (Connelly et al. 1981). Each male establishes a territory on the lek where he displays early in the morning, frequently again in the evening, and on some moonlit nights all night long. Females arrive at the leks before daybreak and generally leave before midmorning. A group of leks where males and females may interact within a breeding season or between years is called a "lek complex."

Female sage-grouse usually nest beneath sagebrush in a shallow depression on the ground. Nests are usually located in dry sites close to leks where shrub cover is less than 50 percent and vegetation is 10 to 20 inches tall. After hatching, females move their broods to moist areas where there is a plentiful supply of insects and green plant material (USDA 1991b). Nest success ranges from 10 to 63 percent. Shrub canopy and grass cover provide concealment for sage-grouse nests and sage-grouse young, and may be critical for reproductive success (67 Federal Register 78812).

As previously mentioned, sage-grouse populations are declining. More specifically, sage-grouse populations have declined by up to 47 percent throughout much of their range (Connelly et al. 2000). Population declines and range contractions are largely attributed to the widespread loss, fragmentation, and degradation of sagebrush habitats and associated riparian areas. Habitats have been lost to, and fragmented by, agricultural conversion to croplands, mining and energy development, reservoirs, power lines, roads and highways, urban and rural development of home sites, and treatments to control sagebrush (including burning, mechanical methods, and herbicides). Habitats have also been lost or degraded because of sagebrush control, spread of nonnative grasses and forbs, livestock overgrazing, and the accelerating increase in the size and extent of wildfires due to the widespread invasion of sagebrush shrub steppe by cheatgrass (Braun 1998).

Sage-grouse in the Mono Basin area has historically been found in most of Mono County, the far eastern part of Alpine County, and in northern Inyo County. By 1995, suitable habitat within this area had declined approximately 71 percent (67 Federal Register 78813). Ninety three percent of the remaining sage-grouse distribution and all known leks in the Mono Basin area occur in Mono County. Long Valley is one of seven known lek areas.

Sage-grouse in and near the Planning Area are part of the Long Valley sage-grouse population. Recent research indicates that the Long Valley sage-grouse population may be genetically distinct from sage-grouse populations elsewhere (CDFG May 11, 2001 letter). The Long Valley population appears to be isolated from the only other substantial population, which is located more than 20 miles northeast of the Planning Area in the Bodie Hills. According to the CDFG, the size of the Long Valley population seems to be subject to increased mortality. For unknown reasons, the population has not rebounded from reduced hunting pressure over the last five years and is considered vulnerable (CDFG May 11, 2001 letter). Limited hunting is permitted for the Long Valley population.

Sage-grouse habitat in the northeast portion of the Planning Area has been assigned a high priority for protection within the South Mono Population Management Unit (USDI et. al. 2004). There are several known leks within the Planning Area as designated by the BLM, one of which is Lek 7. Lek 7 is located approximately 1.25 miles north of the Mammoth Yosemite Airport, and north of Hot Creek. Lek 7 has been inactive in the recent past. In addition, six other known leks on BLM-administered lands are situated between 2.5 and 4.5 miles from the Mammoth Yosemite Airport. Other known leks are located seven or more miles from the Planning Area.

BLM's data show that the habitat situated at least two miles east of the Mammoth Yosemite Airport (i.e., east of Doe Ridge) is important winter, spring, and breeding habitat for grouse, in addition to being a summer concentration area. The Jones & Stokes October 1994 field study confirmed that large numbers of grouse used the area north of the airport and south of the Hot Creek Hatchery (Jones & Stokes 1995). Sage-grouse migrate through the Mammoth Yosemite Airport area in large numbers between their summer and winter concentration area and major concentration areas to the west; effluent ponds (fall concentration areas) and the lower slope of McGee Mountain (fall and spring). These locations are both within two miles of the Mammoth Yosemite Airport (ERM 2001). There are no leks or recorded bird sitings within the Municipal Boundary (USDI et al. 2004). As shown in Table 4.3-1, there are 11 other species that are considered to have habitat within the Municipal Boundary. Only a limited amount of American Pine Martin, Bald Eagle, Great Gray Owl, Northern Goshawk, Sierra Mountain Beaver, and Willow Fly catcher habitat is located within the Urban Growth Boundary and is primarily located within Valentine reserve with isolated pockets along Mammoth Creek. Valentine reserve is a preserved habitat conservation area and a large portion of land adjacent to Mammoth Creek Park is also owned by the Town and preserved as open space for conservation purposes. Only the Northern Harrier has potential habitat in the Eastern Sierra College Center site, which is designated IP. In addition, the Updated Plan would allow for development of vacant lands as well as redevelopment of lands within the UGB. Development in accordance with the Updated Plan could potentially create barriers to wildlife movement and dispersal.

Special Status Plants

Plant species are considered to have special status if they are listed or proposed to be listed as rare, threatened, or endangered by a state or federal agency; meet the definitions of rare or endangered under CEQA; are tracked by the CNDDB; are listed by the CNPS in their inventory of rare and endangered plants (CNPS 2003); or are included in the most recent sensitive plant or watch lists prepared by the USFS. The term “rare natural community” refers to communities that are considered to be important by CDFG from a botanical standpoint because they support a unique or diverse assemblage of plant species. In addition, the distribution of these communities may be limited locally and throughout California.

Special status plant species occurring or potentially occurring within the Planning Area were identified through a review of previous environmental reports from the area. In addition, updated information was obtained through a CNDDB search (2003), from a list of species potentially occurring in the Planning Area prepared by the USFWS Ventura Office, and from a list of USFS Sensitive Plant Species and a Watch list prepared by the USFS.

There is no potential habitat for any endangered, threatened, or proposed plant species within or adjacent to the Planning Area, nor have any populations of federally listed or proposed plant species been reported from the within the area. Five special status plant species are known to occur within the Municipal Boundary, and eight are known to occur within the Planning Area outside of the Municipal Boundary (Table 4.3-3 on page 4-64). In addition, two rare natural plant communities occur within the Planning Area. The locations of these populations and communities, as well as those adjacent to the Planning Area boundary, are shown on Figure 4.3-1. The protection status and habitat associations of the identified special status plants and natural communities are listed in Table 4.3-4 on page 4-64.

4.3.1.4. Wetlands

Wetlands are defined as "areas that are inundated or saturated by surface water or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (33 CFR 328.3[b], 40 CFR 230.3). Activities within jurisdictional wetlands require a U.S. Army Corps of Engineers Section 404 Clean Water Act (CWA) permit, a California Regional Water Quality Control Board Clean Water Certification or Waiver, and a CDFG Streambed Alteration Agreement. Maps provided by the National Wetlands Inventory identify wetlands within the Planning Area and Municipal Boundary. Areas identified within the Urban Growth Boundary are primarily located within the Bell parcel (Meridian and Minaret), Jarvis Pinsley Meadow, Shady Rest Tract and in isolated areas along Mammoth Creek and Snow Creek.

4.3.1.5. Important Biological Resource Areas

Critical Aquatic Refuges

Critical Aquatic Refuges (CARs) are proposed in the Sierra Nevada Forest Plan Amendment (USDA 2001c). CARs are small subwatersheds that contain any of the following: known locations of special status species; highly vulnerable populations of native plant or animal species; or localized populations of rare native aquatic or riparian dependent plant or animal species. The primary role of CARs is to preserve, enhance, restore, or connect habitats for aquatic or riparian dependent species and to ensure their viability (USDA 2001c). Two proposed CARs are partially located within the Planning Area. The Little Hot Creek CAR provides habitat for the Owens tui chub. The Glass Creek/Deadman Creek CAR contains numerous high-quality,

Table 4.3-3

Occurrences of Special Status Plants and Communities within the Planning Area

Species	Occurrence within the Planning Area
Within the Municipal Boundary	
Mono Lake lupine *Lupinus duranii*	Northwest of Town; Minaret Summit; Lincoln Knob; Upper Dry Creek
Moonwort, crenulate *Botrychium crenulatum*	Potential habitat around Twin Lakes, marshes, streams, and meadows.
Moonwort, grape-fern *Botrychium lunaria*	Potential habitat around Twin Lakes, marshes, streams, and meadows.
Moonwort, mingan *Botrychium minganense*	Potential habitat around Twin Lakes, marshes, streams, and meadows.
Moonwort, upward-lobed *Botrychium ascendens*	Potential habitat around Twin Lakes, marshes, streams, and meadows.
Pine City sedum *Sedum pinetorum*	Known only from type specimen from Pine City, an old mining camp 'above Mammoth Lakes' in the Mammoth Lakes Basin.
Pinzl's rockcress *Arabis pinzlae*	Minaret Ridge
Subalpine fireweed *Epilobium howellii*	Twin Lakes
Outside of the Municipal Boundary Within the Planning Area	
Hockett Meadows lupine *Lupinus lepidus var. culbertsonii*	Convict Lakes Basin
Lemmon's milk vetch *Astragalus lemmonii*	Hot Creek Fish Hatchery
Long Valley milk-vetch *Astragalus johannis-howellii*	Northeast of Whitmore Hot Springs; vicinity of Hot Creek Gorge
Mono Lake lupine *Lupinus duranii*	Smokey Bear Flat; Minaret Summit; Lookout Mountain; Lincoln Knob; Upper Dry Creek
Mono milk-vetch *Astragalus monoensis var. monoensis*	Smokey Bear Flat; Little Antelope Valley; Lookout Mountain; Dry Creek
Mono pumice flat	Smokey Bear Flat; west of Inyo Crater Lakes Campground.
Robbin's pondweed *Potamogeton robbinsii*	Sotcher Lake
Scalloped-leaved lousewort *Pedicularis crenulata*	Sierra Nevada Aquatic Research Lab along north side of Convict Creek, 0.9 mi west of U.S. Highway 395.
Shortleaf hulsea *Hulsea brevifolia*	Red's Meadow
Water birch riparian scrub	Along Convict Creek, 0.2 to 1.4 miles north of Convict Lake.
Adjacent to Planning Area	
King's ivesia *Ivesia kingii var. kingii*	Long Valley 0.5 mi SE of Whitmore Hot Springs.

Table 4.3-3 (Continued)

Occurrences of Special Status Plants and Communities within the Planning Area

Species	Occurrence within the Planning Area
Mono Lake lupine *Lupinus duranii*	Lookout Mountain
Mono milk-vetch *Astragalus monoensis var. monoensis*	Little Antelope Valley; Lookout Mountain; Dry Creek
Seep kobresia *Kobresia bellardii*	Convict Basin

Sources: CNPS 2003; CNDDB, Wildlife & Habitat Analysis Branch, CDFG, 8/25/2003; CH2M Hill 2000; Dodge 1994; NatureServe Explorer 2003; RBF Consulting 2000; USDA Forest Service 1998

special aquatic habitats. Populations of mountain yellow legged frog were found in 1993-94 surveys of the Glass Creek/Deadman Creek CAR (USDA 2001c).

Valentine Eastern Sierra Reserve

Valentine Eastern Sierra Reserve (VESR) consists of two separate parcels, Valentine Camp and the Sierra Nevada Aquatic Research Laboratory (SNARL). VESR became part of the University of California Natural Reserve System in 1973 and is administered through the Marine Science Institute, University of California, Santa Barbara. A function of the reserve is to help to preserve biodiversity and conserve genetic resources by protecting natural communities and rare, threatened, or endangered species for further study (Howald 2000).

Valentine Camp encompasses approximately 154 acres and is located within the Municipal Boundary approximately one and one half miles southwest of the Town (Figure 1.1.1). Elevations within the camp range from 8,000 to 8,500 feet amsl. The camp contains an unusually diverse sample of natural vegetation communities, including species characteristic of western and eastern Sierran slopes as well as representatives of the Great Basin flora. Mammoth Creek flows through the property, with both permanent and intermittent springs within its boundaries.

SNARL encompasses 55 acres and is located within the Planning Area approximately eight miles southeast of the Town. The laboratory is located downstream from Convict Lake on a gently sloping alluvial fan. Elevations range from 7,075 to 7,125 feet amsl. Convict Creek provides a perennial water supply that contributes to SNARL's habitat diversity. Within SNARL, Convict Creek has a natural section and four controlled sections with dams and weirs. The flora of SNARL include species characteristic of mesic mountain habitats as well as xeric

Table 4.3-4

Status of Special Status Plants and Communities within the Planning Area

Species	Status					Habitat Associations
	ESA	CESA	CNDDB	CNPS	FS	
Plants						
Flatleaf pondweed *Potamogeton robbinsii*	None	None	G5 S2	2	None	Marshes and swamps, deepwater lakes.
Hockett Meadows lupine *Lupinus lepidus var. culbertsonii*	None	None	G3? T1 S1	1B	W	Upper montane coniferous forest meadows and seeps; 8,000-9,900'.
King's ivesia *Ivesia kingii var. kingii*	None	None	G3T2 S2	1B	None	Moist alkaline clay; 3,900-6,600'.
Lemmon's milk-vetch *Astragalus lemmonii*	SC	None	G3? S2	1B	None	Meadows, lake shores; 4,200–7,200'.
Long Valley milk-vetch *Astragalus johannis-howellii*	None	R	G2 S2	1B	W	Sagebrush flats; sandy loam soil. Usually found in swales in the vicinity of former or present hot springs activity; 6,900'.
Mono Lake lupine *Lupinus duranii*	SC	None	G2 S2	1B	W	Basin sagebrush scrub, upper montane coniferous forest; volcanic pumice substrate and barren soils, sandy and gravelly; 6,500-8,500'.
Mono milk-vetch *Astragalus monoensis var. monoensis*	SC	R	G2T2 S2	1B	S	Basin sagebrush scrub, piñon-juniper woodlands, upper montane coniferous forest; large, well-developed pumice flats, gravelly or sandy, and on road cuts; 7,500-7,900'.
Moonwort, crenulate *Botrychium crenulatum*	None	None	G3 S2	2	S	Lower montane coniferous forest meadows, marshes, and seeps.
Moonwort, grape-fern *Botrychium lunaria*	None	None	G5 S2?	2	None	Meadows and seeps; subalpine coniferous forest; upper montane coniferous forest; 7,400-11,200'.
Moonwort, mingan *Botrychium minganense*	None	None	G4 S1	2	None	Upper and lower montane coniferous forest ; 4,900-6,800'.
Moonwort, upward-lobed *Botrychium ascendens*	None	None	G2G3 S1	2	S	Lower montane coniferous forest (mesic).
Pine City sedum *Sedum pinetorum*	None	None	None	3	W	Rocky, open forest; 8,700'.
Pinzl's rockcress *Arabis pinzlae*	None	None	G2 S1	1B	S	Very steep north to east-facing avalanche chutes with deep sandy soil derived from granite; 9,800-11,600'.
Scalloped-leaved lousewort *Pedicularis crenulata*	None	None	G4 S1	2	None	Occurring under moist conditions in meadow and riparian habitats; 6,900-7,550'.
Seep kobresia *Kobresia bellardii*	None	None	S1	2	W	Subalpine-alpine meadows, mesic alpine fellfields and subalpine coniferous forest on carbonate substrates; 9,700-10,600'.

Table 4.3-4 (Continued)

Status of Special Status Plants and Communities within the Planning Area

Species	Status ESA	CESA	CNDDB	CNPS	FS	Habitat Associations
Shortleaf hulsea *Hulsea brevifolia*	None	None	G3 S3	1B	S	Lower and upper montane coniferous forest; granitic or volcanic, gravelly or sandy soils; 4,900-10,500'.
Subalpine fireweed *Epilobium howellii*	None	None	G1 S1	1B	S	Meadows and subalpine coniferous forest; wet areas and mossy seeps; 6,400-8,900'.
Plant Communities						
Mono pumice flat	None	None	G1 S1	None	None	Pumice substrate; Parry rabbitbrush (*Chrysothamnus parryi*) sole or dominant shrub in canopy; bitterbrush, big sagebrush, ephedras, and rabbitbrush may be present.
Water birch riparian scrub	None	None	G? S?	None	None	Habitats seasonally flooded, saturated. Water birch sole or dominant shrub or tree in canopy. Willow (*Salix* sp.) and cottonwood (*Populus* sp.) may be present. Shrubs and ground layer sparse.

Status Codes:

ESA *Endangered Species Act of 1972 as amended*
SC *Species of Concern. Species for which the U.S. Fish & Wildlife Service has information indicating that proposing to list them as threatened or endangered species may be appropriate.*
CESA *California Endangered Species Act*
R *California Listed Rare*
CNDDB *California Natural Diversity Data Base*
G, T, S-rank
CNDDB element ranking. The global rank (G-rank) is a reflection of the overall condition of an element throughout its global range, with G1 being the most rare and G5 the least rare. Subspecies receive a T-rank attached to the G-rank. The state rank (S-rank) is a reflection of the overall condition of an element throughout California, sometimes with a threat designation attached.
CNPS *California Native Plant Society*
1B *Plants rare, threatened, or endangered in California and elsewhere.*
2 *Plants rare, threatened, or endangered in California but more common elsewhere.*
3 *Need more information*
USFS *Inyo National Forest*
W *Watch Species*
S *Sensitive Species*

Sources: Habitat Analysis Branch, CDFG, 8/25/2003; CH2M Hill 2000; NatureServe Explorer 2003; RBF Consulting 2000; Paulus 2001; Sawyer and Keelor-Wolf 1995; USDA Forest Service 1998, 2003, Personal communication

desert sites. The laboratory includes the only locality known in California for the scalloped leaved lousewort (*Pedicularis crenulata*).

4.3.1.6. Noxious Weeds

For the purpose of this Revised Draft PEIR, noxious weeds are those plant species designated as "noxious" by federal or state law, and any nonnative plants with a high capacity for multiplication and spread, thereby posing a threat to native plants. Noxious weeds generally possess one or more of the following characteristics: aggressive and difficult to manage, poisonous, toxic, parasitic, a carrier or host of serious insects or disease, and generally nonnative. The Planning Area is part of the Eastern Sierra Weed Management Area (WMA). WMA's function under the authority of a mutually developed memorandum of understanding and are subject to statutory and regulatory weed control requirements.

Eradication programs are in place within the Municipal Boundary for dalmatian toadflax (*Linaria genistifolia ssp. dalmatica*), and spotted knapweed (*Centaurea maculosa*) (George Milovitch, personal communication). In addition, the potential spread of perennial pepperweed (*Lepidium latifolium*) is a serious concern. There have been spottings of perennial pepperweed in the vicinity of the Planning Area in Long Valley, Owens Valley, and Antelope Valley. Other noxious weed species, which are known to occur within Mono County, include the following: halogeton (*Halogeton glomeratus*), heart podded hoarycress (*Cardaria draba*), Klamathweed (*Hypericum perforatum*), and puncturevine (*Tribulus terrestris*).

In 1998, 14 introduced species were identified in Valentine Camp. Two of these species, common dandelion (*Taraxacum officinale*) and goat's beard (*Tragopogon dubius*), are known to be locally invasive and may pose a threat to the native flora (Howald 2000). In addition to common dandelion and goat's beard, four species listed as invasive in wildlands by the California Exotic Pest Plant Council were identified at SNARL: bull thistle (*Cirsium vulgare*), tumble mustard (*Sisymbrium altissimum*), tumbleweed (*Salsola tragus*), and woolly mullein (*Verbascum thapsus*) (Orr and Howald 2000).

4.3.2 REGULATORY FRAMEWORK

4.3.2.1 Federal Endangered Species Act / California Endangered Species Act

The Federal Endangered Species Act of 1973, as amended, provides the general regulatory framework for the protection of plant and animal species (and their associated critical habitats), which are formally listed as endangered, threatened, proposed, or candidate species

under the ESA. It is administered by the USFWS in consultation with other federal and state agencies.

The State of California enacted similar laws, the CESA in 1984 and the California Native Plant Protection Act of 1977. These laws provide the framework for protection of California-listed rare and endangered plant and animal species. The CDFG implements CESA, and maintains the CNNDB, a computerized inventory of information on the general location and status of California's rare species and natural biological communities.

The Federal and State Endangered Species Acts operate in conjunction with the CEQA and NEPA to help protect the ecosystems upon which endangered and threatened species depend. During project review, both implementing agencies are given the opportunity to comment on the potential of the project to affect listed plants and animals.

4.3.2.2 Other Statutes, Codes, and Policies Affording Limited Species Protection

CDFG Species of Special Concern

In addition to formal listing under ESA and CESA, plant and wildlife species receive additional consideration during the CEQA process. Species that may be considered for review are included on a list of Species of Special Concern, developed by the CDFG. The list tracks species in California whose numbers, reproductive success, or habitat may be threatened.

California Native Plant Society - Native Plant Species List

The CNPS is a professional society that maintains a list of plant species native to California with low numbers, limited distribution, or are otherwise threatened with extinction. The CNPS list does not afford legal status or protection for the species; however, potential impacts to populations of CNPS-listed plants that may not be considered under local policies receive consideration under CEQA review.

Migratory Bird Regulations

Raptors (birds of prey) and migratory birds are protected by a number of federal and state laws. The federal Migratory Bird Treaty Act (MBTA) prohibits the killing, possessing, or trading of migratory birds, except in accordance with regulations prescribed by the Secretary of Interior. With few exceptions most birds are considered migratory under the Act. The Bald Eagle Protection Act (PL 92-535) provides federal protection to the bald eagle and the golden eagle. Section 3503.5 of the California Fish and Game Code states that it is "unlawful to take, possess, or destroy any birds in the order *Falconiformes* or *Strigiformes* or to take, possess, or

destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto".

Timber Harvest

The removal of trees for commercial purposes is subject to regulations enforced by the CDF and Fire Protection.

Waters of the U.S.

Waters of the U.S. include a range of wet environments such as lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, and wet meadows. The Corps regulates discharge of dredged or fill material into waters of the U.S. under Section 404 of the CWA. Section 401 of the CWA (33 U.S.C. 1341) requires any applicant for a federal license or permit to conduct any activity that may result in a discharge of a pollutant into waters of the U.S. to obtain a certification that the discharge would comply with the applicable effluent limitations and water quality standards. If disruption of wetlands is to occur, a “no net loss” policy through the CWA must be adhered to and the Corps may require a Section 404 permit.

Streambed Alteration

The CDFG has jurisdiction under Section 1600 et seq. of the California Fish and Game Code over fish and wildlife resources of the state. Under Section 1603, a private party must notify the CDFG if a proposed project would "substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake designated by the department, or use any material from the streambeds... except when the department has been notified pursuant to Section 1601". If an existing fish or wildlife resource may be substantially adversely affected by the activity, the CDFG may propose reasonable measures that would allow protection of those resources. If these measures are agreeable to the party, they may enter into an agreement with the CDFG identifying the approved activities and associated mitigation measures.

4.3.2.3 Town Municipal Codes and Ordinances

The Town has adopted the following codes that provide protection to natural resources within Town limits.

- Chapter 6.24: Prohibits feeding of wildlife.
- Chapter 8.12: Requires Refuse Disposal
- Chapter 12.08 Land Clearing Earth Work and Drainage Facilities

- Chapter 17.34 Outdoor Lighting
- Chapter 17.28 Special Purpose Zones, Article VII, Open Space/ Stream Corridor Protection Zone
- Chapter 8.24. Reclamation
- Chapter 12.10 Floodplain Management)
- Chapter 15.36 Water Efficient Landscape Regulations

4.3.3 THRESHOLDS OF SIGNIFICANCE

An evaluation of impacts on biological resources must consider both the resource itself and how that resource fits into a regional and local context. Impacts are sometimes locally adverse but not significant because they would not substantially diminish or result in the permanent loss of an important resource on a population or region-wide basis.

Based upon Appendix G of the CEQA Guidelines, the project would be considered to have a significant impact on biological resources if the project would:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFG or the USFWS;
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the CDFG or the USFWS;
- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the CWA (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

4.3.4 IMPACTS AND MITIGATION

Issue 4.3-1: *Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFG or the USFWS?*

Discussion: Animal species having a special rarity status could be affected by a loss or fragmentation of habitat as a result of development in accordance with the Updated Plan. The CNDDB (2003) reported one special status animal species, great gray owl, known to occur within the Planning Area (see Figure 4.3-1). The great gray owl is listed as "Endangered" under CESA, and "Sensitive" by the Department of Forestry and the USFS (see Table 4.3-1). Other special status animal species that are known to occur within the Municipal Boundary and that may conservatively be considered to have potential habitat within the UGB based on the habitat associations presented in Table 4.3-2 are the following:

- American pine marten;
- Bald eagle;
- Sage Grouse;
- Golden eagle;
- Northern goshawk;
- Northern harrier;
- Pacific fisher;
- Prairie falcon;
- Sierra Nevada mountain beaver;
- Willow flycatcher; and
- Yosemite toad.

As discussed in the Existing Conditions Section above, sage-grouse habitat in the northeast portion of the Planning Area, adjacent to and north of the Mammoth-Yosemite Airport, has been assigned a high priority for protection within the South Mono Population Management Unit (PMU) because urbanization and changing land use is considered a potential risk for the South Mono PMU. The Updated Plan would not change the land uses at the Mammoth-Yosemite Airport, which is the only area under Town jurisdiction in the vicinity of the PMU. However, the patterns of use in the PMU have the potential to change as a result of indirect effects from an increase in population in the area. As shown in Table 4.3-1 there are 11 other species that are considered to have habitat within the Municipal Boundary. Only a limited amount of American Pine Martin, Bald Eagle, Great Gray Owl, Northern Goshawk, Sierra Mountain Beaver, and Willow Fly catcher habitat is located within the Urban Growth Boundary and is primarily located within Valentine reserve with isolated pockets along Mammoth Creek. Valentine reserve is a preserved habitat conservation area and a large portion of land adjacent to Mammoth Creek Park is also owned by the Town and preserved as open space for conservation purposes. Only the Northern Harrier has potential habitat in the Eastern Sierra College Center site, which is designated IP.

Plant species with a special rarity status could be affected by a loss of numbers or habitat due to development in accordance with the Updated Plan. The CNDDB (2003) reported one special status species, Mono Lake lupine (*Lupinus duranii*), known to occur within the Planning Area (Figure 4.3-1). Mono Lake lupine is listed as a "Species of Concern" under the ESA, "1B" by the CNPS, and a "Watch" plant by the USFS (see Table 4.3-3). Other special status species that are known to occur within the Municipal Boundary and that may conservatively be considered to have potential habitat within the UGB based on the habitat associations presented in Table 4.3-4 are the following:

- Crenulate moonwort (Botrychium crenulatum);
- Grape-fern moonwort (Botrychium lunaria);
- Mingan moonwort (Botrychium minganense);
- Upward-lobed moonwort (Botrychium ascendens);
- Pine City sedum (Sedum pinetorum);
- Pinzl's rockcress (Arabis pinzlae); and
- Subalpine fireweed (*Epilobium howellii*).

As shown in Table 4.3-3 there are eight other plant species that are located within the Municipal Boundary. However, based on the locations listed in Table 4.3-3 the potential of these species within the Urban Growth Boundary is very small.

Policies and Implementation Measures in the Updated Plan

The Updated Plan proposes the adoption of the following polices and implementation measures to reduce potential impacts to candidate, sensitive, or special status species:

I.1.B.d.1 The Town of Mammoth Lakes shall coordinate with the state Department of Fish and Game, U.S. Fish and Wildlife Service, and other appropriate agencies and maintain an up-to-date inventory of all Special Status Wildlife Species and Special Status Plants and Plant Communities within the Planning Area.

I.1.B.d.2 Species, habitat and natural community preservation/conservation strategies shall be prepared to protect special status plant and animal species and natural communities and habitats when discretionary development is proposed on lands with such resources.

I.1.B.d.3 The Town shall maximize the protection of primary wildlife habitats through public and/or private management programs, which may include: 1) the construction of active and passive recreation and development areas away from the habitat, and 2) use of fences, or other barriers and buffer zones.

I.1.B.d.4 Future development projects with the potential to significantly impact animal or plant habitats shall assess site-specific resource values and potential impacts where the habitats of special status plant and animals species are known to exist and provide a method of protecting, monitoring, replacing or otherwise mitigating the impacts of development in and around these sensitive habitats, as required by CDFG and Department of Fish and Game.

I.1.B.e.1 The Town shall require private landowners to adopt good wildlife habitat management practices, as recommended by California Department of Fish and Game officials.

I.2.A.a.1 New development will be carefully planned in areas known to have special value for wildlife and, where allowed, locate development so that a reasonable value of the habitat for wildlife is maintained.

IV.1.B.a.1 The Town shall work closely with private and public agencies such as Mono County, Inyo National Forest, Department of Fish and Game, Bureau of Land Management, and Mammoth Mountain Ski Area to ensure that the regional natural ecosystem is maintained.

VII.3.D.a.2 New roads and roadway improvements shall be located, designed constructed, and maintained in a manner that prevents adverse impacts to air quality, water quality, and significant biological and scenic resources.

Development associated with implementation of the Updated Plan would involve the redevelopment of land or the development of vacant lands within the UGB. The above policies and implementation measures would ensure that a current inventory of candidate, sensitive, or special status species would be maintained (I.1.B.d.1) and that the protection of sensitive sites would be maximized through public and private management programs (I.1.B.d.3). In addition, Implementation Measure I.1.B.d.4 would require a biological assessment for development projects. Such an assessment would identify sensitive species. The measure also requires the provision of protection or replacement of identified species that would be impacted so as to mitigate potential impacts. Therefore, with implementation of the above measures identified in the Updated Plan, impacts attributable to land and/or infrastructure development within the Urban Growth Boundary to species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFG or the USFWS would be reduced to a less than significant level.

In addition to the limited potential for direct impact on biological resources within the Urban Growth Boundary, the Updated Plan has potential for indirect impact upon resources

beyond the UGB and even the Planning Area. Such potential is associated with incidental contact or intrusion impacts produced by growing resident and visitor recreational activities in areas surrounding the UGB, particularly during non-winter months. While excessive use of these areas is not indicated at present, the project does provide for a considerable growth increment. While the peak people at one time data (PAOT) is dominated by wintertime visitation, increases in non-winter months must also be expected. In the absence of data clearly establishing otherwise, it is conservatively concluded that such increased wilderness and open lands usage as may be indirectly caused by the Updated Plan could have significant impact upon one or more of the special status wildlife or plants species previously listed in Table 4.3-1 and Table 4.3-3.

Mitigation Measures

With the implementation of measures contained in the Updated Plan, development under the Plan within the Urban Growth Boundary would not result in a significant impact to candidate, sensitive, or special status species. Therefore, no mitigation measures are required. Mitigation of potential indirect impact upon special status wildlife or plant species outside of the Urban Growth Boundary and, for the most part, beyond the Municipal Boundaries cannot be feasibly implemented in the context of the Updated Plan. The Town has no jurisdiction to implement mitigation beyond its boundaries, and policies or actions which restrict access to the areas in question conflict directly with other equally important policies to enhance recreational opportunities. Thus, no mitigation measures are recommended to address this potentially significant impact.

Level of Significance After Mitigation

Impacts related to candidate, sensitive, or special status species would be less than significant due to development within the Urban Growth Boundary~~, and~~ . ~~p~~Potentially significant and unavoidable impacts from contact intrusion due to Plan induced increases in recreational visitation to wilderness and open lands areas would occur.

Issue 4.3-2: *Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the CDFG or the USFWS?*

Discussion: Project implementation could impact riparian and other habitat areas in a number of ways. First, development in accordance with project provisions would result in the direct removal of native vegetation on construction sites. The majority of vegetation community types within the UGB are widespread and common to the eastern Sierra Nevada, and sensitive habitats would be subject to supplemental CEQA review and mitigation, if required. Project-related activities would also impact local habitat and invasive species management efforts

through the potential introduction of noxious weeds and pests into areas where surface disturbance results from new development or where straw bales are used to control erosion at construction sites. In addition, plant species that may be a threat to the native flora may be introduced in the form of horticultural cultivars used in landscaping. The effect of these indirect impacts would be minimized by the eradication programs conducted by the Eastern Sierra Weed Management Area, as well as objectives and policies within the project.

In addition, project implementation could have indirect impacts on habitat through Plan induced increases in wilderness and open land usage surrounding the Urban Growth Boundary, increased air emissions, recreational vehicle use on habitat areas, increased withdrawals of groundwater and surface water supplies, increased pollution of stormwater and runoff flows, and other related effects.

Policies and Implementation Measures in the Updated Plan

The Updated Plan proposes the adoption of the following policies and implementation measures to reduce potential impacts to riparian and other sensitive natural communities:

I.1.B.c.3 All feasible project modifications shall be considered to avoid wetland disturbance. Direct or indirect losses of wetlands and/or riparian vegetation associated with discretionary application approval shall be compensated by replacement, rehabilitation, or creation of wetlands habitat mitigation as approved by appropriate state and federal agencies.

I.1.B.d.1 The Town of Mammoth Lakes shall coordinate with the state Department of Fish and Game, U.S. Fish and Wildlife Service, and other appropriate agencies and maintain an up-to-date inventory of all Special Status Wildlife Species and Special Status Plants and Plant Communities within the Planning Area.

I.1.B.d.2 Species, habitat and natural community preservation/conservation strategies shall be prepared to protect special status plant and animal species and natural communities and habitats when discretionary development is proposed on lands with such resources.

I.1.B.d.3 The Town shall maximize the protection of primary wildlife habitats through public and/or private management programs, which may include: 1) the construction of active and passive recreation and development areas away from the habitat, and 2) use of fences, or other barriers and buffer zones.

I.1.B.d.4 Future development projects with the potential to significantly impact animal or plant habitats shall assess site-specific resource values and potential impacts where the habitats of special status plant and animals species are known to exist and provide a method of protecting, monitoring, replacing or otherwise mitigating the impacts of development in and around these sensitive habitats.

I.1.B.e.1 The Town shall require private landowners to adopt good wildlife habitat management practices, as recommended by the California Department of Fish and Game.

I.2.A.a.1 New development will be carefully planned in areas known to have special value for wildlife and, where allowed, locate development so that a reasonable value of the habitat for wildlife is maintained.

I.7.A.a.4 New development will use native and compatible non-native plant species, especially drought resistant species, to the extent possible when fulfilling landscaping requirements. Use of turf shall be limited to avoid or minimize adverse impacts on native trees.

IV.1.B.a.1 The Town shall work closely with private and public agencies such as Mono County, Inyo National Forest, Department of Fish and Game, Bureau of Land Management, and Mammoth Mountain Ski Area to ensure that the regional natural ecosystem is maintained.

VII.3.D.a.2 New roads and roadway improvements shall be located, designed constructed, and maintained in a manner that prevents adverse impacts to air quality, water quality, and significant biological and scenic resources.

As stated above, development associated with implementation of the Updated Plan would involve the redevelopment of land or the development of vacant lands within the UGB. The above policies and implementation measures would serve to establish a framework for addressing impacts to riparian habitat or other sensitive natural community. Implementation Measure I.1.B.c.3 requires that if riparian vegetation were to be impacted that replacement, rehabilitation or the creation of such vegetation be provided subject to the approval by state and federal agencies. In addition, the above policies and implementation measures would ensure the preservation of existing habitats and other sensitive natural communities through preservation and conservation strategies (I.1.B.d.2). In addition, Measure I.1.B.d.4 requires that an assessment of site-specific resource values be conducted for future development projects. The measure also requires the provision of protection, monitoring, replacing, or otherwise mitigating potential impacts in and around sensitive habitats. As such, with implementation of the above

measures identified in the Updated Plan, impacts to riparian habitats or other sensitive natural community due to development within the Urban Growth Boundary would be reduced to a less than significant level.

In addition, project induced increases in recreational wilderness and open lands usage surrounding the Urban Growth Boundary and other indirect effects would be expected to have less than significant impact on riparian habitat or sensitive natural communities. Such activities would only incrementally expand existing usage patterns which are generally respectful of these resources and do not substantively modify habitat.

Mitigation Measures

With the implementation of measures contained in the Updated Plan, the Plan would not directly or indirectly result in a significant impact to riparian habitat or other sensitive natural communities identified in local or regional plans, policies, or regulations or by the CDFG or the USFWS. Therefore, no mitigation measures are required.

Level of Significance After Mitigation

Impacts from the Updated Plan related to riparian habitats or other sensitive natural community would be less than significant.

Issue 4.3-3: *Would the project have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?*

Discussion: Maps provided by the National Wetlands Inventory identify wetlands within the Planning Area, Municipal Boundary and UGB. Therefore, development that would occur under the Updated Plan could directly and indirectly impact wetlands and other jurisdictional waters of the U.S. Direct impacts could occur if future development were to result in the elimination of wetland areas. Indirect impacts could occur if silt and other contaminants are deposited in wetlands via drainage from construction sites and developed areas. The U.S. Army Corps of Engineers regulates the fill of wetlands and other jurisdictional waters of the U.S. under Section 404 of the CWA. The CDFG recognizes wetlands for their value as high quality habitat for both plants and animals. Both agencies have policies of "no net loss" of wetlands.

On a local level, Section 12.08.050 of the Municipal Code prohibits the filling or draining of any wetland area without obtaining a permit from the appropriate agency. In addition, the Town has adopted Federal Emergency Management Agency (FEMA) requirements for setbacks within the floodplain, which would apply to the Mammoth Creek corridor. The required setback

would serve to protect biological resources. The Town would maintain its stream corridor preservation plan for the Mammoth Creek Corridor and all properties held by the Town along this corridor would be managed for open space, habitat preservation, and passive recreation.

Policies and Implementation Measures in the Updated Plan

The Updated Plan proposes the adoption of the following policies and implementation measures to reduce potential impacts to wetlands:

I.1.B.c.2 All activities within "jurisdictional" wetlands require a U.S. Army Corps of Engineers Section 404 Clean Water Act permit, California Regional Water Quality Control Board Clean Water Certification or Waiver, and shall notify the California Department of Fish and Game pursuant to Section 1600 and if necessary obtain a Lake and Streambed Alteration Agreement.

I.1.B.c.3 All feasible project modifications shall be considered to avoid wetland disturbance. Direct or indirect losses of wetlands and/or riparian vegetation associated with discretionary application approval shall be compensated by replacement, rehabilitation, or creation of wetlands habitat mitigation as approved by appropriate state and federal agencies.

I.1.B.g.3 Require new development in the vicinity of Mammoth Creek to maintain minimum setbacks and preserve stream-bank vegetation.

II.4.A.a.3 The Town shall retain, to the maximum practical extent, primary community water courses and bodies in their natural state, through criteria in the Town Development Code. Creek corridors should be carefully identified, corridor setbacks established, and strict regulations precluding riparian vegetation removal and creek regime modification should be followed.

IV.1.B.a.1 The Town shall work closely with private and public agencies such as Mono County, Inyo National Forest, Department of Fish and Game, Bureau of Land Management, and Mammoth Mountain Ski Area to ensure that the regional natural ecosystem is maintained.

VII.3.D.a.2 New roads and roadway improvements shall be located, designed constructed, and maintained in a manner that prevents adverse impacts to air quality, water quality, and significant biological and scenic resources.

Implementation Measure I.1.B.c.3 requires that direct or indirect losses of wetlands and/or riparian vegetation associated with discretionary applications shall be compensated by replacement, rehabilitation, or creation of wetland habitat as mitigation as approved by appropriate agencies. Any development associated with implementation of the project that would be located within the wetlands areas regulated by the U.S. Army Corps of Engineers, California Regional Water Quality Control Board, and California Department of Fish and Game would be subject to review by those agencies and would require the approval of those agencies. In addition, wetlands areas eliminated or otherwise impacted by implementation of the project would be compensated, such that wetlands would be replaced, rehabilitated, or recreated, subject to the approval by state and federal agencies. Therefore, with implementation of the above measures identified in the Updated Plan, impacts to federally protected wetlands would be reduced to a less than significant level.

Mitigation Measures

With the implementation of measures contained in the Updated Plan, the Plan would not result in a significant impact to federally protected wetlands. Therefore, no mitigation measures are required.

Level of Significance After Mitigation

Impacts from implementation of the Updated Plan related to federally-protected wetlands would be less than significant.

Issue 4.3-4: *Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?*

Discussion: The Updated Plan would allow for development of vacant lands as well as redevelopment of lands within the UGB. Development in accordance with the Updated Plan could potentially create barriers to wildlife movement and dispersal. However, the potential for development to impact wildlife migration corridors and wildlife movement would be limited since future development would be concentrated within the UGB.

The migratory route nearest to the UGB is utilized by the Mammoth Pass herd segment of the Round Valley Herd of mule deer. The route used by this herd segment heads westerly below Mammoth Rock south of the Urban Growth Boundary, passes through the Mammoth Lakes Basin, and then crosses over Mammoth Pass into the Middle Fork of the San Joaquin River drainage. Migrating deer from this herd segment may be impacted by increased traffic, which could result in an increase in road kills. Since development associated with the project

would only occur within the UGB, key habitat areas would not be impacted by surface disturbance resulting from residential development. As the number of residents increases, harassment by domestic pets and vehicular mortality may increase. However, these impacts would not significantly alter the herd's population in terms of numbers or sex and age ratios due to the size of the herd (approximately 2,700 deer) and the relatively small number of deer affected. Vehicular mortality is not believed to significantly alter the herd's population (CDFG et. al. 1986).

Project implementation would increase the risk of increased depredation associated with human encroachment into the habitat of mountain lions and black bears. Resulting impacts would be anticipated to include an increased habituation of bears to human food sources resulting in more frequent incidence of bears scavenging in garbage cans and wandering through residential neighborhoods or campsites with concomitant adverse impacts on the welfare of the bear population. An increase in predation on humans by mountain lions could occur in conjunction with the expanded development into mountain lion habitat. In California, there is an average of one mountain lion attack on a human every two years, and one resultant death every five years.[15]

Policies and Implementation Measures in the Updated Plan

The Updated Plan proposes the adoption of the following policies and implementation measures to reduce potential impacts to wildlife corridors and wildlife movement:

I.1.B.d.3 The Town shall maximize the protection of primary wildlife habitats through public and/or private management programs, which may include: 1) the construction of active and passive recreation and development areas away from the habitat, and 2) use of fences, or other barriers and buffer zones.

~~II~~I.1.B.e.1 The Town shall require private landowners to adopt good wildlife habitat management practices, as recommended by California Department of Fish and Game officials.

I.1.B.e.2 All town facilities shall be equipped with animal-resistant trash receptacles. The Town will work with private organizations and individuals, public agencies, and other stakeholders to assist in making sure that all trash enclosure and food storage areas are animal resistant.

[15] *http://tchester.org/sgm/lists/lion_attacks.html, updated February 4, 2005.*

I.1.B.e.3 Projects with features that have the potential to be attractive nuisances to wildlife shall include an assessment of the potential impacts from those features in the project analysis and proposed mitigation measures.

I.2.A.a.1 New development will be carefully planned in areas known to have special value for wildlife and, where allowed, locate development so that a reasonable value of the habitat for wildlife is maintained.

VII.3.D.a.2 New roads and roadway improvements shall be located, designed constructed, and maintained in a manner that prevents adverse impacts to air quality, water quality, and significant biological and scenic resources.

The introduction of new population associated with development could potentially impact wildlife species or established wildlife corridors. Specifically, there are 11 known special status animal species within the Municipal Boundary as listed on Table 4.3-1, along with the sage grouse which is listed as outside the Municipal Boundary but within the Planning Area. In addition, mountain lions and black bears have also been found to travel into the UGB. However, the implementation of wildlife management practices, coupled with the limitation of development to areas within the UGB, would reduce those impacts to a less than significant level. Moreover, future development projects would be reviewed so as to ensure that development would not interrupt wildlife or interfere with wildlife corridors. All projects are required to comply with Section 6.24 of the Municipal Code, which prohibits the feeding of wildlife.

Impacts on deer populations are considered less than significant because project implementation would not impact migration corridors, or substantially reduce populations, and fragmentation of habitat would be reduced by the fact that project development would remain within the UGB. Impacts associated with encroachment into bear habitat can be reduced to less than significant levels by the implementation measures mentioned above. In addition, Town facilities and new development would utilize animal-resistant trash receptacles as well as fences and other buffer zones to discourage the movement of wildlife into urbanized areas. The probability for an increase in potential attacks by mountain lions is considered low based on the number of such recorded incidents in California and therefore, is considered to be less than significant.

With implementation of the measures provided in the Updated Plan, impacts to the movement of any native resident or migratory fish or wildlife species, impacts to established native resident or migratory wildlife corridors, and impacts to the use of native wildlife nursery sites would be less than significant.

Mitigation Measures

In addition to the implementation measures stated above, the following mitigation measure is recommended to ensure that impacts to biological resources are reduced to a less than significant level.

4.3-1 The Town shall require developers of residential properties to include a disclosure statement that Mammoth Lakes is an area of habitat for mountain lions which indicates a potential risk, particularly to children and small pets.

Level of Significance After Mitigation

Impacts to the movement of any native resident or migratory fish or wildlife species, impacts to established native resident or migratory wildlife corridors, and impacts to the use of native wildlife nursery sites would be less than significant.

Issue 4.3-5: *Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?*

Discussion: The project is the Update of the Town's General Plan. As discussed above with regard to biological resources, the Updated Plan contains numerous policies and implementation measures to ensure the protection of biological resources within the Planning area. The Town currently has several codes that apply to development projects that provide protection to natural resources within Town limits. Municipal Code Chapter 6.24 prohibits feeding of wildlife. In addition, Municipal Code Chapter 8.12 requires proper refuse disposal so as to eliminate the availability of refuse for wildlife. Finally, Municipal Code 17.16.050 requires the preservation of trees and other vegetation.

The Updated Plan would not conflict with any adopted policy or ordinance regarding the protection of biological resources. Rather, it would supplement and strengthen existing Town policies and measures designed to protect those resources. In addition to the municipal codes referenced above, the Updated Plan contains measures to protect biological resources, and specifically provides for policies and implementation measures to protect native and large specimen trees. In fact, the Updated Plan would serve to implement additional measures to reinforce the Town's commitment to the preservation of biological resources and would provide additional protection for biological resources within the Planning Area. For example, Implementation Measure I.2.A.a.5 provides for the adoption of standards to protect trees and promote the health of the forest, which includes the replanting of native tree species removed as a result of land clearing during project construction. This measure is consistent with Municipal Code 17.16.050, which requires preservation of trees and other vegetation. Various other policies

and implementation measures contained in the Updated Plan that provide protection to biological resources include Implementation Measure I.1.B.f.1 to make every feasible effort to save large specimen trees and pursue aggressive replanting with native trees to retain the forested character of the Town. Measure I.2.A.a.3 allows new development to use clustering as feasible in order to retain and preserve existing trees and open space. Measure I.7.A.a.4 limits the use of turf to avoid or minimize impacts on native trees and encourages the use of native and compatible non-native plant species, especially drought resistant species, to the extent possible when meeting landscaping requirements. Therefore, the project would not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

Mitigation Measures

The Updated Plan would not conflict with any local policies or ordinances protecting biological resources. Therefore, no mitigation measures are required.

Level of Significance After Mitigation

The project would not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance. As such, no impacts would occur.

Issue 4.3-6: *Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?*

Discussion: There are no Habitat Conservation Plans nor Natural Community Conservation Plans in place within the Planning Area. Other approved plans that are in place within the Planning Area include the following:

- Draft Owens Basin Wetland and Aquatic Species Recovery Plan and Management Guidelines (USDI 1998). The recovery objectives stated in the plan are delisting the Owens pupfish, Owens tui chub, and the Fish Slough milkvetch, as well as protecting eight species of concern so that listing is unnecessary. Delisting criteria are established in the plan. The Hot Creek Fish Hatchery has been designated as critical habitat for the Owens tui chub. The project would not result in any of the activities described in the final rule that may adversely modify designated critical habitat as discussed in Section 4.3.1. This is because the Owens tui chub are found outside of the Urban Growth Boundary and no development under the Updated Plan is proposed outside the Urban Growth Boundary. Similarly, the project would not conflict with the management plans specific to the Conservation Areas identified in the plan.

- Sherwin Grade Deer Herd Management Plan (CDFG 1986). The goals of the management program are to maintain overall deer numbers, improve the condition of the range, and provide for high quality and diversified use of the Sherwin Grade deer (currently referred to as the Round Valley deer). The goal for habitat management of the Round Valley deer herd range is to maintain habitat quantity and quality adequate to support a population of 2,400 deer, with special emphasis on key summer, winter, and intermediate habitats. Other herd goals relate to composition and hunting harvest. Since development associated with the project would only occur within the UGB, key habitat areas would not be impacted by surface disturbance resulting from residential development. As the number of residents increases, harassment by domestic pets and vehicular mortality would increase. However, these impacts would not significantly alter the herd's population based upon number, sex and age ratios of the population and the relatively low incidence of, and effects of, vehicular mortality on the herd.
- Draft Recovery Plan for the Sierra Nevada Bighorn Sheep (*Ovis canadensis californiana*) (USFWS 2003). The objective of the recovery plan is to attain population sizes and geographic distribution of bighorn sheep in the Sierra Nevada that assure long-term viability of the overall population and thereby allow its delisting as an endangered species. Potential bighorn sheep habitat in the Sierra Nevada is divided into 17 herd units and four recovery units. Downlisting criteria is established in the plan. There are no populations, herd units, or recovery units within the Planning Area.
- Riparian Bird Conservation Plan for 14 Priority Riparian-Dependent Species (Riparian Habitat Joint Venture 2000). The Conservation Plan summarizes current scientific knowledge of the requirements or birds in riparian habitats. It provides recommendations for habitat protection, restoration, management, monitoring, and policy to ensure the long-term persistence or birds and other wildlife dependent on riparian ecosystems. The document focuses on the requirements of 14 bird species. As many as five of the 14 focal species may breed within the Planning Area. Development or human intrusion within riparian habitats may have adverse effects on the breeding success of these species. The plan contains objectives and policies in Section I.1.B and II.4.A that protect riparian communities.
- Greater Sage-Grouse Conservation Plan for the Bi-State Area of Nevada and Eastern California (Sage-Grouse Conservation Team 2004). The plan identifies the following general conservation strategies designed to conserve sage-grouse and sage-grouse habitat: 1) population and habitat management; 2) habitat enhancement and rehabilitation; 3) education and outreach; and 4) regulations and policies. Sage-grouse habitat in the northeast portion of the Planning Area has been assigned a high priority for protection within the South Mono Population Management Unit. Urbanization and changing land use is considered a potential risk for the South Mono PMU.

As indicated above, the Updated Plan contains measures to protect biological resources and would serve to implement additional measures to reinforce the Town's commitment to the preservation of biological resources and would provide additional protection for biological resources within the Planning Area. The Updated Plan would not conflict with any approved local, regional or state habitat conservation plan.

Mitigation Measures

The project would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. Therefore, no mitigation measures are required.

Level of Significance After Mitigation

The Updated Plan would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. Therefore, impacts with regard to other such plans would be less than significant. Incorporation of the policies and implementation measures above would reduce impacts to biological resources to a less than significant level.

4.4 GEOLOGY, SEISMICITY, SOILS, AND MINERAL RESOURCES

This section addresses geologic hazards in the Town of Mammoth Lakes. Topography, geology, faulting, seismicity, volcanoes, and soils are summarized as the basis for discussion of geotechnical constraints associated with implementation of the proposed General Plan Update.

4.4.1 EXISTING CONDITIONS

4.4.1.1 Regional Geology

The Sierra Nevada is the largest continuous mountain range in the contiguous United States. The range is bounded on the east by a system of normal faults, which locally produced the escarpment separating the Sierra Nevada fault block from the Owens Valley. The Owens Valley, formed on the downfaulted east side of the Sierra Nevada boundary fault system, exhibits many examples of ongoing geologic processes including lava fields, cinder cones, fault scarps, hot springs, abandoned lake shorelines, volcanic calderas, and glacial deposits.

The Town of Mammoth Lakes is located near the southwest edge of the Long Valley Caldera, which overprints the Sierra Nevada boundary fault system. Persistent earthquake and volcanic activity over the past four million years have formed the eastern Sierra landscape in the vicinity of Long Valley Caldera and the Mono Basin. The high mountains around Mammoth constitute the caldera walls with the Glass Mountains forming the west and southwest walls and the Benton Range forming the east wall. Near the center of the caldera and off to the west is a system of hills that marks the remnants of the resurgent dome (dome-shaped uplift of the caldera floor caused by volcanic or seismic activity). Mammoth Mountain is a smaller dome on the rim of the caldera formed by repeated eruptions from vents on the southwest rim of the caldera 220,000 to 50,000 years ago. The caldera and other geologic features such as Devil's Postpile, Mammoth Rock, and Crystal Crag are evidence that the region around the Town is geologically young with an active recent history.

Although much attention has been focused on the Long Valley caldera resurgent dome and on associated volcanic hazards at Mammoth Mountain, little is known about the details of the most recent (latest Pleistocene to Holocene) eruptions in the greater Long Valley caldera complex, specifically in the Mono and Inyo Craters chain. In general, activity within the resurgent dome has not been linked with the formation and later eruptions of the Mono and Inyo Craters; however, there may be evidence to connect the two.

The eruptions that created the Long Valley Caldera were fed by a large magma chamber in the shallow crust, which culminated in the cataclysmic eruption of 150 cubic miles of rhyolite 760,000 years ago. This massive eruption resulted in the 6,000 to 10,000 foot subsidence of the magma chamber roof to form the present 20-mile long and 9-mile wide oval depression of the Long Valley Caldera (USGS 1999). Despite recent activity in the resurgent dome east of Mammoth Mountain, the resurgent dome has experienced eruption only once every 100,000 to 200,000 years since the catastrophic caldera-forming event 760,000 years ago, and it last erupted roughly 50,000 years before present (B.P.). During the past 3,000 years the Mono-Inyo Craters have erupted at intervals of 700 to 250 years, the most recent eruptions being from Panum Crater and the Inyo Craters 500 to 600 years ago (Miller 1985; Bursik and Sieh 1986), and Paoha Island about 250 years ago (Stine 1990). Evidence from both seismic soundings of the crust and studies of the fabric and composition of the lava indicate that these eruptions probably originated from small, discrete magma bodies rather than from a single, large magma chamber of the sort that produced the caldera-forming eruption 760,000 years ago.

During the past 3,000 years, glaciers have formed and melted several times in the eastern Sierra. The tillites preserved in the Town represent younger Pleistocene glacial deposits including the Tahoe till, the Tioga till, and related outwash deposits of gravel and sand swept away from the glacial margins by meltwater streams.

In 1982, the United States Geological Survey (USGS) under the Volcano Hazards Program began an intensive effort to monitor and study geologic unrest in the Long Valley caldera. The goal of this effort was to provide residents and civil authorities in the area reliable information on the nature of the potential hazards posed by this unrest and timely warning of an impending volcanic eruption, should it develop. Most, perhaps all, volcanic eruptions are preceded and accompanied by geophysical and geochemical changes in the volcanic system. Common precursory indicators of volcanic activity include increased seismicity, ground deformation, and variations in the nature and rate of gas emissions.

4.4.1.2 Mineral Resources

Mineral resources in the Planning Area include industrial minerals (clay, aggregate, cinders, etc.) and precious metals associated with volcanic rocks and hot spring and geothermal activity. Figure 4.4-1 on page 4-95 depicts the distribution and extent of these resources within the Planning Area. As can be seen in Figure 4.4-1, a deposit of precious and base metals is located within the Municipal Boundary in the southern portion of the Town. A geothermal lease area is located in the northeastern portion of the Town and in the northern and central portion of the Planning Area. A deposit of aggregate and a deposit of precious metals are located in the eastern portion of the Planning Area to the north of the Mammoth-June Lakes Airport. There are no cinders within the Planning Area. Cinders used in the area are imported from Mono Basin.

Town of Mammoth Lakes

Explanation

- Planning Area
- Municipal Boundary

RESOURCE

- Aggregate
- Clay
- Geothermal Lease
- Precious Metals
- Precious and Base Metals

N

0 4,000 8,000 Meters

Base Map: Benton Range and Yosemite Valley 100k Quadrangles

Source: USFS Leases; Town of Mammoth Lakes Updated Plan, 2005

Figure 4.4-1 Mineral Resources Map

4.4.1.3 Soils

The Town is underlain by a variety of rock types, including Pliocene to Recent volcanic and pyroclastic deposits (12 million years old to less than 10,000 years old), Pleistocene glacial deposits (2.5 million to 10,000 years old), and Holocene alluvium (less than 10,000 years old). Soils are derived from these geologically recent deposits.

Soils in the Planning Area are characterized as Frigid and Cryic based on a four square mile survey, including the Town, by the USDA, Natural Resource Conservation Service (2002). The soils are typically gravelly loams with low water capacity generally developed on glacial outwash south of Mary Lake Road and on glacial moraines to the north. The soils in the survey area are sensitive to disturbances by development and have a moderate to high erosion potential, depending on the steepness of the slopes.

Soils derived from alluvial deposits are located in Sherwin Meadows, in the extreme eastern portion of the Planning Area, and north of the Mammoth Ranger Station. In general, the deepest soils are derived from water lain sediments deposited in relatively gentle terrain and are among the least erosion sensitive soils in the Planning Area.

Colluvial deposits located on the slopes of Mammoth Mountain and Mammoth Rock are generally loose unconsolidated material on slopes in excess of 30 percent. These deposits and the soils they support have moderate to high erosion and landslide potential.

4.4.1.4 Topography

The land surface of the Town rises irregularly, but gently, toward the southwest from approximately 7,910 feet amsl near the intersection of Joaquin Road and Main Street to approximately 8,070 feet amsl near Camp High off Lake Mary Road. Topographic expression ranges from level to rolling alluvial plains at about 7,200 feet amsl in Long Valley, to approximately 11,600 feet amsl at Mammoth Mountain Summit, west of Mammoth Lakes. Slope gradients in the Town range from relatively flat terrain in Sherwin Meadow and Long Valley to slopes of 50 percent or greater on Mammoth Mountain. Slopes exceeding 30 percent are found in portions of Old Mammoth (particularly the Bluffs area), Mammoth Slopes, Westridge and the Mammoth Knolls.

4.4.1.5 Volcanism

At least 30 volcanic events have occurred during the past 2,000 years in the Mono Lake Long Valley area, including at least ten eruptions in the Mono Inyo volcanic chain during the past 600 years. Actual volcanic eruptions in the vicinity of the Town have not occurred in

historic times. The most recent eruption in the region occurred in 1890 beneath the southern portion of Mono Lake, approximately 35 miles north of the Town. Another eruption occurred in approximately 1,400 A.D. within four miles of the Town at the southernmost Inyo Crater. Both eruptions were phreatic in type (i.e., they produced steam, water, mud, and other gasses and materials, as a result of ground water being heated by magma). The Mono and Inyo Craters comprise a young volcanic chain with a violent history, and there is strong evidence that another eruption in the region is very likely in the thousands of years.

Recently, the occurrence of Richter magnitude 6 earthquakes in May of 1980 initiated a new phase of magmatic activity and heightened potential for volcanic eruptions. Since the early 1980s, persistent, frequent low magnitude (Richter magnitude less than 3.0) seismic activity has indicated that magma is moving at depth. Detailed surveys indicate that the central portion of the Long Valley Caldera has risen more than 30 inches since the late 1970s, possibly in response to the filling of a shallow magma chamber. In 1990, it was recognized that magmatic gasses were killing trees in certain portions of the caldera. The trees were killed by high carbon dioxide content in the soil gasses surrounding their roots. The most well known location of high carbon dioxide soil gas is at the north end of Horseshoe Lake where scientists estimate that between 50 and 150 tons of carbon dioxide are emitted daily (USGS 2001).

4.4.1.6 Seismicity

The Mono Lake Long Valley region is part of one of the most active seismic regions in the U.S. Low and moderate magnitude earthquakes occurring within the Long Valley Caldera are felt occasionally by residents of Mono and Inyo Counties. The two main sources of earthquakes in the Mono Lakes area are tectonic and those generated by the movement of magma or the formation of cracks through which magma can move. Tectonic earthquakes occur from rapid displacement on faults as a result of regional geologic stresses. Earthquakes from magmatic activity rarely have Richter magnitudes greater than 5.0 (USGS 2000).

4.4.1.7 Geotechnical Hazards

Several types of potential geologic hazards may occur in the vicinity of the Town that could affect existing and future land uses within the Planning Area. These hazards are not all of equal severity and would not affect land uses in the Planning Area to the same extent. These potential hazards include slope instability, erosion, seismicity, and various volcanic events as discussed below.

Slope Stability Hazards

Regional Hazards: Landslides, earthslips, mudflows, and soil creeps are expressions of soil conditions related to the instabilities created by steep slopes. These conditions are also related to shallow soil development, the presence of excess water, or the lack of shear strength in the soil or at the soil/rock interface. Each of these conditions has been observed in Mono County; however, it is usually reported simply as a landslide. Earthquake activity induces some landslides, but most slides result from the weight of rain saturated soil and rock exceeding the shear strength of the underlying material. Erosion of supporting material at the foot of constructed slopes is another major cause of sliding.

Local Hazards: The moraines[16] south, west, and north of the Town are considered unstable, partly because they contain irregular deposits of clay that lack the strength to stand in steep slopes. Moraines in the center of the Town and to the east are considered generally stable, unless they are underlain by shallow groundwater because of the relatively low topography in this area. The southwest portion of the Lodestar project area has the potential for shallow groundwater; however, no groundwater was encountered in the 12 and 13 foot deep test pits dug in this area in 1976 (Lodestar Company 1991). Slope stability problems are primarily limited to steeper slopes, particularly those with significant talus accumulations. The stability of moraines in the Planning Area is variable.

Erosion Hazards

Erosion potential is variable throughout the Town. The highest erosion potential occurs in loose and/or shallow soils on steep slopes. As discussed in the Lodestar at Mammoth Final EIR, some areas consist of outwash and till including the Westridge, Mammoth Slopes, Main Street Commercial, Old Mammoth Commercial, Minaret, Meridian, Snowcreek, Sierra Valley and Gateway Planning Districts. The portions of the Town where loose, sandy soils occur are subject to erosion, when the surface area is disturbed or vegetation is removed. Under existing conditions in the Town, erosion potential of overland flow from snowmelt and rainfall runoff is reduced by ground cover, fallen leaves and needles, or the root systems of living trees.

Seismic Hazards

The Town could experience considerable seismic activity in the future due to a number of reasons that include the following: 1) a high degree of crustal faulting in the Mono Lake and Long Valley area, which may lead to the release of tectonic strain by frequent small or moderate

[16] *Moraines are the rocks and soil carried and deposited by a glacier. An "end moraine", either a ridge or low hill running perpendicular to the direction of ice movement, forms at the end of a glacier when the ice is melting.*

earthquakes; 2) the present frequent moderate earthquakes and earthquake swarms along the Sierra Front fault, which indicate the potential for a large earthquake; and 3) movement of magma beneath the caldera, which may be the cause of seismic events below the Long Valley Caldera.

The California Division of Mines and Geology has included the Town within seismic zone III in the Urban Geology Master Plan with an expected modified Mercali Rating of "IX" or "X" at maximum earthquake intensities. [The "IX" Mercali rating indicates that heavy damage to unreinforced structures would result and some structures would collapse. The "X" rating indicates that most masonry structures would be destroyed, some well built wooden structures would be destroyed, and public facilities would be damaged.]

Regional Seismic Activity: There are several active and potentially active fault zones within 60 miles of the Town. These zones include faults that are historically active (during the last 200 years), those that have been active in the Holocene (the last 10,000 years), and those that have been active at some time during the Quaternary Period (the last two million years). The Mono Lake, June Lake, and Hilton Creek faults form the northern extension of the Sierra Nevada Boundary fault system and are historically active. The southern extension of the Sierra Nevada Boundary fault system includes the main trace of the Sierra Nevada fault and the historically active Owens Valley fault. Holocene faults occur as branches within major active fault zones and as segments of other faults in Mono and Inyo Counties. The Bodie Hills, White Mountains, Death Valley Furnace Creek, and Saline Valley faults have been classified as Quaternary and display no recent offset.

Local Seismic Activity: Seismic activity in the vicinity of the Town is a result of continuing tectonic movement along the eastern front of the Sierra Nevada Mountain Range. Three historically active faults located in proximity to the Town have the greatest potential to create significant ground shaking in the Town. These faults include the Hilton Creek fault (1980 earthquake), the Owens valley fault (1972 earthquake) and the Chalfant Valley fractures (1986 earthquake). These three faults, as well as six other potentially active faults that have the potential for ground shaking within the Town, are described below. (See Figure 4.2.2; distances provided are measured from the Town.)

Hilton Creek Fault - The main shocks (Richter magnitude greater than 6.0) of the Mammoth Lakes earthquakes of May 1980 are attributed to movement on the Hilton Creek fault. At its nearest point, the Hilton Creek fault (including the northern splays) is located approximately 10 miles east of the Town. This fault has the greatest potential for ground shaking in portions of the Planning Area because of its close proximity to the Town and historic seismic activity.

In 1998 and 1999 three earthquakes with Richter magnitudes greater than 5.0 occurred on an unnamed north northeast trending fault zone west of the Hilton Creek fault. The sequence of earthquakes and their associated aftershocks appeared to propagate in a southerly direction away from the Town.

Owens Valley Fault - The Owens Valley fault is a major component of the Sierra Nevada boundary fault system. It extends from Coso Junction on the south to near Bishop on the north, a length of 56 miles. At its closest point, the Owens Valley fault is approximately 48 miles south of the Town.

Chalfant Valley Fractures - The Chalfant Valley fractures, at their closest point, are approximately 36 miles east of the Town.

Other Faults - Of the 37 active or potentially active faults within approximately 62 miles of the Town, the three historically active faults that have the greatest potential to cause seismic hazards in the Town are described above. However, six other potentially active faults that may have the potential for ground shaking in the Town include the following:

- Hartley Springs Fault (approximately four miles northwest);
- Laurel Convict Fault (approximately four miles southeast);
- Long Valley Caldera Faults (approximately two miles northwest);
- Mono Craters Caldera Faults (approximately 13 miles northwest);
- Silver Lake Fault (approximately ten miles northwest); and
- Wheeler Crest Fault (approximately 20 miles southeast).

The Long Valley Caldera lies along the Sierra Nevada Boundary fault system, overprinting the geographic and geologic boundary between the Sierra Nevada Mountain Range and the Owens Valley. Some of the faults along the western boundary of the caldera may now be considered part of the Sierra Nevada Boundary fault system and serve to link the Hilton Creek fault system to the south with the northern continuation of the Sierra Nevada Boundary fault system, the Silver Lake fault system to the north. These faults pass under Mammoth Mountain, within two miles of the Town (Figure 4.4-2 below).

Other geotechnical hazards: Other geotechnical hazards may result from seismic activity. These related hazards include surface rupture, ground shaking, landslides, liquefaction, and seiche inundation as described below.

Surface Rupture - Damage due to surface rupturing is limited to the actual location of the fault line break, unlike damage from ground shaking, which can occur at great distances from the fault. The potential for surface rupture in the Town is considered to be low.

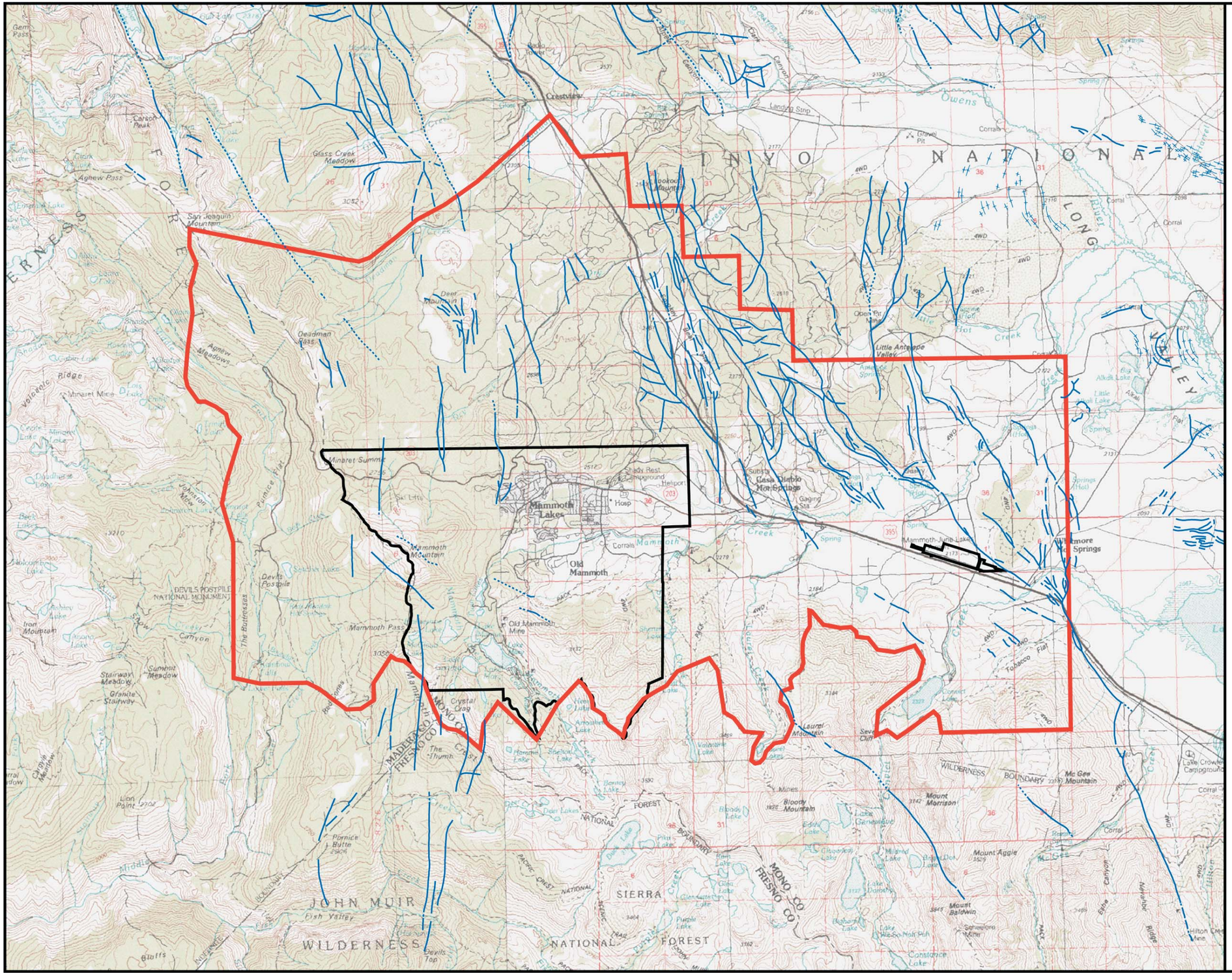


Figure 4.4-2 Regional Fault Map

Ground Shaking - As a general rule, the severity of ground shaking increases with proximity to the epicenter of the earthquake. Since the Town has primarily very low to moderate instability, the possibility of ground shaking is low.

Landslides - Landslides move under the force of gravity and are affected by the type of earth materials involved, the internal friction of the slide mass, and the slope over which the mass is moving. Triggering events for landslides include earthquakes, heavy precipitation, natural erosion, and earthwork/grading.

Liquefaction - Another response to severe ground shaking that can occur in loose soils is liquefaction. Liquefaction occurs in areas with shallow groundwater and where finer grained sands make up a significant part of the near surface (less than 30 feet amsl) soil section. Within Mammoth Lakes, areas of alluvium and moraine material with shallow groundwater have the potential for liquefaction.

According to the Lodestar EIR (1991), some areas within the Town are composed of glacial outwash and till including the Westridge, Mammoth Slopes, Main Street Commercial, Old Mammoth Commercial, Minaret, Meridian, Snowcreek, Sierra Valley and Gateway Planning Districts. Areas subject to liquefaction because of fine-grained alluvium are in the low areas including Sherwin Meadows, areas to the north and south of the Old Mammoth District, and to a lesser extent, an area of shallow groundwater near the Meridian Boulevard and Minaret Road. Based on the character of surface and subsurface soil and depth to groundwater, there appears to be little potential for liquefaction in the Town.

Seiche Inundation - A hazard associated with seismicity near large bodies of water in mountainous regions is the generation of seiches, commonly known as sloshing or surge waves, As no large bodies of water exist in or adjacent to the Town**,** seiche inundation is not a seismic concern in the area.

Volcanic Hazards

At least 30 volcanic events have occurred during the past 2,000 years in the Mono Lake-Long Valley area, including at least ten eruptions in the Mono-Inyo volcanic chain during the past 600 years. The Long Valley Caldera may be a center of volcanically-related seismic activity. Earthquake swarms and surface rupturing in the caldera are accompanied by uplift and deformation that have increased concerns about the possibility of renewed eruptive activity.

The possibility of such an occurrence in the Mono-Long Valley area has resulted in increased monitoring of seismic and non eruptive volcanic activity, and in increased efforts by local, state, and federal offices to prepare emergency response plans. The potential hazards from

future eruptions of volcanoes in the area are being studied by the USGS and they have estimated the chances of an eruption in the Planning Area in any given year a small possibility. The Safety Element of the Mono County General Plan (1993) indicates a one in a 1,000 annual likelihood of volcanic eruption in the vicinity of the Town.

Carbon Dioxide

Since 1980 scientists have monitored geologic unrest in the Long Valley Caldera. After a persistent swarm of earthquakes beneath Mammoth Mountain in 1989, geologists discovered large volumes of carbon dioxide gas likely derived from magma (molten rock). High concentrations of carbon dioxide in soil can kill the roots of trees. In addition, carbon dioxide gas is heavier than air and when it leaks from the soil it can collect in snow banks, depressions, and poorly ventilated enclosures, such as cabins and tents, posing a potential hazard to humans and animals.

4.4.2 REGULATORY FRAMEWORK

4.4.2.1 California's Alquist-Priolo Earthquake Fault Zoning Act

California's Alquist-Priolo Earthquake Fault Zoning Act (PRC Sec. 2621 et seq.), originally enacted in 1972 as the Alquist-Priolo Special Studies Zones Act and renamed in 1994, is intended to reduce the risk to life and property from surface fault rupture during earthquakes. The Alquist-Priolo Act prohibits the location of most types of structures intended for human occupancy across the traces of active faults and strictly regulates construction in the corridors along known, active faults (earthquake fault zones). It also defines criteria for identifying active faults, giving legal weight to terms such as active, and establishes a process for reviewing building proposals in and adjacent to earthquake fault zones. Under the Alquist-Priolo Act, the California Geological Survey (previously known as the Division of Mines and Geology) maps the location of earthquake faults and establishes earthquake fault zones along faults that are "sufficiently active" and "well-defined." The resultant Alquist-Priolo maps are distributed to local governments who implement the provisions of the act to restrict construction along or across faults. A fault is considered sufficiently active if one or more of its segments or strands shows evidence of surface displacement during Holocene time (defined for purposes of the Act as referring to approximately the last 11,000 years). A fault is considered well-defined if its trace can be clearly identified by a trained geologist at the ground surface or in the shallow subsurface, using standard professional techniques, criteria, and judgment (Hart and Bryant 1997).

4.4.2.2 Seismic Hazards Mapping Act of 1990

Like the Alquist-Priolo Act, the Seismic Hazards Mapping Act of 1990 (PRC Sec. 2690-2699.6) is intended to reduce damage resulting from earthquakes. While the Alquist-Priolo Act addresses surface fault rupture, the Seismic Hazards Mapping Act addresses other earthquake-related hazards, including strong groundshaking, liquefaction, and seismically induced landslides. Its provisions are similar in concept to those of the Alquist-Priolo Act: the California Geological Survey is charged with identifying and mapping areas at risk of strong groundshaking, liquefaction, landslides, and other corollary hazards, and cities and counties are required to regulate development within mapped Seismic Hazard Zones.

Under the Seismic Hazards Mapping Act, permit review is the primary mechanism for local regulation of development. Specifically, cities and counties are prohibited from issuing development permits for sites within Seismic Hazard Zones until appropriate site-specific geologic or geotechnical investigations have been carried out and measures to reduce potential damage have been incorporated into the development plans.

4.4.2.3 Surface Mining and Reclamation Act

The Surface Mining and Reclamation Act (SMARA) was enacted for the dual purposes of identifying and mapping economically valuable mineral resources (including gold, sand, and gravel), and establishing a regulatory framework for the operation and eventual reclamation of surface mining operations. Pursuant to SMARA, and within budget constraints, the State Mining and Geology Board has mapped the location of mineral resources throughout much of the developed portions of the state. The value of these resources is identified through the particular mineral resource zone (MRZ) category applied to it by the State Geologist. The Town is the responsible agency for the implementation of the SMARA within its municipal boundaries.

Lands designated MRZ-l do not contain any significant mineral resources. MRZ-2 lands contain significant mineral resources. The MRZ-3 and MRZ-4 zones are used for lands where the mineral resource significance is unknown or undetermined. Projects affecting MRZ-2 lands are subject to the SMARA's policies that are intended to protect such resources by requiring consideration of the resources prior to development.

4.4.2.4 California Building Standards Code

The State of California's minimum standards for structural design and construction are given in the California Building Standards Code (CBSC) (CCRs, Title 24). The CBSC is based on the Uniform Building Code (UBC) (International Conference of Building Officials 1997), which is used widely throughout United States (generally adopted on a state-by state or district-

by-district basis), and has been modified for California conditions with numerous, more detailed and/or more stringent regulations.

The CBSC requires that "classification of the soil at each building site... be determined when required by the building official" and that "the classification... be based on observation and any necessary test of the materials disclosed by borings or excavations." In addition, the CBSC states that "the soil classification and design-bearing capacity shall be shown on the (building) plans, unless the foundation conforms to specified requirements." The CBSC provides standards for various aspects of construction, including but not limited to excavation, grading, and earthwork construction; fill placement and embankment construction; construction on expansive soils; foundation investigations and liquefaction potential; and soil strength loss. In accordance with California law, project design and construction would be required to comply with provisions of the CBSC.

4.4.2.5 Mammoth Lakes Municipal Code

The Town Municipal Code Section 12.08.076 requires that grading may be conducted under the following permits within the limits of each: 1) a letter of exemption, for minimal work; 2) a building permit, allowing grading within the footprint and as needed for the foundation excavations; and 3) a grading permit, for all other conditions. Municipal Code Section 12.08.080 requires engineered plans and a soils report to be submitted with an application for a grading permit.

The Town Municipal Code Section 17.16.050 (Grading and Clearing) enforces the preservation of trees and other vegetation. The code requires that in all residential zones, no lot may be graded or vegetation cleared until such action is shown on and consistent with an approved development plan or building permit. Development includes public improvements required by parcel and tract maps, use permits, grading permits and encroachment permits. Grading is limited to that area required for construction of the structure, utilities, driveways and access to one primary entrance of the structure which is provided for resident and guest access. Front, side and rear yards may not be graded or cleared except to provide for (1) the above construction and access requirements, (2) limited additional access to the front (streetside) of the structure, (3) snow storage, and (4) landscaping which is exempt from grading and clearing regulations identified in Title 12 of the Municipal Code, or (5) as approved under a design review process. The code requires that existing trees and vegetation be preserved to the maximum extent possible. No live trees over six inches in diameter can be removed without prior approval of the planning director. Approval to remove a tree is based on the health of the tree(s), the necessity to remove the tree(s) because of building or driveway construction or snow removal/storage, potential hazard or solar access. Creation of views, lawns or similar amenities is not considered sufficient cause to remove native trees. Replacement planting for tree removal can be required to mitigate the removal of a tree. Required replacement shall not exceed a total

trunk diameter equal to that removed and shall be limited to plantings in areas suitable for tree replacement.

The Town Municipal Code Section 8.26.030 requires that a reclamation plan be approved for the extraction, processing, or other mining operations within the town boundaries. A use permit for mining operations is required if the Town has jurisdiction over the land and a mining operations permit is required if the Town lacks full land use and zoning authority.

Chapter 15 of the Town Municipal Code requires that all structures within the boundaries of the town shall be designed to the requirements of Seismic Zone 4 as defined in the Uniform Building Code. One-third of the design snow load shall be added to the deadload for seismic design. In addition, a building permit is required for retaining walls exceeding four feet in height or retaining walls supporting any surcharge or special loads. Such walls are to be designed by a professional engineer licensed in the state.

4.4.2.6 Town Emergency Operations Plan

The Town maintains an Emergency Operations Plan (2001), which sets forth the responsibilities, functions, and operations of the Town government and its interrelationship with other agencies and jurisdictions which provide services during an emergency**.** The Emergency Operations Plan addresses earthquakes, volcanic activity, flooding, rapid snowmelt, fire, avalanches, landslides, transportation incidents, hazardous materials releases, medical emergencies, social unrest, terrorism, and war. The Plan meets the State's Standardized Emergency Management System (SEMS) and is updated regularly.

4.4.3 THRESHOLDS OF SIGNIFICANCE

Based primarily on Appendix G of the CEQA Guidelines, the Project would be considered to have a significant impact on geology and soils if the project would:

- Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:
  a. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault;
  b. Strong seismic ground shaking;
  c. Seismic-related ground failure, including liquefaction;
  d. Landslides;
  e. Volcanic activity; or
  f. Carbon dioxide.

- Result in substantial soil erosion or the loss of topsoil;
- Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse;
- Be located on expansive soil, as defined in Table 18-1-B of the UBC (1994), creating substantial risks to life or property;
- Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water; or
- Result in the loss of availability of a known or locally important mineral resource.

4.4.4 IMPACTS AND MITIGATION

Issue 4.4-1: *Would development associated with implementation of the Updated Plan expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:*

a) Rupture of a known earthquake fault, as delineated on the most recent Alquist Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault;
b) Strong seismic ground shaking;
c) Seismic related ground failure, including liquefaction;
d) Landslides;
e) Volcanoes; or
f) Carbon dioxide?

Discussion: The community and surrounding area have been subject to volcanic activity for approximately 3.2 million years. Due to the Town's close proximity to the Hilton Creek Fault, Owens Valley Fault, and Chalfant Fractures, a major earthquake occurring in the Planning Area may be expected to produce moderate to extreme groundshaking and lurching.

Based on the character of surface and subsurface soil and depth to groundwater, there appears to be little potential for liquefaction in the Town. Within Mammoth Lakes, areas of alluvium and moraine material with shallow groundwater have the potential for liquefaction. Areas subject to liquefaction because of fine-grained alluvium are in the low areas including Sherwin Meadows, areas to the north and south of the Old Mammoth District, and to a lesser extent, an area of shallow groundwater near the Meridian Boulevard and Minaret Road.

Landslides are limited primarily to areas with a combination of poorly consolidated material and slopes that exceed 30 percent. While slopes with these gradients are found in

portions of Mammoth Knolls, Mammoth Slopes, and areas of Old Mammoth, there is no record of landslide activity in the Town.

Geotechnical hazards in the Planning Area related to volcanic activity are possible based on geologic history. Twenty eruptions at Mono Craters within the last 10,000 years have been dated through either radiocarbon or obsidian hydration analysis (Wood 1984). Two extensive pumice deposits, which blanket much of the eastern sierra region, have been dated at 640 and 1190 years B.P. (Wood 1977). The behavior of the Mono-Inyo Volcanic Chain during the last 10,000 years indicates that this local vent zone is likely a location of future eruption(s) since an eruption has broken out roughly every 250 to 750 years (Sieh 1984). Even if this seismic activity, related to volcanism, shifted several miles in any direction from its current location, the volcanic hazards analysis would not be significantly altered. In addition, since carbon dioxide derived from molten rock is heavier than air, when it leaks from the soil it can collect in snow banks, depressions, and poorly ventilated enclosures, such as cabins and tents. Potential impacts to the Town include inundation by ash deposition, lava, or lahars, or complete destruction from a catastrophic eruption.

A comprehensive daily monitoring program of activity along these known faults helps scientists to assess the volcanic hazards in the Long Valley area and to recognize the early signs of possible eruptions. The USGS, in cooperation with the California Office of Emergency Services and local jurisdictions in eastern California, has established procedures to promptly alert the public to a possible eruption.

Policies and Implementation Measures in the Updated Plan

The Plan Update proposes the adoption of several polices and implementation measures to reduce potential impacts associated with geologic hazards. These policies and measures are as follows:

II.3.A.b.l Implement the Uniform Building Code to comply with federal and State earthquake protection and slope stability standards for new development.

II.3.A.b.2 Require soils reports for new developments to identify the potential for liquefactions, expansive soils, ground settlement, and slope failure. Require reports to contain remedial measures that could be feasibly implemented to minimize potential impacts.

II.3.A.b.3 Promote public education efforts to inform residents and businesses regarding earthquake preparedness and response.

II.3.A.b.4 The Town shall participate in any updating and implementation of hazards response planning, including an emergency evacuation facilities plan and training programs.

II.3.A.b.5 The Town shall render all available assistance and cooperation in emergency situations to minimize loss of life, injury to persons, and damage to property.

II.3.A.b.6 The Town shall maintain an Emergency Plan for Mammoth Lakes which sets forth the responsibilities, functions, and operations of the Town government and its interrelationship with other agencies and jurisdictions which provide services during an emergency.

II.3.A.b.7 The Town shall develop and maintain an emergency notification and information system to minimize loss of life during a time of emergency.

II.3.B.a The ~~town~~ Town shall limit the creation of new parcels on slopes over 30 percent.

II.3.B.a.1 The Town shall update its development standards as needed to include advances in construction techniques which minimize soil erosion and slope instability.

II.3.B.a.2 The Town shall require a soils report on all development permits within areas of known slope instability or where significant potential hazards have been identified.

II.4.A.d.1 The Town shall implement the Uniform Building Code to comply with Federal and State earthquake protection and slope stability standards for new development.

II.4.A.d.2 The Town shall require soils reports for new developments to identify the potential for liquefactions, expansive soils, ground settlement, and slope failure. Require reports to contain remedial measures that could be feasibly implemented to minimize potential impacts.

II.4.A.f.4 The Town shall research the practicality of instituting a local ordinance that goes beyond the requirements of the State's Standardized Emergency Management System.

II.4.C.a.2 The Town shall establish appropriate evacuation routes, and incorporate them into the Emergency Preparedness and Response Plan.

II.4.D.a.l The Town shall assist USGS in continuing the efforts of the USGS Volcano Hazards Program to protect people's lives and property.

II.4.D.a Exposure and access to areas subject to high concentrations of carbon dioxide shall be minimized.

II.4.D.a.1 The Town shall assist USGS in continuing the efforts of the USGS Volcano Hazards Program to protect people's lives and property.

II.4.D.a.2 The Town shall work collaboratively with Inyo National Forest and USGS in developing public education efforts to inform residents and businesses regarding the hazards of CO2 and high hazard areas.

II.4.D.a.3 The Town shall promote the monitoring of CO2 through the use of carbon dioxide alarms in low-lying confined areas, such as basements and underground parking areas.

II.4.D.4 The Town shall work collaboratively with Inyo National Forest and USGS to ensure that all high-hazard areas are marked and/or closed to public access during high-risk periods.

Detailed recommendations regarding specific techniques and designs to reduce, eliminate or avoid geotechnical hazards would be provided by the reports of geotechnical investigations for specific projects within the Town. Development within the Town is required to comply with the California Building Code as well as Section 12.08.080 of the Town Municipal Code, which requires engineered plans and a soils report to be submitted with an application for a grading permit. Site development plans would be reviewed by the Town to determine conformance with specific recommended geotechnical procedures. Field inspection would be conducted by the Town during earthwork and construction operations. The observation of cuts, fills, backfills, foundation excavations, and the preparation of pavement subgrades shall take place during these phases of site development. Therefore, potential impacts associated with the exposure of people or structures to seismic hazards, including rupture of a known earthquake fault, strong seismic ground shaking, and seismic related ground failure, including liquefaction, would be reduced to the extent possible and would be less than significant.

With regard to landslides, while there is no record of landslide activity in the Town, the Updated General Plan includes a policy to limit the creation of new parcels on slopes over 30 percent. Section 17.16.040A6 of the Municipal Code does not permit building sites with slopes greater than 30 percent. With this requirement as well as the requirement for soils reports and the implementation of construction techniques identified in geotechnical reports, potential impacts associated with exposure of people or structures to landslides would be less than significant.

With regard to volcanic activity, the Town cooperates with USGS in the continuing efforts of monitoring volcanic activity, which provides for early warning of a potential eruption. In addition, the Town adopted an Emergency Operations Plan in 2001, which is updated regularly. With regard to exposure to carbon dioxide, the Updated Plan contains a policy and four implementation measures to address the risk of exposure to carbon dioxide. The areas in which carbon dioxide_–occur are outside the UGB and are within USFS jurisdiction. The occurrences are seasonal and USFS monitors the areas. Areas are closed off as needed by USFS. The Updated Plan includes measures to notify and educate people regarding the issue of carbon dioxide. In addition, the Town encourages the monitoring. With the policies and

implementation measures in the Updated Plan, the exposure of people or structures to volcanic activity and associated carbon dioxide would be reduced to a level of less than significant.

Mitigation Measures

The project would not result in the exposure of people or structures to potential effects due to seismic activity and associated ground failure, landslides, or volcanic activity. Therefore, no mitigation measures are necessary.

Level of Significance After Mitigation

Impacts from seismic and volcanic activity would be less than significant.

Issue 4.4-2: *Would the project result in substantial soil erosion or the loss of topsoil?*

Discussion: Implementation of the Updated Plan would result in construction on individual parcels in accordance with land use designations and densities. As noted in the baseline discussion, soils throughout the project area are sensitive to disturbance from development and exhibit moderate to high erosion potential depending on the grade of the slope. Construction of individual development sites would therefore, expose earth surfaces to wind and rain action. If slopes and exposed surfaces are not protected by vegetation or some other form of protection, uncemented soils could experience erosion during strong winds or heavy precipitation. In turn, erosion would generate potential impacts to nearby streams and watercourses or the storm drain system due to sedimentation. (See Section 4.6, Hydrology and Water Quality, for a discussion regarding water quality.)

Implementation Measures in the Updated Plan:

The Updated Plan proposes the adoption of the following three implementation measures to reduce potential impacts associated with soil erosion:

I.1.A.a.1 The Town shall require the use of Best Management Practices (BMPs) during and after construction and development as a means to prevent erosion, siltation, and flooding.

I.1.A.a.2. Projects requiring a grading permit shall implement Best Management Practices (BMPs) and shall be required to control erosion and sedimentation.

II.3.B.a.1 The Town shall update its development standards as needed to include advances in construction techniques which minimize soil erosion and slope instability.

All development must comply with Municipal Code Sections 12.08.090, Drainage and erosion design standards, 12.08, Land clearing, earthwork and drainage facilities, and 12.08.080,

Engineered grading permit requirements. These code sections serve to implement the implementation measures in the Updated Plan. The Town reviews the development standards in the Code to ensure that the Town's requirements include advances in construction techniques that serve to minimize soil erosion and slope instability. In addition, best management practices (BMPs), which would reduce and/or eliminate erosion potential, would be incorporated into development projects. Implementation of BMPs would ensure that development would not result in substantial soil erosion or the loss of topsoil. Therefore, erosion-related hazards would be less than significant.

Mitigation Measures

The implementation of the Updated Plan would not result in impacts with regard to soil erosion or the loss of topsoil. Therefore, no mitigation measures are required.

Level of Significance After Mitigation

Impacts with regard to soil erosion and the loss of top soil would be less than significant.

Issue 4.4-3: *Would the Project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on or off site landslide, lateral spreading, subsidence, liquefaction or collapse?*

Discussion: As noted above, soils in the Project Area are sensitive to disturbance from development and exhibit moderate to high erosion potential depending on the grade of the slope. Consequently, depending on the location of a development site, future development could occur on collapsible/loose sandy soils, which could potentially affect the structural integrity of a building. In general, slopes in the Mammoth Lakes Planning Area are comprised of stable materials; there are no mapped areas of unstable slopes and no known landslides have occurred.

Policies and/or Implementation Measures in the Updated Plan:

The Updated Plan proposes the adoption of the following policies and implementation measures to reduce potential impacts associated with soil stability:

II.3.A.b.l Implement the Uniform Building Code to comply with federal and State earthquake protection and slope stability standards for new development.

II.3.A.b.2 Require soils reports for new developments to identify the potential for liquefactions, expansive soils, ground settlement, and slope failure. Require reports to contain remedial measures that could be feasibly implemented to minimize potential impacts.

II3.B.a The ~~town~~ Town shall limit the creation of new parcels on slopes over 30 percent.

II.3.B.a.1 The Town shall update its development standards as needed to include advances in construction techniques which minimize soil erosion and slope instability.

II.3.B.a.2 The Town shall require a soils report on all development permits within areas of known slope instability or where significant potential hazards have been identified.

II.4.A.d.1 The Town shall implement the Uniform Building Code to comply with Federal and State earthquake protection and slope stability standards for new development.

II.4.A.d.2 The Town shall require soils reports for new developments to identify the potential for liquefactions, expansive soils, ground settlement, and slope failure. Require reports to contain remedial measures that could be feasibly implemented to minimize potential impacts.

Development within the Town is required to comply with the California Building Code as well as Section 12.08.080 of the Town Municipal Code, which requires engineered plans and a soils report to be submitted with an application for a grading permit. Site development plans would be reviewed by the Town to determine conformance with specific recommended geotechnical procedures. Field inspection would be conducted by the Town during earthwork and construction operations. The observation of cuts, fills, backfills, foundation excavations, and the preparation of pavement subgrades shall take place during these phases of site development. Therefore, impacts associated with unstable soils would be less than significant.

Mitigation Measures

Impacts related to unstable soils would be less than significant. Therefore, no mitigation measures would be required.

Level of Significance After Mitigation

Impacts related to unstable soils would be less than significant.

Issue 4.4-4: *Would the project be located on expansive soil, as defined in Table 18 1 B of the Uniform Building Code (UBC) (1994), creating substantial risks to life or property?*

Discussion: Soils in the survey area are sensitive to disturbances by development; however, no expansive soils have been mapped or encountered in the Project Area.[17]

[17] *Based on the Town of Mammoth Lakes Building Division.*

Implementation Measures in the Updated Plan:

The Updated Plan proposes the adoption of the following two implementation measures to reduce potential impacts associated with expansive soils:

II.3.A.b.2 Require soils reports for new developments to identify the potential for liquefactions, expansive soils, ground settlement, and slope failure. Require reports to contain remedial measures that could be feasibly implemented to minimize potential impacts.

II.4.A.d.2 The Town shall require soils reports for new developments to identify the potential for liquefactions, expansive soils, ground settlement, and slope failure. Require reports to contain remedial measures that could be feasibly implemented to minimize potential impacts.

Mitigation Measures

No impacts would occur with regard to development on expansive soils. Therefore, no mitigation measures are required.

Level of Significance After Mitigation

Impacts with regard to expansive soils would be less than significant.

Issue 4.4-5: *Would the project have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?*

Discussion: In general, the soils in the Project Area would have the capacity to support the use of septic tanks or alternative waste water disposal systems. However, the Basin Plan for the Lahontan Region of the State Water Resources Control Board prohibits individual septic systems in the Mammoth Basin above an elevation of 7,650 feet and within the entire drainage area of the Town (LRWQCB, Basin Plan, online text from www.waterboards.ca.gov/lahontan/BPlan/Bplantxt.pdf). Therefore, septic tanks would not be used for wastewater disposal. No alternative wastewater disposal systems are proposed. The Town has existing infrastructure for the treatment of wastewater.

Mitigation Measures

No impact would occur with regard to wastewater treatment and the use of septic systems or alternative wastewater disposal systems.

Level of Significance After Mitigation

The project would not result in an impact with regard to wastewater treatment and the use of septic systems or alternative wastewater disposal systems.

Issue 4.4-6: *Would the project result in loss of a known mineral resource or a locally important mineral resource?*

Discussion: The project does not incorporate heavy industrial uses of any type within the UGB. However, mineral development including clay, aggregate, do occur in the Planning Area. These activities benefit Mammoth Lakes by providing a nearby source of materials used in construction, snow management and other purposes. The activities associated with mineral development have the potential to impact the environment through hauling activities, transport emissions, noise and other means. Any projects associated with mineral development would be required to undergo environmental review and permitting. In addition, any party proposing mineral extraction that is subject to SMARA would have to apply to the Town and pay the appropriate processing fees. Development associated with implementation of the Updated Plan within the UGB would not result in the loss of mineral resources.

In addition to the minerals identified above, the Mammoth Lakes region is characterized by significant geothermal resources including a geothermal lease that is located within the northeastern portion of the Municipal Boundary and extends to the northern boundary of the Planning Area (see Figure 4.4-1). Project implementation could potentially impede geothermal exploration in that area due to concerns for land use compatibility impacts. The presence of a significant resource also introduces the potential for future direct use of geothermal energy in the Town and a working group has been convened to explore this possibility. Project implementation would not adversely impact the potential for future direct use, and may support efforts to that end.

Policies and Implementation Measures in the Updated Plan

The Updated Plan proposes the adoption of the following policy and implementation measures to reduce potential impacts associated with mineral resources:

II.4.B.a. Mineral resource development projects shall meet or exceed applicable provision [sic] of the California Environmental Quality Act, the National Environmental Protection Act, and the Surface Mining and Reclamation Act shall [sic] acquire an Environmental Permit for mining from the Town.

II.4.B.a.1 If mineral extraction occurs within the Town of Mammoth Lakes, the Town is responsible for and shall prepare the Surface Mining and Reclamation Act. Surface

Mining and Reclamation Act requires local agencies to have Surface Mining Reclamation plans for surface mining activities.

Mitigation Measures

4.4-1 The Town shall continue to work with the MPLP to ensure that geothermal exploration in the Planning Area does not conflict with land uses in the Town and at the same time to ensure continued exploration and development of geothermal resources in the planning area in a manner that is compatible with Town land uses.

4.4-2 The Town shall continue to investigate the feasibility and opportunities for direct use of geothermal energy to meet Town heating requirements and other Project objectives.

Level of Significance After Mitigation

With incorporation of the mitigation measures, this impact is less than significant.

4.5 PUBLIC SAFETY AND HAZARDS

This section provides a qualitative discussion of the risks to human health and safety that could result from development associated with the implementation of the Updated Plan. Specifically, potential risks associated with wildland and structural fires, aircraft hazards, and snow-related hazards, including avalanches are addressed. In addition, this section describes the means by which hazardous materials are regulated from a federal, state and local perspective and discusses the potential adverse impacts to human health and the environment due to exposure of such hazards.

4.5.1 EXISTING CONDITIONS

The following provides a discussion of the various hazard areas that have been identified within the Planning Area. Hazards related to earthquakes and volcanoes are discussed in Section 4.4, Geology, Seismicity and Mineral Resources.

4.5.1.1 Snow Hazards

Winters in the Mammoth Lakes region can produce 20 feet or more of snow in the Town and double that in the mountains. This amount of snow can cause serious hazards and structural problems. The characteristics of snow that have hazardous implications include weight, instability on slopes, snowmelt, snow creep, adhesive tendency, slickness, ice damming, and avalanches. In addition, some storm events temporarily isolate the community due to excessive snowfall and the management of road closures.

Avalanches

Avalanches are the most devastating and sudden of mountain winter hazards. An avalanche is defined as a mass of snow moving rapidly downslope that sometimes contains rocks, soil, and ice. Avalanches can break in slabs or in a flume of loose powder snow. Factors contributing to unstable snow conditions include snow pack structure, snow density, temperature fluctuations, wind speed and direction, and precipitation intensity. Avalanche danger can generally be assumed for any slope that has a gradient between 30 and 45 degrees, whether or not timber is present. Steeper gradients would rarely accumulate enough snow to be hazardous. These 30 to 45 degree gradients, however, apply only to the starting zone. The track gradient is not necessarily as steep at 25 to 35 degrees, and the runout zone can be gentle or even flat.

Structures typically can be built to withstand moderate avalanche hazard by utilizing structural design measures such as reinforced concrete walls without windows, or with shuttered windows, or by constructing wedge-shaped structures that face the hazard prone slopes. Additionally, avalanche protection devices such as barriers and sheds can be used to protect existing and proposed structures as long as other properties are not exposed to additional hazards.

Areas in the Town where avalanche potential has been identified have been overlaid with a Snow Deposition Design (SDD) Zone in order to minimize health and safety hazards. The overlay district designates areas located immediately above, adjacent to, or within 150 feet of the 30 degree point of an avalanche starting zone. Any development within this zone shall be permitted by use permit only and requires an Avalanche Risk Assessment certified by a recognized expert in the field of avalanche occurrence.

Snow and Ice Shedding

As new layers of snow are deposited, the upper surface is warmed by radiation, precipitation, and wind. In contrast, the undersurface is warmed only slightly by ground heat unless it is on a warm roof. The middle layer of snow is compressed and changes to granules by means of percolation and diffusing water vapor. The result of this series of transformations is a stratified pack of alternating hard and soft layers. The hard layers become impermeable to percolating meltwater, which spread horizontally and lubricates the attachment between layers. The resulting tendency to shear and slip along these planes can be as dangerous on a high roof as on a known avalanche track. In cases where the snow slides toward pedestrian areas, parking lots, or other structures, it poses a significant hazard.

Another snow related problem is ice shedding that results from ice damming, which occurs when ice obstructs runoff. The most common ice dam forms at building eaves where meltwater running under the snow on the roof encounters cold air at the edge of the roof and then freezes. Ice damming can also occur on decks, outside patios, or any other place where melted snow contacts freezing air. The lower front edge of a snowbank can also function like an ice dam, preventing water from flowing as intended to drains and gutters. If the damming occurs along a sidewalk, it can impede pedestrian passage, as well as create trip and fall hazards.

4.5.1.2 Fire Hazards

The Town's development characteristics (narrow roadways, closely spaced dwellings and businesses, and limited points of entry/exit) and location within a forest present unique fire hazard problems.

Wildland Fires

The Town's location relative to National Forest lands and the large areas of urban interface with forest vegetation increase the susceptibility of the Town to wildland fire. The combination of highly flammable fuel, long dry summers, and steep slopes create the potential for wildland fires in the Planning Area. Wildland fires in the National Forest can be attributed almost exclusively to either lightning strikes or human activity. Ninety-nine percent of fires within the Sierra Nevada National Forests have been contained to less than 100 acres. The one percent of wildfires that exceeded 100 acres in the last quarter century accounted for almost 98 percent of the total acres burned.

Wildfires can result in death, injury, economic loss, and heavy public investment in fire fighting efforts. Woodlands and other natural vegetation can be destroyed, resulting in loss of timber, wildlife habitat, scenic quality, and recreational resources. Soil erosion, sedimentation of fisheries and reservoirs, and downstream flooding can also result from wildland fires.

Fire has been and remains a natural and important component of the Sierra Nevada landscape and ecosystem. Wildlands must burn or otherwise be managed periodically through controlled burns to maintain ecological viability. Fuel maintenance, such as controlled burning, is an effective means of mitigating uncontrolled wildland fires, thereby protecting human habitation and development.

Fire hazard and risk are measured by the amount of fuel available to burn at any given time in a given area and the likelihood that an ignition would occur. Rankings within the USFS Fire Risk and Hazard Index are based on expected fire behavior, the length of time that fuels are available to burn during the fire season, and the likelihood that a fire would occur based on ignition history. The risk factors are used to provide a relative ranking of fire risk, hazard, and susceptibility to large severe fire. Fire hazard severity has been mapped by the California Department of Forestry (CDF). The Planning Area has been rated as having a very high fire potential. The Town, the Mammoth Lakes Fire Protection District (MLFPD), the USFS, and Mono County continually strive to minimize wildland fire risks.

In response to the 2002 fire season, the Eastern Sierra Regional Fire Safe Council (ESRFSC), which is based in Bishop, prepared a handbook called the Fire Safe Plan. This handbook is designed to help east side residents of Inyo and Mono Counties improve their defense against wildland fires. The ESRFSC is comprised of private citizens advised by the USFS, CDF, and BLM. The ESRFSC collaborates with local volunteer fire departments and assists CDF as they train fire prevention volunteers to perform residential fire hazard inspections within Eastern Sierra communities. Volunteers work with homeowners to raise awareness concerning wildland fire risks and methods of home hazard reduction.

The California Public Resource Code (Section 4291) requires property owners to reduce fire hazards by removing dead vegetation, creating a ten-foot clearance around propane tanks, removing tree limbs that are within ten feet of the residence, removing leaves and pine needles from roofs and rain gutters, installing a half-inch mesh screen on stovepipes or chimneys, installing spark arresters on all internal combustion engines, and by obtaining burn permits. ESRFSC suggests that Section 4291 offers insufficient protection for a residence built on a slope and/or on property surrounded by flammable continuous vegetation, such as forest with understory or brush. In most cases in the Eastern Sierra, more defensible space is necessary to create a safety zone. ESRFSC has included a section entitled Firescaping in its plan. This section includes numerous lists of firesmart plants as well as a list of where to purchase plants locally.

In response to management direction from the Sierra Nevada Forest Plan Amendment (SNFPA) ~~(2001)~~ (2004) and the National Fire Plan (NFP) (2000), USFS crews began constructing the Mammoth Lakes Fuelbreak on August 1, 2002. This project is designed to protect the north end of Mammoth Lakes from fire and treat approximately 400 acres of urban interface (the 0.25 mile Defense Zone defined in the NFP). The $400,000 project is funded by the NFP. The most critical 350 acres were contracted out for mowing in the spring of 2003 with completion of the fuel break project in 2004. Mowing was completed using uneven edges to minimize visual effects as well as impacts to locally important resources such as terrestrial and aquatic animals, heritage resource sites, watershed function and spread of undesired plant species. The fuelbreaks are monitored annually by the USFS and depending on regrowth of brush, may be re-mowed in five years.

Structural Fires

The Mammoth Lakes Fire Protection District (MLFPD) provides fire protection to the entire Planning Area including the Lakes Basin, Camp High Sierra, and Mammoth Mountain Ski Area (MMSA). The MFPD also provides fire prevention services through such activities as education and development review. Efforts include implementation of fire-safe regulations such as ensuring adequate clearance of flammable vegetation around individual structures to prevent the spread of fire between wildlands and structures. Adequate road widths and load capacities are provided and maintained to ensure the ready movement of fire engines, bulldozer transport units, and other heavy firefighting equipment. According to the Mammoth Lakes Fire Department, the department responds to an average of 4 to 5 significant fires a year, 8 to 10 smaller fires and 10 smoke related calls (people not aware of how to work stove dampers).[18] Please refer to Section 4.10 for additional information concerning the MFPD.

[18] *Information provided by Tom Heller of Mammoth Lakes Fire Department. This annual average is based on a survey of the last five years of fire data.*

4.5.1.3 Hazardous Materials

A hazardous material is defined by the California Department of Toxic Substances Control as a material that poses a significant present or potential hazard to human health and safety or the environment if released because of its quantity, concentration, or physical or chemical characteristics (26 CCR 25501). Hazardous materials and hazardous wastes are classified according to four properties: toxic, ignitable, corrosive, and reactive CCRs, Title 22, Chapter 11, Article 3). Toxicity, ignitability, corrosivity, and reactivity are defined in the CCR, Title 22, Sections 66261.2066261.24. Common hazardous materials include petroleum hydrocarbons, pesticides, volatile organic chemicals, and certain metals.

The risk of environmental or human exposure to hazardous materials depends on the type, location, and quantity of the material released. Hazardous materials are defined as those that are a potential threat to human health, having the capacity to cause serious illness or death. The term hazardous materials includes radioactive waste and explosives, as well as substances such as gasoline, pesticides, and household cleaning products. The Town has some businesses and activities that involve the transport, storage, or use of toxic or hazardous chemicals, which includes businesses in the industrial park, high school and college laboratories, gasoline and service stations, Mammoth Yosemite Airport, and the MMSA.

There are no sites listed on the Comprehensive Environmental Response, Compensation, Liability Information System database in the Planning Area (Web search October 19, 2005).

4.5.1.4 Mammoth Yosemite Airport

The Mammoth Yosemite Airport lies to the east of the main portion of the Town. The Federal Aviation Administration (FAA) defines the most critical areas as those immediately beyond the runway ends, and the initial departure and final approach sectors since these are the areas in which the highest concentration of aircraft accidents occur. Studies indicate that about half of all airport accidents occur on airport property and an additional 15 percent of accidents occur within one mile outside the airport property. This suggests that areas immediately off the ends of the runway and under the airport traffic pattern should be carefully evaluated for developed land use. All of the land outside of the Runway Protection Zone where it extends beyond the ends of the runway are under the land use jurisdiction of Mono County and are governed by the County and must be consistent with the Airport Land Use Plan. The Mono County Airport Land Use Commission must approve the Airport Land Use Plan and any town development at the airport must be consistent with this plan.

4.5.1.5 Evacuations

Several scenarios are described in the Town's Emergency Operations Plan (2001) that would result in the evacuation of the town's residents and visitors. The following scenarios would result in evacuation of the Town's affected population:

- An Eruption Alert is issued by the United States Geological Survey to warn the Town's population that volcanic activity is underway
- A volcanic eruption spreads hot ash onto square miles of snowpack, causing instant melting and severe flooding. This is monitored by the United States Geological Survey and notification is based on the Caldera Unrest Levels and Notification System.
- A large hazardous materials spill, chlorine leak, or propane leak.
- An earthquake triggers a large avalanche trapping skiers on slopes and on lifts (people stranded on the mountain would be evacuated).
- A blizzard causes the closure of U.S. Highway 395 and SR 203 (people stranded in their vehicles would be evacuated on buses or snowcats).

4.5.2 REGULATORY FRAMEWORK

4.5.2.1. Snow-Related (Avalanche) Regulations

The Town Municipal Code Chapter 15.24.040 provides requirements concerning snow loads/snow design under the Uniform Building Code--Section 2305(d). The Code sets forth minimum design requirements to withstand snow loads and any additional effects created by snow. The design requirements include parameters for: minimum setbacks; protection of required entries/exits, parking, and driveways; building projections; utility locations; roof systems, as well as other structural requirements to minimize impacts from snow-related hazards.

Municipal Code Chapter 17.04.010 outlines objectives for the purpose of promoting and protecting the public health, safety, and welfare of the people of the town, to safeguard and enhance the appearance and quality of development of the town, and to provide for the social, physical and economic advantages resulting from comprehensive and orderly planned use of land resources, a zoning title establishing classifications of zones and regulations within these zones is established and adopted by the town council. Under this title is a "permissive title" whereby any use not listed as a permitted use or a use requiring a use permit within the various zone classifications is deemed to be prohibited. (Ord. 90-06 Section 1(part), 1990: Ord. 89-05 Section 1(part), 1989: prior code Ch. 19.01).

In addition to the objectives outlined above, the SDD zone is included in this title to provide a zoning overlay district to identify those areas in the Town of Mammoth Lakes where avalanche potential has been found to exist after specific investigation and minimize health and safety hazards related to avalanche potential.

4.5.2.2 Fire Regulations

As described below, various federal and state laws for the regulatory framework for the exercise prevention and management of fires.

State Fire Regulations

Assembly Bill 337 (the Bates Bill, adopted September 29, 1992) was a direct result of the great loss of lives and homes in the Oakland Hills "Tunnel Fire" of 1991. The Bates Bill Process is used to identify Very High Fire Hazard Severity Zones in Local Responsibility Areas. Government Code Section 51178 specifies that the Director of the CDF, in cooperation with local fire authorities, shall identify areas that are Very High Fire Hazard Severity Zones (VHFHSZs) in Local Responsibility Areas (LRAs), based on consistent statewide criteria and the expected severity of fire hazard. State Responsibility Areas (SRAs) include all lands regardless of ownership, except for cities and federal lands. Although the state has financial responsibility for SRAs, it is not the state's responsibility to provide fire protection services to any building or structure located within a wildland area, unless the CDF has entered into a cooperative agreement with a local agency for those purposes pursuant to Public Resources Code Section 4142. Under Assembly Bill 3819, passed in 1994 (AB 3819 Willie Brown), "Class A" roofing, minimum clearances of 30 feet around structures, and other fire defense improvements are required in VHFHSZs.

Government Code Section 51178 states that a local agency may, at its discretion, exclude from the requirements of Section 51182 an area identified as a VHFHSZ by the CDF. This requires a finding, supported by substantial evidence, that the requirements of Section 51182 are not necessary for effective fire protection within the area. Conversely, local agencies may include areas not identified as a VHFHSZ by the CDF, following a finding that the requirements of Section 51182 are necessary for effective fire protection. According to Section 51182, such changes made by a local agency shall be final and cannot be rebutted by the CDF.

Wildland areas require disclosure for real-estate transactions. Specifically, Assembly Bill 6 (AB6) requires that both types of fire hazard areas (SRAs and VHFHSZs) be disclosed in real estate transactions. Civil Code Section 1103(c)(6) also requires real estate sellers to inform prospective buyers whether or not a property is located within a wildland area that could contain substantial fire risks and hazards.

Public Resources Code Section 4290 requires minimum statewide fire safety standards pertaining to the following:

- Road standards for fire equipment access;
- Standards for signs identifying streets, roads, and buildings;
- Minimum private water supply reserves for emergency fire use; and
- Fuel breaks and greenbelts.

Wildland fire areas are also subject to Public Resources Code Sections 4291 through 4299, which require property owners in such areas to conduct maintenance in order to reduce the fire danger.

The California Emergency Services Act, (Government Code (GC), Title 2, Division 1, Chapter 7, Section 8550 et. seq.), states that "the State Emergency Plan shall be in effect in each political subdivision of the state, and the governing body of each political subdivision shall take such action as may be necessary to carry out the provision thereof." The act provides the basic authorities for conducting emergency operations following the proclamations of emergencies by the Governor or appropriate local authority, such as a City Manager.

Local Fire Regulations

Chapter 15.04.010 of the Town of Mammoth Lakes Municipal Code "Uniform Building Code--Section 102" was enacted for the purpose of adopting rules and regulations pursuant to the state housing law and the Health and Safety Code, for the protection of the public health, safety and general welfare of the occupants and the public; governing the creation, construction, enlargement, conversion, alteration, repair, moving, removal, demolition, occupancy, use, height, fire protection, sanitation, ventilation, and maintenance of any building used for human habitation. The State Uniform Fire Code, as adopted by the International Conference of Building Officials and the National Fire Protection Association, is the fire code of the town.

4.5.2.3 Hazardous Materials

As described below, various federal and state agencies exercise regulatory authority over the use, generation, transport, and disposal of hazardous substances.

Federal Hazardous Materials Regulations

The primary federal regulatory agency is the Environmental Protection Agency (EPA). The EPA granted the state primary oversight responsibility to administer and enforce hazardous waste management programs.

Resources Conservation and Recovery Act

The Resources Conservation and Recovery Act (RCRA) established a federal hazardous substance "cradle-to-grave" regulatory program that is administered by the EPA. Under RCRA, the EPA regulates the generation, transportation, treatment, storage and disposal of hazardous substances. The RCRA was amended in 1984 by the Hazardous and Solid Waste Act (HSWA), which affirmed and extended the "cradle-to-grave" system of regulating hazardous substances. The HSWA specifically prohibits the use of certain techniques for the disposal of some hazardous substances. Under RCRA, individual states may implement their own hazardous substance management programs as long as they are consistent with, and at least as strict as, RCRA. The EPA must approve state programs intended to implement the RCRA requirements.

Comprehensive Environmental Response, Compensation and Liability Act

The Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980 is a regulatory or statute law developed to protect the water, air, and land resources from the risks created by past chemical disposal practices. The purpose of CERCLA was to provide authorities the ability to respond to uncontrolled releases of hazardous substances from inactive hazardous waste sites that endanger public health and the environment. CERCLA established prohibitions and requirements concerning closed and abandoned hazardous waste sites, provided for liability of persons responsible for releases of hazardous waste at such sites, and established a trust fund to provide for cleanup when no responsible party could be identified. In addition, CERCLA provided for the revision and republishing of the National Contingency Plan (NCP) that provides the guidelines and procedures needed to respond to releases and threatened releases of hazardous substances, pollutants, or contaminants. The NCP also provides for the National Priorities List, a list of national priorities among releases or threatened releases throughout the United States for the purpose of taking remedial action.

The Superfund Amendments and Reauthorization Act (SARA) amended CERCLA on October 17, 1986. This amendment increased the size of the Hazardous Response Trust Fund, expanded U.S. EPA's response authority, strengthened enforcement activities at Superfund sites; and broadened the application of the law to include federal facilities. In addition, new provisions were added to the law that dealt with emergency planning and community right to know. SARA also required the EPA to revise the Hazard Ranking System (HRS) to ensure that the HRS accurately assesses the relative degree of risk to human health and the environment posed by sites and facilities subject to review for listing on the NPL.

Hazardous Waste Control Law

The Hazardous Waste Control Law (HWCL) created the state hazardous waste management program, which is similar to, but more stringent than, the federal program under RCRA. The Hazardous Waste Control Act is implemented by regulations contained in 26 CCR, which describe the following aspects of hazardous waste management: identification and classification; sources; transport; design and permitting of recycling, treatment, storage, and disposal facilities; treatment standards; operation of facilities, including staff training; closure of facilities; and liability issues.

Regulations in 26 CCR list more than 800 materials that may be hazardous and establish criteria for identifying, packaging, and disposing of them. Under the Hazardous Waste Control Act and 26 CCR, hazardous waste generators must complete a manifest that accompanies the waste from the generator to the transporter to the ultimate disposal location. The manifest describes the waste, its intended destination, and other regulatory information about the waste. Copies must be filed with the DTSC. Generators must also match copies of waste manifests with receipts from the treatment, storage or disposal facility to which it sends waste.

Hazardous Materials Release Response Plans and Inventory Act of 1985

The Hazardous Materials Release Response Plans and Inventory Act, also known as the Business Plan Act, requires businesses using hazardous materials to prepare a hazardous materials business plan that describes their facilities, inventories, emergency response plans, and training programs. Under the Business Plan Act, hazardous materials are defined as raw or unused materials that are part of a process or manufacturing step. They are not considered hazardous waste, although the health concerns pertaining to the release or inappropriate disposal of these materials are similar to those relating to hazardous waste. The California Environmental Protection Agency oversees the Hazardous Materials Plan, which is enforced jointly by Mono County and Mammoth Lakes Fire Protection District. The MLFPD manages hazardous materials within their jurisdiction. However, since Mono County is the funded agency they are responsible for all reporting.

Hazardous Substances Worker Safety Requirements

The Federal Occupational Safety and Health Administration (Fed/OSHA) is the agency responsible for ensuring worker safety. Fed/OSHA sets federal standards for implementation of training in the work place, exposure limits, and safety procedures in the handling of hazardous substances (as well as other hazards). Fed/OSHA also establishes criteria by which each state can implement its own health and safety program.

Emergency Planning and Community Right-To-Know Act

The primary purpose of the Federal Emergency Planning and Community Right-To-Know Act (EPCRA) is to inform communities and citizens of chemical hazards in their areas. Sections 311 and 312 of EPCRA require businesses to report to state and local agencies the locations and quantities of chemicals stored on-site. Section 313 of EPCRA requires manufacturers to report the release to the environment of any of more than 600 designated toxic chemicals. These reports are submitted to the EPA and state agencies and help communities prepare to respond to chemical spills and similar emergencies.

EPCRA mandates that Toxics Release Inventory (TRI) reports be made public. The TRI is a database that contains information on toxic chemical releases and other waste management activities reported annually by certain industry groups as well as federal facilities. This inventory was established in 1986 under the EPCRA and expanded by the Pollution Prevention Act of 1990.

Hazardous Waste Management Plan

Assembly Bill 2948 established procedures for the preparation of a County Hazardous Waste Management Plan (HWMP). The HWMP is intended to serve as the primary planning document for hazardous waste management within a county, and contains goals, policies and recommended programs for the management, recycling and disposal of hazardous wastes. The HWMP principally governs the coordination and planning of hazardous waste disposal capacity between the county and state. The California DHS must give its approval to the plan before the document becomes effective. The HWMP serves as the implementation program for management hazardous waste in order to protect the health, safety, and property of residents.

Hazardous Materials Disclosure Program

As indicated previously, hazardous materials are extensively legislated by the federal, state and city governments. Both the federal government CFR, EPA, SARA, and Title III) and the State of California (California State Health and Safety Code, Division 20, Chapter 6.95, Sections 25500-25520; CCRs, Title 19, Chapter 2, Sub-Chapter 3, Article 4, Sections 2729-2734) require all businesses that handle more than a specified amount of hazardous materials or extremely hazardous materials, termed a reporting quantity, to submit a business plan to its local Certified Unified Program Agency (CUPA).

In 1986, Congress passed the SARA. Title III of this legislation requires that each community establish a Local Emergency Planning Committee (LEPC). This committee is

responsible for developing an emergency plan that outlines steps to prepare for and respond to chemical emergencies in that community.

State Hazardous Materials Regulations

The primary California state agency with similar authority and responsibility is the California Environmental Protection Agency (Cal/EPA), which may delegate enforcement authority to other local agencies with which it has agreements. The Cal/EPA and the Office of Emergency Services (OES) of the State of California establish rules governing the use of hazardous substances.

Emergency Services Act

Under the Emergency Services Act, the state developed an emergency response plan to coordinate emergency services provided by federal, state, and local agencies. Rapid response to incidents involving hazardous materials or hazardous waste is an important part of the plan, which is administered by the California OES. This office coordinates the responses of other agencies, including the EPA, California Highway Patrol (CHP), the nine RWQCBs, the various air quality management districts, and county disaster response offices.

Hazardous Substances Handling Requirements

Within Cal/EPA, the DTSC has primary regulatory responsibility, with delegation of enforcement to local jurisdictions that enter into agreements with the state agency, for the generation, transport and disposal of hazardous substances under the authority of the HWCL. Regulations implementing the HWCL list approximately 791 hazardous chemicals and 20 to 30 more common substances that may be hazardous; establish criteria for identifying, packaging and labeling hazardous substances; prescribe management of hazardous substances; establish permit requirements for hazardous substances treatment, storage, disposal and transportation; and identify hazardous substances that cannot be deposited in landfills.

Hazardous Materials Transportation

The Department of Transportation (DOT) regulates the interstate transport of hazardous materials and wastes through implementation of the Hazardous Materials Transportation Act. This act specifies driver-training requirements, load labeling procedures, and container design

and safety specifications.[19] Transporters of hazardous wastes must also meet the requirements of additional statutes such as RCRA.

California law requires that Hazardous Waste (as defined in California Health and Safety Code Division 20, Chapter 6.5) be transported by a California registered hazardous waste transporter that meets specific registration requirements. The requirements include possession of a valid Hazardous Waste Transporter Registration, proof of public liability insurance that includes coverage for environmental restoration, and compliance with California Vehicle Code registration regulations required for vehicle and driver licensing. A complete list of requirements can be found in Title 22 CCR, Chapter 13.

State agencies with primary responsibility for enforcing federal and state regulations and responding to hazardous materials transportation emergencies are the CHP and the Caltrans. Together, these agencies determine container types used and license hazardous waste haulers for hazardous waste transportation on public roads.

Hazardous Substances Worker Safety Requirements

The California Occupational Safety and Health Administration (Cal/OSHA) assumes primary responsibility for developing and enforcing work place safety regulations within the State. Cal/OSHA standards are more stringent than federal regulations. Cal/OSHA regulations concerning the use of hazardous substances include requirements for safety training, availability of safety equipment, hazardous substances exposure warnings, and emergency action and fire prevention plan preparation. Cal/OSHA enforces the hazard communication program regulations, which include provisions for identifying and labeling hazardous substances, describing the hazards of chemicals, and documenting employee training programs.

Both federal and state laws include special provisions for hazard communication training to employees who work with and/or encounter hazardous materials and wastes. The training must include safe methods for handling hazardous substances, an explanation of Material Safety Data Sheets, use of emergency response equipment, implementation of an emergency response plan and use of personal protective equipment.

Hazardous Materials Disclosure Program

Several California statutes require the emergency notification of a hazardous chemical release. These include: Health and Safety Codes Section 25270.7, Section 25270.8 and Section

[19] *CFR49 Parts 101, 106, 107, and 171-180.*

25507; Vehicle Code Section 23112.5; Public Utilities Code Section 7673; Government Codes Section 51018, Section 8670.25.5(a); Water Codes Section 13271 and Section 13272; and California Labor Code Section 6409.1(b)10. The Safe Drinking Water and Toxic Enforcement Act of 1986, better known as Proposition 65, and Section 9030 of the California Labor Code also has specific reporting requirements.

Local Hazardous Materials Regulations

Mammoth Yosemite Airport Spill Prevention and Countermeasures Plan

The Spill Prevention, Control, and Countermeasures Plan, which is managed by the Town of Mammoth Lakes, for the Mammoth Yosemite Airport is required by the Oil Pollution Act of 1990, which mandates a spill response system for the proper handling, storage, and transportation of oil in the event a discharge occurs.

4.5.3 THRESHOLDS OF SIGNIFICANCE

Based on Appendix G in the CEQA Guidelines, the project would be considered to have a significant impact on public safety/hazards if the project would:

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials;
- Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment;
- Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school;
- For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, result in a safety hazard for people residing or working in the area;
- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan;
- Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands; or
- Expose people or structures to a significant risk of loss, injury or death involving other natural conditions.

4.5.4 IMPACTS AND MITIGATION

Issue 4.5-1: *Would development associated with implementation of the Updated Plan create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?*

Discussion: The Project would allow for the development of non-residential uses, including additional light industrial and commercial uses in the vicinity of the industrial park and water treatment facility, as well as along Main Street and Old Mammoth Road. This would create the potential to increase the locations of use of hazardous materials and thus the transport of hazardous materials associated with such uses as well as the potential exposure of employees and the public to hazardous materials associated with such uses. The types and quantities of hazardous materials utilized by the various types of businesses that may locate in the ~~City~~ Town would vary and, as a result, the nature of the potential hazards would also be varied. Since the Updated Plan does not propose any specific development projects, no specific type of hazard associated with the use of hazardous materials can be identified and the likelihood of a hazard presenting a serious health or safety hazard to the public cannot be determined at this time. However, it can be concluded that ~~any additional~~additional non-residential uses, such as some new commercial and industrial uses, would increase the use and transport of hazardous materials and ~~an~~ increase ~~in~~ the generation of hazardous waste. As such, there would be an increase in the potential for human exposure to these substances.

As described in the Regulatory Framework section, numerous federal, state and local regulations oversee handling, transport and management of hazardous materials and waste. While the risk of exposure of hazardous materials cannot be eliminated, oversight by the appropriate agencies and compliance with the applicable regulations would maintain risks at acceptable levels. In addition, the following implementation measures in the Updated Plan would further ensure that impacts regarding the routine transport, use, or disposal of hazardous materials are reduced to a less than significant level.

Implementation Measures in the Updated Plan

II.4.C.a.l The Town shall work to ensure that the Fire Department and other emergency response agencies are adequately prepared to respond to an emergency involving hazardous material.

II.4.C.a.3 The Town shall work with Mono County and other public agencies to inform businesses and consumers about the proper use and disposal of hazardous materials and waste.

II.4.C.a.4 The Town shall require the completion of a Hazard Materials disclosure form for all new development.

II.4.C.a.5 The Town shall maintain and implement the Spill Prevention, Control, and Countermeasure Plan for the Mammoth Yosemite Airport as required by the Oil Pollution Act of 1990 which mandates a spill response system for the proper handling, storage, and transportation of oil in the event a discharge occurs.

II.4.C.a.6 The Town shall regulate, specify, and develop sites for the safe collection of hazardous wastes; all facilities shall comply with State and Federal regulations and be designed and located in areas where they pose minimal threat to the environment.

II.4.C.b.l The Town of Mammoth Lakes will coordinate with other public agencies and private stakeholders to develop and implement a hazardous waste management and minimization program targeting the primary sources of hazardous waste including but not limited to lead-acid batteries, radioactive smoke detectors, silver cad, metal hybrid, dry cell batteries, cleaning solutions (organic solvents and in-organic liquids), florescent lights, and waste oil.

II.4.C.b.2 The Town shall cooperate with other governmental agencies in the region and the State in planning for the effective management of hazardous wastes generated in the region and the state in accordance with the hazardous waste management hierarchy.

All projects within the Planning Area would be required to comply with all federal, state and local regulations regarding the handling, transport and management of hazardous materials and waste. In addition, the Updated Plan includes implementation measures to address the routine transport, use, or disposal of hazardous materials. With the federal, state and local regulations and the implementation measures, the impacts regarding the routine transport, use, or disposal of hazardous materials would be reduced to a less than significant level.

Mitigation Measures

The Updated Plan would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials. Therefore, no mitigation measures are required.

Level of Significance After Mitigation Measures

Impacts related to the routine transport, use, and/or disposal of hazardous materials would be less than significant.

Issue 4.5-2: *Would development associated with implementation of the Updated Plan create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?*

Discussion: New commercial and industrial development or the expansion of commercial and industrial uses would result in an increase in the use and transport of hazardous materials within the town. The increased use and transport of hazardous materials in the Town increases the potential for accidental releases of hazardous materials. Typical incidents that may result in accidental releases of hazardous materials include leaking underground storage tanks, accidents during transport causing a "spill" of a hazardous material, and/or natural disasters causing unauthorized release of a hazardous material. Accidental releases would most likely occur in the commercial and industrial areas and along transportation routes leading to and from these areas, as well as along the major access routes including U.S. Highway 395, SR 203, Meridian and Minaret Road. Chemical storage and handling activities in Mammoth Lakes have resulted in releases of hazardous materials and petroleum products to soil ~~and ground water~~ in the Mammoth Lakes area (Bill Taylor, Town, Personal communication, February 10, 2005).

Accidental releases of hazardous materials may cause contamination of soils, surface water and groundwater. Depending on the nature and extent of the contamination, natural habitat and wildlife may be impacted and groundwater supplies may become unsuitable for domestic use. Additionally, human exposure to contaminated water or soil may have potential health effects depending on the nature of the contaminant. As described in the Regulatory Framework section above, numerous federal, state and local regulations oversee handling, transport and management of hazardous materials. While the risk of the accidental release of hazardous materials cannot be eliminated, oversight by the appropriate agencies and compliance with the applicable regulations would reduce risks to a less than significant level. Additional information regarding water quality is contained in the Section 4.6, Hydrology and Water Quality.

In addition, the following implementation measures in the Updated Plan would further ensure that ensure that impacts regarding reasonably foreseeable upset and accident conditions involving the release of hazardous materials are reduced to a less than significant level.

Implementation Measures in the Updated Plan

II.4.C.a.l The Town shall work to ensure that the Fire Department and other emergency response agencies are adequately prepared to respond to an emergency involving hazardous material.

II.4.C.a.3 The Town shall work with Mono County and other public agencies to inform businesses and consumers about the proper use and disposal of hazardous materials and waste.

II.4.C.a.4 The Town shall require the completion of a Hazard Materials disclosure form for all new development.

II.4.C.a.5 The Town shall maintain and implement the Spill Prevention, Control, and Countermeasure Plan for the Mammoth Yosemite Airport as required by the Oil Pollution Act of 1990 which mandates a spill response system for the proper handling, storage, and transportation of oil in the event a discharge occurs.

II.4.C.a.6 The Town shall regulate, specify, and develop sites for the safe collection of hazardous wastes; all facilities shall comply with State and Federal regulations and be designed and located in areas where they pose minimal threat to the environment.

II.4.C.b.l The Town of Mammoth Lakes will coordinate with other public agencies and private stakeholders to develop and implement a hazardous waste management and minimization program targeting the primary sources of hazardous waste including but not limited to lead-acid batteries, radioactive smoke detectors, silver cad, metal hybrid, dry cell batteries, cleaning solutions (organic solvents and in-organic liquids), florescent lights, and waste oil.

II.4.C.b.2 The Town shall cooperate with other governmental agencies in the region and the State in planning for the effective management of hazardous wastes generated in the region and the state in accordance with the hazardous waste management hierarchy.

All projects within the Planning Area would be required to comply with all federal, state and local regulations regarding the handling, transport and management of hazardous materials and waste. In addition, the Updated Plan includes implementation measures to address the routine transport, use, or disposal of hazardous materials. With the regulations and the implementation measures, the impacts associated with the use of hazardous materials would be reduced to a less than significant level.

Mitigation Measures

The Updated Plan would not result in a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. Therefore, no mitigation measures are required.

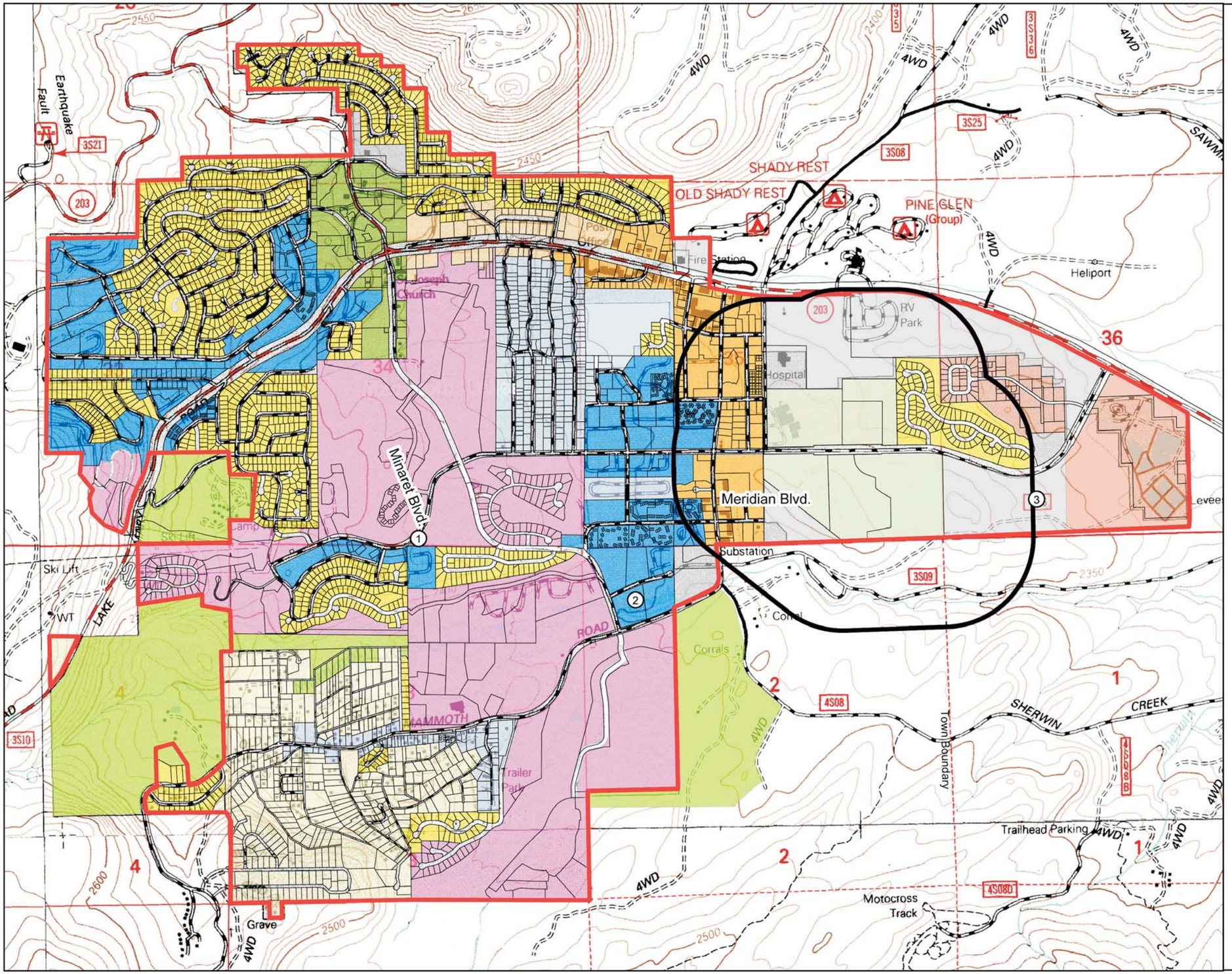
Level of Significance After Mitigation

Impacts related to the accidental release of hazardous materials would be less than significant.

Issue 4.5-3: *Would development associated with implementation of the Updated Plan emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?*

Discussion: Figure 4.5-1 on page 4-136 identifies the parcels with the existing and planned schools, as well as a line 0.25 miles from the edge of those parcels. Overall 155 parcels of property located within the Commercial and Industrial Land Use Designation are located within 0.25 miles of the existing and planned schools. Although the project would allow for new and expanded development in the Planning Area including services or institutions that may involve the handling or emission of hazardous emissions within one-quarter mile of existing and proposed school facilities in the Town, no additional development could occur that is any different than the development that would occur under the existing General Plan**.** These services and institutions would include uses such as dry cleaning facilities, gas stations, hospitals, water and sanitation facilities and schools with chemistry labs. The location of new or expanded uses that handle hazardous materials could result in hazardous emissions or the use and storage of hazardous materials within one-quarter mile of an existing or proposed school. In most instances, a buffer in the form of a major street, channel or intervening land use separates residential areas from industrial areas.. The proposed new industrial area is outside of this 0.25 mile radius.

Should new development involving the uses of hazardous materials associated with implementation of the Updated Plan be proposed within one-quarter of an existing or proposed school, site-specific environmental review would be conducted to determine if hazardous emissions would impact the school site. In addition, the Town would consult with the School District pursuant to 14CCR Section 15186(b). The handling, storage and transport of hazardous materials would be to subject to all applicable federal, state and local regulations to ensure that the school site would not be significantly impacted. Compliance with the applicable regulations and oversight by the appropriate agencies would reduce risks to school sites to a less than significant level. In addition, the following implementation measures in the Updated Plan would



Town of Mammoth Lakes

Explanation

- 0.25 mi. School Buffer
- School Parcel
- Urban Growth Boundary

- Commercial 1
- Commercial 2
- High Density Residential 1
- High Density Residential 2
- Industrial
- Institutional Public
- Low Density Residential 1
- Low Density Residential 2
- Open Space
- Resort
- Specific Plan
- National Forest Lands
- National Forest Lands Outside the Municipal Boundary

PARCELS

1. Bell-Shape Parcel
2. Mammoth Creek Park
3. Water District
4. Foundation Parcel

N

0 1,050 2,100 4,200 Feet

Base Maps: Old Mammoth, Mammoth Mountain, Crystal Crag & Bloody Mountain
Source: Town of Mammoth Lakes Updated Plan, 2005

Figure 4.5-1 School Parcels and Buffer Map

further ensure that impacts to school sites regarding hazardous materials are reduced to a less than significant level.

Implementation Measures in the Updated Plan

II.4.C.a.l The Town shall work to ensure that the Fire Department and other emergency response agencies are adequately prepared to respond to an emergency involving hazardous material.

II.4.C.a.2 The Town shall establish appropriate evacuation routes, and incorporate them into the Emergency Preparedness and Response Plan.

II.4.C.a.3 The Town shall work with Mono County and other public agencies to inform businesses and consumers about the proper use and disposal of hazardous materials and waste.

II.4.C.a.4 The Town shall require the completion of a Hazard Materials disclosure form for all new development.

II.4.C.a.6 The Town shall regulate, specify, and develop sites for the safe collection of hazardous wastes; all facilities shall comply with State and Federal regulations and be designed and located in areas where they pose minimal threat to the environment.

II.4.C.b.l The Town of Mammoth Lakes will coordinate with other public agencies and private stakeholders to develop and implement a hazardous waste management and minimization program targeting the primary sources of hazardous waste including but not limited to lead-acid batteries, radioactive smoke detectors, silver cad, metal hybrid, dry cell batteries, cleaning solutions (organic solvents and in-organic liquids), florescent lights, and waste oil.

II.4.C.b.2 The Town shall cooperate with other governmental agencies in the region and the State in planning for the effective management of hazardous wastes generated in the region and the state in accordance with the hazardous waste management hierarchy.

While the Updated Plan could result in the location of a use that emits or handles hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school, the Town will consult with the School District and any such proposed use would be required to undergo environmental analysis to ensure that the impacts would be less than significant. As per section 17.24.100 “Environmental Standards” the use, storage and disposal of hazardous

materials shall be subject to the approval and conditions of the Mammoth Lakes fire protection district and the Mono County health department. All fifty-five-gallon containers shall be labeled and sealed at all times and shall be stored on impervious surfaces approved by the public works director. Furthermore, no changes are being proposed to the hospital or other hazardous material producers by the Updated Plan and compliance with the applicable regulations and oversight by the appropriate agencies as well as the proposed implementation measures in the Updated Plan would reduce risks to school sites to a less than significant level.

Mitigation Measures

The Updated Plan would not result in impacts to schools from uses that emit or handle hazardous materials, substances, or waste. Therefore, no mitigation measures are required.

Level of Significance After Mitigation

Impacts to schools related to hazardous materials would be less than significant.

Issue 4.5-4: *Would development associated with implementation of the Updated Plan be located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, which would result in a safety hazard for people residing or working in the area?*

Discussion: The Mammoth Yosemite Airport is located within the Town's Municipal Boundary and the UGB. Additional development in the vicinity of the airport increases the potential for safety hazards. Impacts to airport safety were discussed in the Mammoth Yosemite Airport Supplement to Subsequent EIR, SCH 2000034005, March 2002 (SSEIR**).** Mitigation measures in the SSEIR require future development to comply with the adopted land use policies of the Airport Land Use Commission; and development of a complete water supply, storage, and distribution system meeting the requirements of the Long Valley FPD. These measures were implemented through the Mammoth/June Lake Airport Land Use Plan, Town land use approvals, the Long Valley FPD, and building permits. The majority of land within the runway protection zones is under the land use jurisdiction of Mono County and are governed by the county, as well as the Town General Plan. All development related to the Airport must be in compliance with the adopted Airport Land Use Plan The Airport Land Use Plan (ALUP) was prepared by the Mono County Airport Land Use Commission (ALUC) for land uses in the vicinity of the Mammoth Yosemite Airport. That plan was originally adopted in 1986. The Town's proposed uses on the airport property include aviation uses and visitor accommodations. These uses have been reviewed by the ALUC and found to be consistent with the previously adopted ALUP.

The Updated Plan provides the following implementation measures to ensure that future development is compatible with the Mammoth Yosemite Airport.

Implementation Measures in the Updated Plan

VII.3.A.a.1 The Town shall promote the maintenance and improvement of general and commercial aviation facilities in a manner that is compatible with surrounding land uses.

VII.3.A.a.3 Implement airport improvements consistent with the Mammoth Yosemite Airport Master Plan and the Airport Land Use Plan for the Mammoth Yosemite Airport.

With implementation of the implementation measures in the Updated Plan and compliance with the mitigation measures in the SSEIR, compliance with federal regulations and the Airport Land Use Plan, impacts regarding safety for people working or residing in the area of the Mammoth Yosemite Airport would be less than significant.

Mitigation Measures

The project would not result in creating a safety hazard from the Airport for people residing or working in the area. Therefore, no mitigation measures are required.

Level of Significance After Mitigation

Impacts regarding safety hazards from the Airport for people residing or working in the area would be less than significant.

Issue 4.5-5: *Would development associated with implementation of the Updated Plan impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?*

Discussion: The Town has an adopted Emergency Operations Plan (EOP) (2001) for emergency response within the Town. The Plan meets the state's Standardized Emergency Management System (SEMS) requirements for state law. Threats and emergency response are thoroughly described and outlined in the Town's Emergency Operations Plan. Key points of the plan include the identification of critical areas in the town that represent hazards, areas for meeting and staging in an emergency event, communications, and emergency evacuation. Parks and other large areas are identified as emergency shelter and meeting locations. An Emergency Operation Center (EOC), fully equipped with emergency communication equipment and cooking, showering, and sleeping facilities is provided in Fire Station 1 for seismic or other disaster situations (other EOCs include MCWD office, Fire Station 2, Police Department, Canyon Lodge, etc.). Radio and satellite communication are utilized to maintain communications should other systems fail. Furthermore, local radio and television are also

utilized to notify residents and visitors of an emergency. Development under the Updated Plan will not impair implementation or physically interfere with the EOP, because no circulation changes are being proposed which conflict with the procedures set forth in the plan. The Updated Plan provides the following implementation measures to ensure that proper and adequate emergency response planning is provided as future development occurs within the Town.

Implementation Measures in the Updated Plan

II.4.C.a.l The Town shall work to ensure that the Fire Department and other emergency response agencies are adequately prepared to respond to an emergency involving hazardous material.

II.4.C.a.2 The Town shall establish appropriate evacuation routes, and incorporate them into the Emergency Preparedness and Response Plan.

With implementation of these measures contained in the Updated Plan and compliance with Emergency Operations Plan, development associated with implementation of the Updated Plan would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. Thus, impacts would be less than significant.

Mitigation Measures

The Updated Plan would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. Therefore, no mitigation measures are required.

Level of Significance After Mitigation

Impacts with regard to an adopted emergency response plan or emergency evacuation plan would be less than significant.

Issue 4.5-6: *Would development associated with implementation of the Updated Plan expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?*

Discussion: As noted in the baseline discussion, the Mammoth Lakes Planning Area has been rated as having a very high fire potential. Additional development in the Planning Area would increase the number and variety of potential ignition sources for wildland fires including

illegal or inappropriate burning, fires started by recreational vehicles, improper disposal of cigarettes, barbecues, and other sources. However, this impact is somewhat reduced by the fact that additional development is to be located in the UGB and most of the wildlands areas are located outside the UGB. Still, the potential impact associated with this exposure is considered significant.

As discussed above, in response to the 2002 fire season the ESRFSC prepared a handbook called the Fire Safe Plan, which is designed to help east side residents of Inyo and Mono Counties improve their defense against wildland fires. In addition, the ESRFSC collaborates with local volunteer fire departments and assists CDF as they train fire prevention volunteers to perform residential fire hazard inspections within Eastern Sierra communities. Volunteers work with homeowners to raise awareness concerning wildland fire risks and methods of home hazard reduction.

With regard to property maintenance, Section 4291 of the California Public Resource Code requires property owners to reduce fire hazards by removing dead vegetation, creating a ten-foot clearance around propane tanks, removing tree limbs that are within ten feet of the residence, removing leaves and pine needles from roofs and rain gutters, installing a half-inch mesh screen on stovepipes or chimneys, installing spark arresters on all internal combustion engines, and by obtaining burn permits. ESRFSC suggests that Section 4291 offers insufficient protection.

The Updated Plan provides the following implementation measures to reduce the risks and impacts to urbanized areas associated with wildland fires.

Implementation Measures in the Updated Plan

II.4.A.e.1 The Town shall require all new construction to comply with at least the minimum wildland fire safety standards, including those established for emergency access, signing and building numbering, private water supply reserves for fire use, and vegetation modification.

II.4.A.e.2 The Town shall require adequate structural fire protection, and mitigation of all fire hazards through the environmental and project review process.

II.4.A.e.3 The Fire District should minimize the incidence of structural fires by:

- Regular inspections by the Fire District;
- Voluntary residential inspections;

- Review of new development and remodeling plans in coordination with the Town's Development Review Procedures, and;
- Institution of public fire education programs.

II.4.A.e.4 The Town shall support the Mammoth Lakes Fire District Master Plan for Fire Protection and assist in the establishment and implementation of appropriate funding sources - such as fees, exactions, charges, and assessments - to facilitate the development of a third fire station, expand the Main Street fire station, construct fire employee housing, and relocate the training tower

II.4.A.e.5 The Town shall help assure water supply and water flow sufficient to suppress two or more simultaneous fires through requirements in the Town development code.

II.4.A.e.6 The Town shall review the wildland fire safety standards and develop additional town specific policies that further protect people and property from unreasonable risks of wildland and structural fire hazards if necessary.

II.4.A.f.l The Town shall maintain mutual aid agreements with other fire and emergency service agencies for outlying and rural areas of the community.

II.4.A.f.2 The Town shall assist in the development and maintenance of an up to date GIS based address database and mapping system.

II.4.A.f.3 The Town shall coordinate with other agencies to provide ongoing fire prevention public education programs.

II.4.A.f.4 The Town shall research the practicality of instituting a local ordinance that goes beyond the requirements of the State's Standardized Emergency Management System.

II.4.A.g.1 The Town shall coordinate and support other agencies in fire prevention activities and the development of a Fire Hazards Response Plan for the urban wildland interface.

II.4.A.g.2 The Town in coordination with the Inyo National Forest and other land management agencies shall promote the creation and maintenance of natural and artificially constructed firebreaks between development and open space areas through the use of fire resistive landscaping, weed abatement, and other methods.

The Updated Plan includes various measures to address the risk of exposure from wildland fires. Assuming agencies with jurisdiction over surrounding areas susceptible to wildland fires (i.e., USFS, Inyo National Forest, etc) effectively manage fuel sources, the risk of exposure of fires would be reduced to a less than significant level. However, portions of the surrounding areas outside of the Town's jurisdiction are located within very high wildland fire hazard areas. Wildland fires could potentially spread to the Town if appropriate fire control planning and response measures are not undertaken by other agencies. Given that implementation of measures to reduce the impact are not under the control of the Town, the potential impact is considered to be significant and unavoidable.

Mitigation Measures

As indicated above, assuming all agencies manage fuel sources properly, the risk of exposure to wildland fires would be less than significant. However, given that the Town does not have control over the entire area, the impact is considered to be potentially significant. The Town is currently implementing all possible measures, to reduce the risk of exposure from wildland fires, such as collecting Development Impact Fees on behalf of the Mammoth Lakes Fire Protection District to fund the districts development schedule. Based on the Updated Plan and development schedule the Town estimates collecting over three million dollars which will be used to fund the expansion of Fire Station One, and possible for the purchase of new equipment and/or the development of Fire Station Three. No further mitigation measures beyond the implementation measures identified in the Updated Plan are feasible.

Level of Significance After Mitigation

Assuming all agencies manage fuel sources properly, the risk of exposure to wildland fires would be reduced but not eliminated. However, given that the Town does not have control over the entire area and additional feasible mitigation measures have not been identified to reduce the risk, the impact is considered to be potentially significant and unavoidable.

Issue 4.5-7: *Would development associated with implementation of the Updated Plan expose people or structures to a significant risk of loss, injury or death involving other natural conditions?*

Discussion: Structural fires could result in significant safety risks to people and potential loss of property. However, all future development would be subject to site plan review by the MLFPD to ensure that fire-safe regulations such as ensuring adequate clearance of flammable vegetation around individual structures to prevent the spread of fire between wildlands and structures on a project-by project basis. Additionally, adequate road widths and load capacities would be provided and maintained to ensure the ready movement of fire engines, bulldozer transport units, and other heavy firefighting equipment. All development projects must comply

with the Uniform Fire code and are subject to review by the Mammoth Lakes Fire Protection District. Thus, impacts regarding structural fires would be less than significant.

Development in areas with slope gradients of between 30 and 45 degrees could expose people or property to hazards such as avalanches. However, as stated in the Existing Conditions section, areas in the Town where avalanche potential has been identified have been overlaid with a Snow Deposition Design (SDD) Zone to minimize health and safety hazards. Any development within this zone would be permitted by use permit only and requires an Avalanche Risk Assessment certified by a recognized expert in the field of avalanche occurrence. Furthermore, no critical or permanently occupied facilities within the Planning Area would be located within a high avalanche hazard area. In addition to avalanches, exposure to snow and ice shedding could create hazards that could injure people and damage property.

The Updated Plan provides the following implementation measures to reduce the risks and impacts from snow-related hazards.

Implementation Measures in the Updated Plan

II.4.A.b.1 The Town shall monitor known and potential avalanche hazard areas and require an Avalanche Risk Assessment on all development proposed within the Snow Deposition Design Zone.

II.4.A.b.2 The Town shall allow only open space or low density seasonal occupancy in high avalanche hazard zones.

II.4.A.b.3 The Town shall require developers to implement appropriate mitigation measures in avalanche areas through requirements in the Town development code.

II.4.A.b.4 The Town shall utilize an emergency notification and information system to inform the public of avalanche hazards and post warning sign on roadways subject to avalanche hazards.

II.4.A.b.5 The Town shall support and encourage actions by the U.S. Forest Service and Mammoth Mountain Ski Area to abate avalanche hazards which impact the Town of Mammoth Lakes.

II.4.A.b.6 The Town shall undertake a study to identify the limits of avalanche run out areas.

In addition to policies and implementation measures regarding avalanches, Section 15.24.040, Snow Loads/Sow Design, of the Municipal Code and Section 2305(d) of the Uniform

Building Code, address the design of structures relative to potential snow impact issues. The section requires that since the Town is considered a snow area, all structures within the Town are to be designed to withstand snow loads and any additional effects created by snow. The roof and eaves of all structures are to be designed so that snowshed impact areas will not occur in or on entries/exits, vehicle parking areas, driveways, walkways, and public ways. Further, all eaves of sloped roofs are to maintain setbacks so that snowshed impact areas occur on the property. With regard to sidewalk clearance of snow, the Town is responsible for snow removal of the sidewalks along Old Mammoth Road, which is funded through the Old Mammoth Road Benefit Assessment District. Additional sidewalk snow-removal equipment is programmed in the Master Facility Plan and funded through DIF. Major resort developments with pedestrian areas such as North Village are also required to remove snow from pedestrian areas as a condition in the development approval.

With incorporation of the implementation measures in the Updated Plan as well as the existing regulations, development associated with implementation of the Updated Plan would not expose people or structures to a significant risk of loss, injury or death involving avalanches or snow related issues, such as snow and ice shedding. Thus, impacts would be less than significant in this regard.

Mitigation Measures

With implementation of the implementation measures in the Updated Plan, development associated with implementation of the Updated Plan would not expose people or structures to a significant risk of loss, injury or death involving avalanches. Therefore, no mitigation measures are required.

Level of Significance After Mitigation

Impacts regarding natural conditions, including avalanches and structural fires, would be less than significant.

4.6 HYDROLOGY AND WATER QUALITY

This section analyzes potential impacts on existing drainage patterns, surface hydrology and flood control facilities as a result of new development associated with implementation of the Updated Plan. In addition, potential impacts to water quality from the implementation of the Update Plan are also analyzed.

4.6.1 EXISTING CONDITIONS

4.6.1.1 Hydrologic Setting

The Town is located within the 45,000 acre Mammoth Hydrologic Basin. This approximately 71 square mile basin is part of the Long Valley Subunit of the Owens Valley Hydrologic Unit on the Lahontan Drainage Province. The Mammoth Hydrologic Basin includes many alpine lakes, surface streams, and springs, which are all tributary to Mammoth Creek or Hot Creek. Mammoth Creek serves as the principal drainage course through the Town and flows into Hot Creek at a point east of U.S. Highway 395. Hot Creek then flows easterly into the Owens River. The total length of the Mammoth Creek/Hot Creek drainage system is approximately 18 miles.

4.6.1.2 Major Watersheds

The Mammoth Hydrologic Basin contains six distinct major watersheds as shown in Figure 4.6-1 on page 4-147. Watersheds I through V comprise the major tributary area of Mammoth Creek upstream of U.S. Highway 395 (downstream of which the stream name changes to Hot Creek). The remaining Basin area has been combined into Watershed VI, even though minor drainage districts could be designated. Watershed I encompasses the Lakes Basin and contains the largest and most numerous lakes within the Mammoth Hydrologic Basin. The majority of the developed portions of the Mammoth Hydrologic Basin are located in Watersheds II and III. Watershed II, located immediately downstream of Watershed I, includes portions of Mammoth Mountain and the Town, which drain directly into Mammoth Creek. Watershed III drains into Mammoth Creek near U.S. Highway 395.

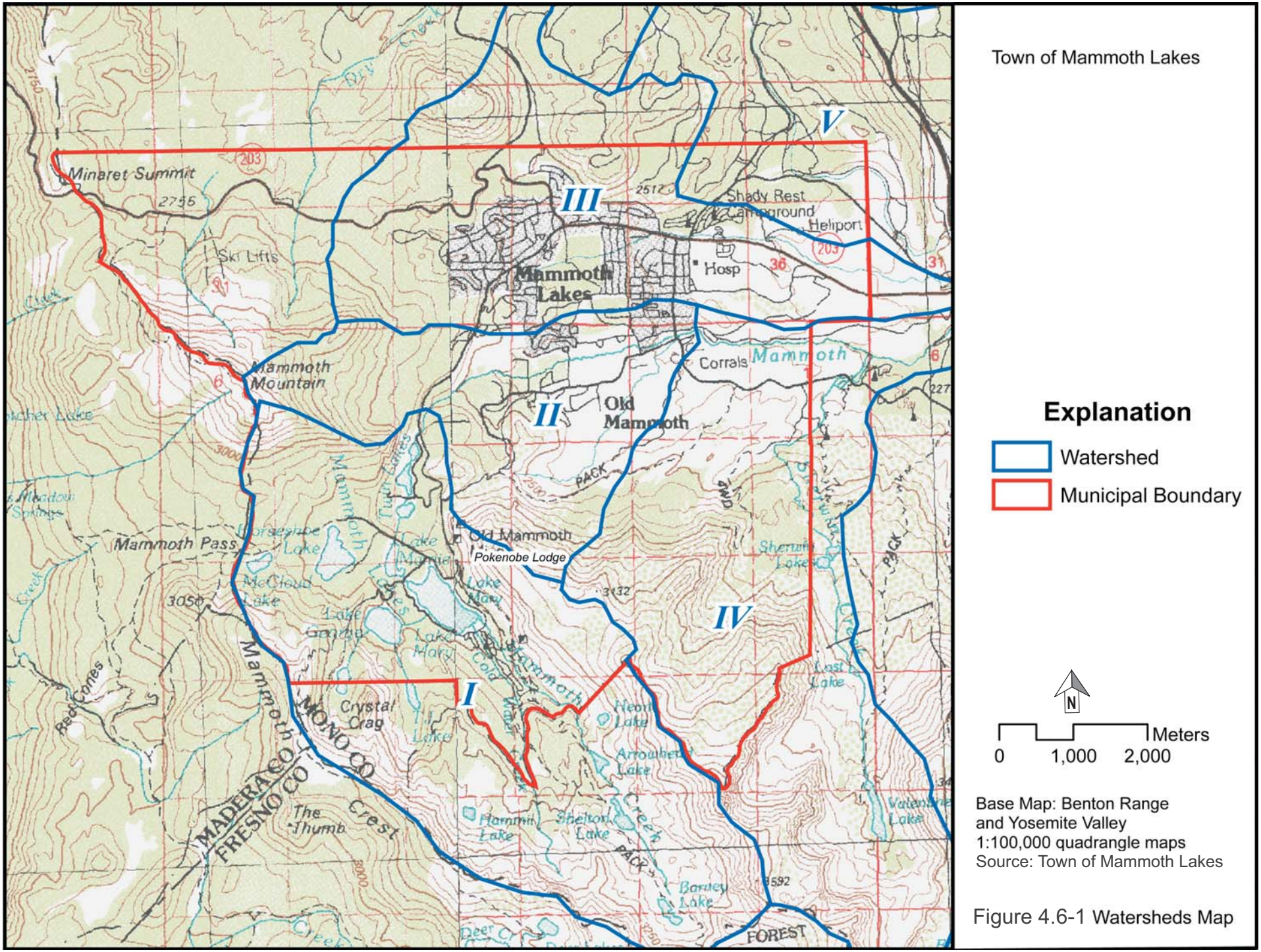


Figure 4.6-1 Watersheds Map

4.6.1.3 Drainage and Runoff

Mammoth Creek serves as the primary surface watercourse in the Mammoth Hydrologic Basin. Secondary watercourses in the Basin include Murphy Gulch, Hot Creek, ~~Bodle Ditch,~~ Laurel Creek, and Sherwin Creek. Surface water from Lake Mary is diverted on a seasonal basis into a drainage ditch known as Bodle Ditch. Flow rates decrease in summer after peaking in the spring snowmelt.

North of Old Mammoth and Snowcreek, drainage flows to the east, paralleling SR 203. South of SR 203, drainage is by sheet flow through the central portion of the Town to existing roadways or is carried in unimproved channels or ditches to drainage concentration points, eventually draining down SR 203, which acts as a watercourse. North of SR 203, surface flows are carried via Canyon Boulevard in pipelines to SR 203. The Old Mammoth and Snowcreek Districts are in a separate mini watershed, draining directly into one of two tributaries of Mammoth Creek.

Continued buildout of the Mammoth Lakes community has gradually increased the density and extent of the urbanized area within the UGB, resulting in a potential for greater peak flows from snowmelt and rain storms. As this growth occurs, the potential for erosion and flooding continues to increase, as well as water quality degradation in Mammoth and Hot Creeks.

4.6.1.4 Existing Drainage Facilities

Existing drainage facilities are located throughout the town. In 1975, a major storm drainage project established the area's storm drain system from Mammoth Slopes to Mammoth Ranger Station via Canyon Boulevard, Berner Street, Alpine Circle, and Main Street in the North Village Specific Plan area. This system, set forth in the Mammoth Lakes Storm Drainage Master Plan (SDMP) and described below, discharges into Murphy Gulch just east of the Mammoth Ranger Station. A 43,560 square foot (one-acre) siltation basin was constructed at the downstream end of Murphy Gulch channel in conjunction with these drainage improvements. A comparison of the design flow capacities versus the tributary discharge values found that 50 of 445 storm drain pipes did not meet the required capacity for the 20-year event. The 100-year event was analyzed only on pipes that run parallel to the street and found that 16 of 82 pipes are undersized.

4.6.1.5 Floodplain Mapping

Existing flood zone hazards are established by the Federal Emergency Management Agency (FEMA), which provides flood insurance subsidies and federally financed loans for

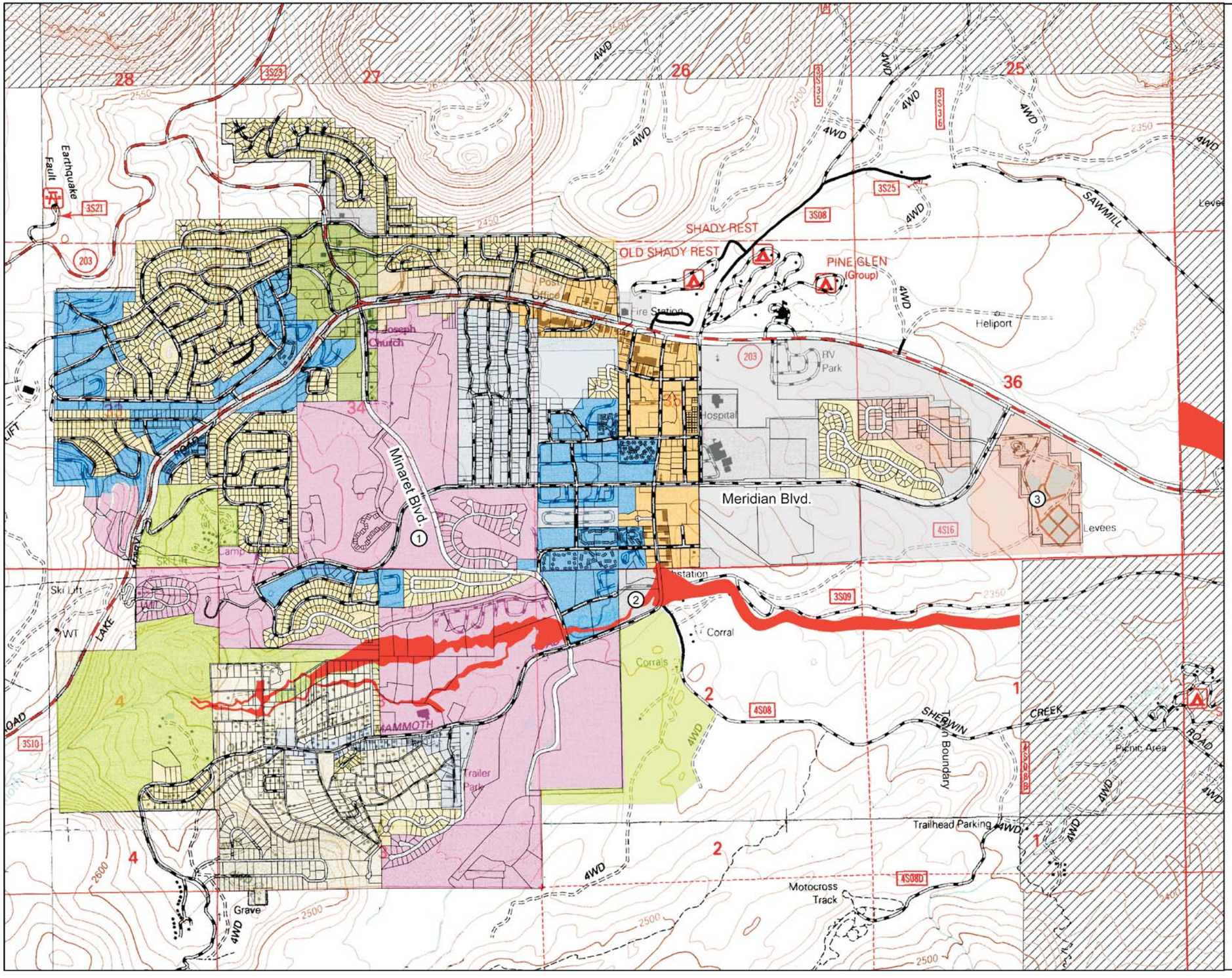
property owners in flood prone areas. FEMA has been responsible for administration of the National Flood Insurance Program (NFIP) since its inception in 1978. Through this program, analyses are conducted to determine the magnitude of flood risk that exists in communities throughout the U.S. Within these communities, individuals would be eligible to purchase flood insurance for structures and contents exposed to flooding if the community joined the NFIP. High hazard flood zones include property within 100-year floodplains, flash flood washes, and designated floodways. The NFIP is described in detail under the Regulatory Framework section, below.

The Updated Plan and the existing General Plan identify several potential flood hazard areas in the town. As shown in Figure 4.6-2 on page 4-150, the potential flood hazard areas include Murphy Gulch and the Mammoth Creek drainage area, which are located in the south central portion of the community. Murphy Gulch, which is located in the northeast quadrant of the Town, is a seasonal stream and has very little or even no flow during dry months. However, Murphy Gulch carries runoff during the spring snowmelt, as well as during heavy rainfall. The Murphy Gulch area is a designated within a 100- year flood zone by the FEMA. The 100-year estimated flood flow peak within the Murphy Gulch Area is approximately 550 cubic feet per second (cfs). Mammoth Creek has an average annual flow of 20 cfs with peak 100-year flows estimated at about 640 cfs. Flows of these magnitudes create flood conditions and a danger to portions of the town.

The portions of the town that have historically experienced severe drainage problems include Mono Road, Lupin Street, Mono Street, Manzanita Road, and Joaquin Road. Although neither FEMA nor the existing General Plan formally designates these areas as flood hazard zones, these areas are currently subject to minor flooding due to spring runoff or heavy rainfall. During these occurrences, some homes and driveways may become inaccessible.

4.6.1.6 Groundwater

The Town is located on the margin of Long Valley Ground Water Basin. The Basin is bordered to the west and southwest by the Sierra Nevada mountain range, to the north by Bald and Glass Mountains, and to the east by Round Mountain. The groundwater within the Mammoth Hydrologic Basin generally flows northeast and east from Mammoth Crest at an elevation of 11,600 feet above mean sea level (amsl) on the southwest, to the Hot Creek Gorge in the Upper Owens Valley at an elevation of 6,950 feet amsl on the northeast where it may seep through tuffaceous deposits into Owens Valley. Recharge occurs around the Long Valley Caldera rim, within the western portion, and beneath the resurgent area in the northwestern central portion of the Caldera. Groundwater discharge also occurs in springs located around the Caldera rim, and along the south and east sides of the resurgent area.



Town of Mammoth Lakes

Explanation

100 Year Flood Zone

Project

- Commercial 1
- Commercial 2
- High Density Residential 1
- High Density Residential 2
- Industrial
- Institutional Public
- Low Density Residential 1
- Low Density Residential 2
- Open Space
- Resort
- Specific Plan
- National Forest Lands
- National Forest Lands Outside the Municipal Boundary

PARCELS

1. Bell-Shape Parcel
2. Mammoth Creek Park
3. Water District
4. Foundation Parcel

N

0 250 500 1,000 Meters

Base Maps: Old Mammoth, Mammoth Mountain, Crystal Crag & Bloody Mountain
Source: Town of Mammoth Lakes

Figure 4.6-2 FEMA Flood Hazards Map

Groundwater hydrology in the Mammoth Hydrologic Basin is complex and has not been fully evaluated to date. Geophysical studies have identified at least two separate aquifers within the Town's Planning Area. Subsurface water in portions of the Mammoth Hydrologic Basin has been measured at less than ten feet beneath the surface. These saturated soils are probably fed by lateral migration of subsurface watercourses and probably do not represent the Mammoth Hydrologic Basin's true subsurface hydrology. The deeper aquifer is estimated to be at least 500 feet deep, but is otherwise poorly defined. ~~The aquifers supply water to Mammoth Creek, Hot Creek, and lakes in the Lakes Basin.~~ The California Department of Water Resources estimates that the subsurface flow in the Mammoth Lakes Basin is roughly equal to the surface flows. In the Hot Springs area, groundwater flows are estimated to be somewhat greater than surface flows.

According to Wildermuth, underlying the Mammoth Hydrologic Basin is a groundwater regime that does not correlate with the boundaries of the surface drainage systems.[20] Previous studies in the vicinity have implied that the Mammoth Hydrologic Basin groundwater regime is a part of the Long Valley Caldera groundwater system. It is doubtful, however, that a single system prevails throughout the caldera and/or the Mammoth Hydrologic Basin considering the complex geology, hydrology, and hydrogeology of the area.

The groundwater basin lies largely within the central part of the Mammoth Basin watershed. Boundaries of the groundwater basin have not been specifically defined due to the complex hydrogeologic conditions of the basin. Nevertheless, a general outline of the basin can be made considering surface drainages, ground elevations, surface geology, and earlier subsurface exploration. The Mammoth Basin watershed straddles the southern boundary of the Long Valley Caldera. Approximately one half of the basin lies inside the down dropped caldera feature and one half is south of and outside the caldera. Mammoth Basin is generally formed by elevated areas on the north and west that are comprised largely of Tertiary extrusive igneous rocks; a central trough filled with Quaternary alluvial, glacial, and volcanic deposits; and an abrupt southern flank of Pre Tertiary igneous intrusive and metamorphic rocks. The central trough area opens and drains to the east to the Owens River and Lake Crowley areas.[21]

The southern boundary of the Long Valley Caldera appears to closely parallel the southern groundwater basin boundary. The width of the basin varies from about 1.5 to four miles along its 11 mile east west course. This area is approximately 28 square miles. Both surface water and groundwater enter the groundwater basin area from the north, west, and south.

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[20] *Source: Hydrologic Impacts of the Snowcreek Golf Course Expansion on the AB and CD Headwater Springs, prepared by M.J. Wildermuth, 1996.*

[21] *Source: Investigation of Groundwater Production Impacts on Surface Water Discharge and Spring Flow, prepared for the Mammoth Community Water District by Wildermuth Environmental, Inc., November 2003.*

Gradients of surface flows follow stream course elevations, while groundwater gradients are a function of saturated basin cross section, hydraulic conductivity of the rocks, and the rate groundwater is passing through the basin.

4.6.1.7 Surface Water Quality

Surface water in the Mammoth Hydrologic Basin tends to be non-alkaline in character, meaning that it is low in mineral concentrations. This is because surface water in the region comes mostly from snowmelt and rainfall, so there is little opportunity for it to dissolve minerals from rocks an soil. The quality of this surface water is generally excellent. Levels of total dissolved solids (TDS), algae, bacteria, and other quantitative indicators are very good in comparison to federal drinking water standards. Streams fed by melting snow and runoff from the high Sierras have TDS concentrations averaging 20 milligrams per liter (mg/l) (the federal drinking water standard is 1,000 mg/l)[22].

The Lahontan Regional Water Quality Control Board (LRWQCB) reports that surface runoff and storm water drainage from development associated with the Town have adversely affected the water quality within Mammoth Creek.[23] Runoff from paved surfaces has increased the concentrations of nutrients, organic compounds, heavy metals, and petroleum products within the creek. Excessive surface drainage from streets and parking lots has also caused premature degradation of asphaltic concrete surface, especially on Canyon Boulevard. Material eroded or leached from these surfaces is eventually washed into the creek. An incomplete existing storm drainage system, largely developed in response to specific development requirements in the Town, tends to add to runoff problems; hence drainage problems are prevalent. In addition to facilities to meet the demands of new development in town, the Mammoth Lakes Storm Drainage Master Plan (SDMP) includes remedial actions to correct existing storm drainage deficiencies and improve water quality as mentioned in the Regulatory Framework discussion, below. Additionally, the Town requires development and redevelopment project contractors to prepare appropriate erosion and runoff control measures to protect adjacent properties, drainage courses, and Mammoth Creek from the potential adverse effects of runoff (Municipal Code Chapter 12.08, Land Clearing, Earthwork and Drainage Facilities).

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[22] *Mammoth Community Water District, 2004 "Water Quality Report"*

[23] *According to the most recent CWA Section 303(d) List of Water Quality Limited Segments, approved by the USEPA in July 2003, "metals" have been identified as pollutant/stressor in Mammoth Creek. Mammoth Creek was identified with a "Low" TMDL priority on the 303(d) List. According to the Lahontan RWQCB Watershed Management Initiative, a study is needed to verify the need for establishing a TMDL of metals in Mammoth Creek. The TMDL end date for Mammoth Creek is 2008. Thus, currently there is no adopted TMDL plan that addresses metals in Mammoth Creek.*

4.6.1.8 Groundwater Quality

Of the eight production wells maintained by Mammoth Community Water District (MCWD), ~~two contain~~ one well contains high quality water with low dissolved mineral content and low calcium carbonate hardness. This well water can be pumped directly into the water distribution system for direct use. The remaining ~~six~~ seven wells contain water with a higher dissolved mineral content and calcium carbonate hardness and also contain iron and manganese at levels that exceed State Health Department standards. Iron and manganese are currently removed from the District groundwater supplies at two MCWD treatment facilities located within the community. The District ~~is currently conducting~~ conducted a pilot project for arsenic removal at both of its groundwater treatment facilities and put ~~will have~~ equipment in place to comply with the new federal Maximum Containment Level (MCL) as of ~~by~~ January ~~1~~ 23, 2006.

4.6.2 REGULATORY FRAMEWORK

Hydrology and water quality is regulated at the Federal, State, and local levels. The United States Environmental Protection Agency (USEPA), the State Water Resources Control Board (SWRCB), the Regional Water Quality Control Board (RWQCB), Mono County and the Town of Mammoth Lakes regulate water quality in the Planning Area area.

4.6.2.1 Federal Level

National Flood Insurance Act

With the passage of the National Flood Insurance Act of 1968, the U.S. Congress established the National Flood Insurance Program (NFIP), enabling property owners in participating communities to purchase insurance as a protection against flood losses in exchange for State and community floodplain management regulations that reduce future flood damages. Participation in the NFIP is based on an agreement between communities and the federal government. If a community adopts and enforces a floodplain management ordinance to reduce future flood risk to new construction in floodplains, the federal government will make flood insurance available within the community as a financial protection against flood losses. This insurance is designed to provide an insurance alternative to disaster assistance to reduce the escalating costs of repairing damage to buildings and their contents caused by floods.[24]

[24] *Federal Emergency Management Agency; Federal Insurance and Mitigation Administration, National Flood Insurance Program Description (August 1, 2002).*

The Flood Disaster Protection Act of 1973 prohibits federal agencies from providing financial assistance for acquisition or construction of buildings and certain disaster assistance in the floodplains in any community that did not participate in the NFIP by July 1, 1975, or within 1 year of being identified as flood-prone. This law required federal agencies and federally insured or regulated lenders to require flood insurance on all grants and loans for acquisition or construction of buildings in designated Special Flood Hazard Areas (SFHAs) in communities that participate in the NFIP. This requirement is referred to as the Mandatory Flood Insurance Purchase Requirement. The SFHA is that land within the floodplain of a community subject to a 1 percent or greater chance of flooding in any given year, commonly referred to as the 100-year flood. The 1-percent-annual-chance flood (or 100-year flood) represents a magnitude and frequency that has a statistical probability of being equaled or exceeded in any given year, the 100-year flood has a 26 percent (or 1 in 4) chance of occurring over a 30-year period.[25]

In 1994, Congress amended the 1968 Act and the 1973 Act with the National Flood Insurance Reform Act (NFIRA). The 1994 Act included measures to increase compliance by mortgage lenders; increase the amount of flood insurance coverage that can be purchased; provide flood insurance coverage for the cost of complying with floodplain management regulations by individual property owners; establish a Flood Mitigation Assistance grant program to assist States and communities to develop mitigation plans and implement measures to reduce future flood damages to structures; codify the NFIP's Community Rating System; and require FEMA to assess its flood hazard map inventory at least once every 5 years.[26]

Federal Clean Water Act, Section 404

The U.S. Army Corps of Engineers (USACE) regulates "discharge of dredged or fill material" into "waters of the U.S.," which includes tidal waters, interstate waters, and all other waters that are part of a tributary system to interstate waters or to navigable "waters of the U.S.," as well as the use, degradation, or destruction of which could affect interstate or foreign commerce or which are tributaries to waters subject to the ebb and flow of the tide (33 C.F.R. 328.3(a)), pursuant to provisions of Section 404 of the CWA. The USACE generally takes jurisdiction within rivers and streams to the "ordinary high water mark" determined by erosion, the deposition of vegetation or debris, and changes in vegetation. The USACE defines jurisdictional wetlands as areas that contain hydrophytic vegetation (i.e., aquatic vegetation), hydric soils (i.e., soils that are sufficiently wet in the upper part to produce anaerobic conditions), and wetland hydrology, in accordance with the procedures established in the USACE Wetland Delineation Manual.[27] On January 9, 2001, the United States Supreme Court ruling in the Solid

[25] *Ibid.*

[26] *Ibid.*

[27] *U.S. Army Environmental Laboratory, Wetlands Delineation Manual, 1987 Edition.*

Waste Agency of Northern Cook County v. United States Army Corps of Engineers (No. 99-1178) held that the CWA does not give the federal government regulatory authority over non-navigable, isolated, intrastate waters. As a result of this decision, some previously regulated depressional areas, such as mudflats, sandflats, wetlands, prairie potholes, wet meadows, playa lakes, natural ponds, and vernal pools, which are not hydrologically connected to other intrastate or interstate "waters of the U.S.," are no longer regulated by the USACE.[28] Potential impacts to designated "waters of the U.S." are discussed in subsection 4.3, Biological Resources of this EIR.

Section 401 of the CWA requires that any applicant for a federal permit that involves activities resulting in a discharge to "waters of the U.S." shall provide a certification from the State in which the discharge is proposed. The State certification needs to conclude that the discharge will comply with the applicable provisions under the federal CWA. Therefore, before the USACE will issue a Section 404 permit, applicants must apply for and receive a CWA Section 401 Water Quality Certification. In the State of California, the overall regulation, protection, and administration of water quality is carried out by the State Water Resources Control Board (SWRCB).

The SWRCB and the LRWQCB enforce State of California statutes, equivalent to or more stringent than the federal statutes. The LRWQCB is responsible for establishing water quality standards and objectives that protect the beneficial uses of various waters in their region. The LRWQCB is also responsible for protecting surface and ground waters from both point and non-point sources of pollution.

National Pollution Discharge Elimination System

The USEPA established the National Pollutant Discharge Elimination System (NPDES) Program as the primary implementation program for regulating surface water quality. The NPDES Program requires permits for storm water discharge from storm drain systems into "waters of the U.S." The NPDES Program addresses storm water discharge during both pre- and post-construction activities.

Construction activities disturbing one acre or more are required to comply with the SWRCB General Construction Activity Storm Water Permit. This requires the preparation and approval of a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP must include the implementation of Best Management Practices (BMPs) that would reduce the potential for

[28] *These areas may still be regulated by CDFG under Fish and Game Code Section 1600 or by the RWQCB under the Porter-Cologne Act. Legislation has been introduced to the State Assembly to revise the Fish and Game Code to specifically regulate isolated waters affected by the SWANCC case.*

discharge of accidental and/or implicit pollutants into the storm drain system during grading and construction. The BMPs should be designed to maintain construction areas in such a condition that storm flows do not carry wastes or pollutants off-site. The General Construction Activity Storm Water Permit requires that these BMPs be in place prior to issuance of a grading permit.

Under the General Construction Activity Storm Water permit, project applicants are also required to implement a Standard Urban Storm Water Mitigation Plan (SUSMP) during the operational life of a project to ensure that storm water pollution is addressed through the incorporation of BMPs in the design of the development. This requirement provides numerical water quality design standards to ensure that storm water runoff is managed for water quality concerns in addition to flood protection. Project applicants are required to select source control and treatment control BMPs from the list approved by the RWQCB. In combination, the treatment control BMPs must be sufficiently designed and constructed to treat, infiltrate, or filter the first 3/4-inch of storm water runoff from a storm event.

4.6.2.2 State Level

Porter-Cologne Water Quality Control Act

Division 7 of the California Water Code, also known as the Porter-Cologne Water Quality Control Act, contains provisions that cover water quality protection and management for California's waters. The Porter-Cologne Act establishes the SWRCB and the nine RWQCBs as the principal state agencies responsible for the protection and, where possible, the enhancement of the quality of California's waters. The SWRCB sets statewide policy, and together with the RWQCBs, implements state and federal laws and regulations. In California, the NPDES permit program is administered by the SWRCB, through the RWQCBs.

Under the Porter-Cologne Act, a RWQCB may choose to regulate discharges of waste (dredge or fill materials) by issuing Waste Discharge Requirements (WDR), a type of state discharge permit, instead of issuing a CWA Section 401 Water Quality Certification. The SWRCB must review the WDR and certify, condition, or deny any activity if it does not comply with state water quality standards. Each RWQCB may waive WDRs for a specific discharge or category of discharges as long as the conditions stated in the respective RWQCB's Water Quality Management Plan are followed. Processing of a WDR is similar to that of a Section 401 certification; however, the RWQCB has slightly more discretion to add conditions to a project under the Porter-Cologne Act than under the CWA. The Project area is located within Region 6 and, thus, would obtain a WDR permit or CWA Section 401 Water Quality Certification for the proposed project from the LRWQCB.

California Department of Fish and Game Code

Section 1602 of the California Fish and Game Code requires any entity (e.g., person, State or local government agency, or public utility) who proposes a project that will substantially divert or obstruct the natural flow of, or substantially change or use any material from the bed, channel, or bank of, any river, stream, or lake, or deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake, it must first notify the CDFG of the proposed project. This includes rivers or streams that flow at least periodically or permanently through a bed or channel with banks that support fish or other aquatic life and watercourses having a surface or subsurface flow that support, or have supported, riparian vegetation. The CDFG's jurisdiction extends to the river, stream, or lake's top of bank, or to the outer edge of the adjacent riparian vegetation (i.e. riparian "drip line"), whichever is greater. If the CDFG determines that a proposed project may substantially adversely affect existing resources, a Lake or Streambed Alteration Agreement will be required.

Lahontan Regional Water Quality Control Board

The Town is within the jurisdictional boundaries of the LRWQCB. One of nine regional boards in the state, the LRWQCB develops and enforces water quality objectives and implementation plans that safeguard the quality of water resources in its region. Its duties include developing "basic plans" for its hydrologic area, issuing waste discharge requirements, taking enforcement action against violators, and monitoring water quality. In March 1995, a Water Quality Control Plan for the Lahontan Region, North and South Basins, adopted by the LRWQCB, took effect. The plan outlines policies and regulations for municipal wastewater, treatment, disposal, and reclamation. The Water Quality Control Plan also establishes specific erosion and sediment control guidelines for land developments within the Town. These standards are designed to provide developers with a uniform approach for the design and installation of adequate systems to control erosion and mitigate urban drainage impacts from the Town in an effort to prevent the degradation of waters of Mammoth Creek and Hot Creek. Under a Memorandum of Understanding with the LRWQCB, the Town administers erosion control measures on a project by project basis to make sure that they are in place and operational.

Assembly Bill 3030

In 1992, the California Legislature approved AB3030 to allow local agencies whose service areas overlie a state designated groundwater basin to develop and implement groundwater management plans (GMP). The law also stated that a local agency might not manage ground water pursuant to AB3030 within a service area of another local agency without the agreement of that entity. In effect, the purpose of the GMP was two-fold:

- Outline the role of the local agency in managing the local ground water resource; and
- Maximize the water supply and to protect the quality of the supply.

Components of the GMP include the following:

- Control of saline water intrusion;
- Identification and management of wellhead protection areas and recharge areas;
- Regulate migration of contaminated ground water;
- Administer well abandonment and destruction programs;
- Mitigate overdraft conditions;
- Replenish ground water extracted by producers;
- Monitor ground water levels and storage;
- Facilitate conjunctive uses;
- Identification policies for well construction;
- Construct/operate contaminated ground water remediation, recharge, storage, conservation, water recycling and extraction;
- Develop/maintain relationships with state/federal regulatory agencies; and
- Review land use plans and coordinate with land use planning agencies to assess activities that may create a risk of contaminating ground water.

4.6.2.3 Local Level

Storm Drainage Master Plan for the Town

In response potential erosion and flooding hazards as a result of increased urbanization, the Mono County Public Works Department prepared the Mammoth Lakes SDMP dated July 1984, which included a Master Plan Report, Design Manual, and Implementing Ordinance. An update to the SDMP was completed on May 26, 2005. The SDMP was primarily formulated to control the existing drainage and erosion problems by establishing a program to rehabilitate existing development areas, while also providing policies, standards, and procedures to guide future development.

The SDMP identifies several existing drainage problems in the Town including the following:

- Lack of a stable drainage system in much of the community located within the Urban Growth Boundary;
- Roadside and slope erosion due to uncontrolled runoff in poorly defined channels from steep areas;

- Drainage that crosses private property, and development in or near the natural drainage channels;
- Undersized culverts and channels; and
- Discharge of runoff from developed areas directly to Mammoth Creek resulting in high sediment loads to the creek and water quality degradation.

In response to these problems, the SDMP identifies general drainage improvements throughout the Town that would remedy existing drainage problems and accommodate Plan buildout development. Construction of the SDMP facilities can be spread out over a number of years. This would allow facilities to be built as they are needed or as further development occurs. Three priority levels have been established in the SDMP for construction of the improvements as summarized below:

- Priority 1 improvements focus primarily on eliminating existing drainage and erosion control problems;
- Priority 2 improvements include solutions to less critical drainage problems and facilities required to provide adequate drainage trunk capacity for the ultimate development; and
- Priority 3 improvements include the remainder of SDMP facilities, which are principally improvements for local storm drainage.

The SDMP strives to retain or improve natural streams where possible, rather than replacing them with storm pipes (for aesthetic, economic, and functional purposes). Storm pipes would be placed in streets where feasible; however, some easements would be required on private property, primarily where existing development has occurred near stream zones. The updated SDMP recommends the Town replace corrugated metal pipelines that failed to transmit the required 20-year flows, with pipes of the same size made of concrete, PVC, HDPE, or other materials that do not have a rough texture.

The SDMP also includes guidelines for erosion control for the Mammoth Lakes area. In an effort to remedy drainage and erosion problems, the erosion guidelines prescribe requirements that must be followed during all phases of developments involving soil disturbance on one-quarter acre or more. The erosion guidelines also provide a basis for consistent design of storm drainage and erosion control facilities.

Town Municipal Codes and Ordinances

Municipal Code Chapter 15.36: Water-Efficient Landscape Regulations

This chapter was enacted for the purpose of adopting rules and regulations pursuant to the Water Conservation in Landscaping Act. The purpose of this chapter is to promote the values and benefits of landscapes while recognizing the need to invest water and other resources as efficiently as possible; establish a structure for designing, installing and maintaining water efficient landscapes in new projects; and establish provisions for water management practices and water waste prevention for established landscapes.

4.6.3 THRESHOLDS OF SIGNIFICANCE

Based primarily on Appendix G in the CEQA Guidelines, the Project would be considered to have a significant impact on hydrology and water quality if the Updated Plan would:

- Violate of any water quality standards or waste discharge requirements;
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation onsite or offsite;
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding onsite or offsite;
- Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff;
- Otherwise substantially degrade water quality;
- Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or FIRM or other flood hazard delineation map;
- Place within a 100-year flood hazard area structures which would impede or redirect flood flows;
- Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam;
- Construct new storm water drainage facilities or expansion of existing facilities, the construction of which would cause significant environmental effects; or
- Result in inundation by seiche, tsunami, or mudflow.

4.6.4 IMPACTS AND MITIGATION

Issue 4.6-1: *Would development associated with implementation of the Updated Plan result in a violation of any water quality standards or waste discharge requirements?*

Discussion: Development in accordance with the Updated Plan would likely lead to an increase in the amount of impervious surfaces in the area. This increase would cause a decrease in the amount of water percolation into the ground and result in greater surface runoff quantities at higher velocities. During construction of the individual development sites, runoff from disturbed areas may contain silt and debris, resulting in short-term increases in the existing sediment load in the storm drain system. As a result, water quality could be impaired as well as the water-carrying capacity of the drainage channel, potentially aggravating current flood conditions. Runoff from development may also discharge pollutants from motor vehicles, such as petroleum hydrocarbons, glycol, and dissolved heavy metals. The LRWQCB reports that surface runoff and storm water drainage have adversely affected the water quality within Mammoth Creek. Runoff from paved surfaces has increased the concentrations of nutrients, organic compounds, heavy metals, asphaltic concrete particles, and petroleum deposits within the creek. Impacts would vary depending on the level of construction activity, weather conditions, soil conditions, and the increased sedimentation of drainage systems within the local area of the individual development sites. In addition, the increased use of pesticides, herbicides, fertilizers and other chemicals associated with development and recreational areas (such as golf courses) may impair surface waters through stormwater discharges and runoff. All construction projects would be subject to compliance with federal, state and local water quality and waste discharge requirements, including the NPDES Program, as deemed appropriate.

The Updated Plan also proposes the adoption of numerous implementation measures to reduce potential impacts regarding water quality and waste discharge. These measures are described below.

Implementation Measures in the Updated Plan

I.1.A.a.1 The Town shall require the use of Best Management Practices (BMP²s) during and after construction and development as a means to prevent erosion, siltation, and flooding.

I.1.A.a.2. Projects requiring a grading permit shall implement Best Management Practices (BMP²s) and shall be required to control erosion and sedimentation.

I.1.A.b.1 The Town of Mammoth Lakes shall maintain an up to date Drainage Master Plan.

I.1.A.b.3 The Town shall regulate the modification of natural stream beds and flow to ensure that adequate mitigation measures are utilized.

I.1.B.a.2 All activities within "jurisdictional" wetlands require a U.S. Army Corps of Engineers Section 404 Clean Water Act permit, California Regional Water Quality Control Board Clean Water Certification or Waiver, and the Town shall notify the California Department of Fish and Game pursuant to section 1600 and if necessary obtain a Lake and Streambed Alterations Agreement.

I.1.B.e.3 Require new development in the vicinity of Mammoth Creek to maintain minimum setbacks and preserve stream bank vegetation.

I.7.A.b.1 The Town shall require where practical and when warranted by the size of the project that parking lot storm drainage shall include facilities to separate oils and salts from storm water.

II.4.C.a.5 The Town shall maintain and implement the Spill Prevention, Control, and Countermeasure Plan for the Mammoth Yosemite Airport as required by the Oil Pollution Act of 1990 which mandates a spill response system for the proper handling, storage, and transportation of oil in the event a discharge occurs.

II.4.C.a.6 The Town shall regulate, specify, and develop sites for the safe collection of hazardous wastes; all facilities shall comply with State and Federal regulations and be designed and located in areas where they pose minimal threat to the environment.

The implementation measures in the Updated Plan would serve to protect existing surface and groundwater from pollutants associated with new development. With these implementation measures and compliance with federal, state and local water quality and waste discharge requirements, water quality standards or waste discharge requirements would not be violated.

Mitigation Measures

The Updated Plan would not result in a violation of any water quality standards or waste discharge requirements. Therefore, no mitigation measures are required.

Level of Significance After Mitigation

Impacts with regard to water quality standards or waste discharge requirements would be less than significant.

Issue 4.6-2: *Would development associated with implementation of the Updated Plan result in a substantial alteration of the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on or off site?*

Discussion: Development in accordance with the Updated Plan could lead to alterations of the existing drainage patterns, especially where drainage occurs on private property, or development occurs near natural drainage channels. During construction of the individual development sites, runoff from disturbed areas may contain silt and debris, resulting in short-term increases in the existing sediment load in the storm drain system. As a result, water quality could be impaired. Impacts would vary depending on the level of construction activity, weather conditions, soil conditions, and the increased sedimentation of drainage systems within the local area of the individual development sites.

All construction projects would be subject to compliance with applicable federal, state and/or local requirements to reduce the affects of erosion and siltation, including the NPDES Program. All development must comply with Municipal Code Sections 12.08.090, Drainage and erosion design standards, 12.08, Land clearing, earthwork and drainage facilities, and 12.08.080, Engineered grading permit requirements. These code sections serve to implement the implementation measures in the Updated Plan. Best management practices (BMPs), which would reduce and/or eliminate erosion potential, would be incorporated into development projects. Additionally, the SDMP also includes guidelines for erosion control for the Mammoth Lakes area. In an effort to remedy drainage and erosion problems, the erosion guidelines prescribe requirements that must be followed during all phases of developments involving soil disturbance on one-quarter acre or more. The erosion guidelines also provide a basis for consistent design of storm drainage and erosion control facilities.

Furthermore, should any future development result in the alteration of the course of a stream or river, the development would be required to comply with Section 1602 of the California Fish and Game Code, which requires notification of such activity to the CDFG. If the CDFG determines that a proposed project may substantially adversely affect existing resources, a Lake or Streambed Alteration Agreement would. This regulatory process would ensure that substantial erosion or siltation would not occur as a result of the alteration of the course of a stream or river not occur from future development.

The Updated Plan also contains a number of implementation measures designed to minimize erosion and siltation through drainage control from new development.

Implementation Measures in the Updated Plan

I.1.A.a.1 The Town shall require the use of Best Management Practices (BMP~~²~~s) during and after construction and development as a means to prevent erosion, siltation, and flooding.

I.1.A.a.2. Projects requiring a grading permit shall implement Best Management Practices (BMP~~²~~s) and shall be required to control erosion and sedimentation.

I.1.A.b.1 The Town of Mammoth Lakes shall maintain an up to date Drainage Master Plan.

I.1.A.b.2 The Town of Mammoth Lakes shall encourage, through project review, that watercourses be integrated into new development in such a way that they enhance the aesthetic and natural character of the site. Mapped intermittent streams shall not be routinely placed in culverts.

I.1.A.b.3 The Town shall regulate the modification of natural stream beds and flow to ensure that adequate mitigation measures are utilized.

I.1.B.a.2 All activities within "jurisdictional" wetlands require a U.S. Army Corps of Engineers Section 404 Clean Water Act permit, California Regional Water Quality Control Board Clean Water Certification or Waiver, and the Town shall notify the California Department of Fish and Game pursuant to section 1600 and if necessary obtain a Lake and Streambed Alterations Agreement.

I.1.B.e.3 Require new development in the vicinity of Mammoth Creek maintain minimum setbacks and preserve stream bank vegetation.

II.3.B.a.1 The Town shall update its development standards as needed to include advances in construction techniques which minimize soil erosion and slope instability.

II.4.A.a.3 The Town shall retain, to the maximum practical extent, primary community water courses and bodies in their natural state, through existing criteria in the Town Development Code. Creek corridors should be carefully identified, corridor setbacks established, and strict regulations precluding riparian vegetation removal and creek regime modification should be followed.

The implementation measures in the Updated Plan serve to maintain the existing drainage pattern of the Planning Area, including streams and river courses (MC Chapter 12.08). Through the implementation of the Draft General Plan the Town would encourage maintaining the natural

function of watercourse by requiring a setback from watercourses and not routinely allowing that watercourses be placed in culverts. The maintenance of watercourses in a natural state would contribute to the preservation of the existing drainage patterns. With these implementation measures and compliance with federal, state and local design and construction requirements, substantial erosion or siltation within or adjacent to the Planning would not occur.

Mitigation Measures

The implementation of the Updated Plan would not substantially alter drainage patterns causing substantial erosion or siltation within the Planning Area. Therefore, no mitigation measures are required.

Level of Significance After Mitigation

Impacts with regard to erosion and siltation would be less than significant.

Issue 4.6-3: *Would development associated with implementation of the Updated Plan result in a substantial alteration of the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on or off site?*

Discussion: Flood-prone areas may enlarge or contract as developments both upstream and downstream occur. Upstream development may include a variety of alterations to existing conditions such as more impervious surface, thus more runoff; altered drainage patterns, shifting the location of surface runoff; increases in runoff velocity; and alterations to water quality. Downstream developments may block flood waters, thus creating ponding and backup of previously freer flowing waters.

All future development within an identified flood hazard area would be subject to the design requirements and regulations set forth by the Town, Mono County and/or FEMA. All development must comply with Municipal Code Sections 12.08.090, Drainage and erosion design standards, 12.08, Land clearing, earthwork and drainage facilities, and 12.08.080, Engineered grading permit requirements. These code sections serve to implement the implementation measures in the Updated Plan. Additionally, the SDMP identifies general drainage improvements throughout the Town that would remedy existing drainage problems and accommodate Plan buildout development. These improvements would serve to reduce the potential for flooding.

The Updated Plan also contains a number of implementation measures designed to control the rate or amount of surface runoff to reduce the potential for flooding.

Implementation Measures in the Updated Plan

I.1.A.a.1 The Town shall require the use of Best Management Practices (BMP's) during and after construction and development as a means to prevent erosion, siltation, and flooding.

I.1.A.b.1 The Town of Mammoth Lakes shall maintain an up to date Drainage Master Plan.

I.1.A.b.2 The Town of Mammoth Lakes shall encourage, through project review, that watercourses be integrated into new development in such a way that they enhance the aesthetic and natural character of the site. Mapped intermittent streams shall not be routinely placed in culverts.

I.1.A.b.3 The Town shall regulate the modification of natural stream beds and flow to ensure that adequate mitigation measures are utilized.

I.1.B.e.3 Require new development in the vicinity of Mammoth Creek maintain minimum setbacks and preserve stream bank vegetation.

II.4.A.a.l The Town shall regulate development in flood plains and near the perimeter of natural water bodies and regulate development in flood areas when there is threat to life or property.

II.4.A.a.2 The Town shall maintain a flood hazard management program including regulations in the Town Development Code.

II.4.A.a.3 The Town shall retain, to the maximum practical extent, primary community water courses and bodies in their natural state, through criteria in the Town Development Code. Creek corridors should be carefully identified, corridor setbacks established, and strict regulations precluding riparian vegetation removal and creek regime modification should be followed.

The implementation measures in the Updated Plan and Municipal Code sections serve to maintain the existing drainage pattern of the Planning Area, including streams and river courses. With these implementation measures and compliance with federal, state and local design and construction requirements, surface runoff rates within the Planning Area would not be substantially increased.

Mitigation Measures

The implementation of the Updated Plan would not substantially increase the rate or amount of surface runoff in a manner that would result in flooding on or off site. Therefore, no mitigation measures are required.

Level of Significance After Mitigation

Impacts with regard to flooding as a result of the alteration of existing drainage patterns would be less than significant.

Issue 4.6-4: *Would development associated with implementation of the Updated Plan result in creation or contribution of runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?*

Discussion: As stated in the Existing Conditions section above, the 1984 Mammoth Lakes SDMP prepared for the Mono County Public Works Department identified several existing drainage problems in the Town. The 1984 SDMP also identified general drainage improvements throughout the Town that would remedy existing drainage problems and accommodate anticipated flow increases from development up until the period of 1999 to 2004 when the SDMP projected the Town to reach buildout under the existing General Plan (Tables 6-5, 6-6, and 6-7 in the 1984 SDMP). Over the last few years, improvements to the storm drain system have been made to Red Fir Road, Old Mammoth Road, Sierra Park Drive, Lake Mary Road and within the North Village Area. An update to the SDMP was completed on May 26, 2005. The updated SDMP provides hydraulic modeling of the drainage system and prioritizes the implementation of storm drainage facility improvements designed to accommodate development allowed in the existing General Plan. The general distribution and types of land uses would be similar under the Updated Plan with regard to stormwater runoff. The amount of impervious surface would not be changed with the Updated Plan compared with the existing Plan. All construction projects would be subject to compliance with all applicable federal, state and local water quality and waste discharge requirements, including the NPDES Program.

In addition, the Updated General Plan includes implementation measures created to minimize runoff water such that the capacity of existing or planned stormwater drainage systems would not be exceeded, nor would there be substantial additional sources of polluted runoff from new development.

Implementation Measures in the Updated Plan

I.1.A.a.1 The Town shall require the use of Best Management Practices (BMP²s) during and after construction and development as a means to prevent erosion, siltation, and flooding.

I.1.A.a.2. Projects requiring a grading permit shall implement Best Management Practices (BMP²s) and shall be required to control erosion and sedimentation.

I.1.A.b.1 The Town of Mammoth Lakes shall maintain an up to date Drainage Master Plan.

I.1.A.b.3 The Town shall regulate the modification of natural stream beds and flow to ensure that adequate mitigation measures are utilized.

II.4.A.a.3 The Town shall retain, to the maximum practical extent, primary community water courses and bodies in their natural state, through criteria in the Town Development Code. Creek corridors should be carefully identified, corridor setbacks established, and strict regulations precluding riparian vegetation removal and creek regime modification should be followed.

The implementation measures in the Updated Plan serve to prevent runoff water from exceeding the capacities of existing and planned capacities of stormwater drainage systems and prevent polluted runoff. With these implementation measures and compliance with federal, state and local design and construction requirements, storm drainage capacities would be maintained and substantial additional sources of polluted runoff would not occur.

Mitigation Measures

The implementation of the Updated Plan would not create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff. Therefore, no mitigation measures are required.

Level of Significance After Mitigation

Impacts with regard to storm drain capacities and polluted runoff would be less than significant.

Issue 4.6-5: *Would development associated with implementation of the Updated Plan result in an otherwise substantial degradation of water quality.*

Discussion: As discussed above, development associated with the Updated Plan would not result in a substantial degradation of water quality due to compliance with all applicable federal, state and local regulations, as well as implementation of the applicable implementation measures.

Implementation Measures in the Updated Plan

Refer to the implementation measures discussed under Issues 4.6-1 and 4.6-4.

Mitigation Measures

The implementation of the Updated Plan would not degrade water quality. Therefore, no mitigation measures are required.

Level of Significance After Mitigation

Impacts with regard to water quality would be less than significant.

Issue 4.6-6: *Would development associated with implementation of the Updated Plan result in placement of housing within a 100 year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?*

Discussion: The Updated Plan identifies several potential flood hazard areas in the Town. The Mammoth Creek Areas located in the southeast quadrant of the Town and Murphy Gulch east and north of the UGB are designated flood zones by the FEMA. The FEMA flood map also incorporated a portion of Murphy Gulch into the 100-year (but not the 500-year) flood zone. The entire designated Murphy Gulch flood zone is outside of the Municipal Boundary (and well outside of the UGB), but within the larger Planning Area. As shown in Figure 4.5.2, the mapped segments extend roughly one mile west of U.S. Highway 395, including (and extending eastward) of the confluence with Mammoth Creek. The intersection of U.S. Highway 395 with SR 203 is located outside of the flood area.

FEMA standards apply to development in the 100-year floodplain, which is the area with a one percent or greater chance of being flooded in any one year. A special study of the flooding potential of Mammoth Creek has been prepared by FEMA, and FEMA has plotted the extent of flooding potential as shown in Figure 4.6.2. As shown, the Flood Hazard map indicates that the 100-year flood corridor for Mammoth Creek does not extend far from the normal creek channel

in most locations throughout Town. Areas most prone to flooding would include the Corrals and portions of Old Mammoth located along the Creek alignment. Several stretches of Mammoth Creek, all located in the Old Mammoth area, are also subject to 500-year flooding.[29] As noted previously, the Town has established a conservation easement and building setbacks along the Creek for the purpose of resource and floodplain management. Although some established and existing land uses do fall within the mapped flood area for Mammoth Creek, none of the future development areas shown on the Plan would occur within the 100-year flood zones.

The Updated Plan contains a number of implementation measures designed to minimize the affects of flooding within the Town.

Implementation Measures in the Updated Plan

I.1.A.a.1 The Town shall require the use of Best Management Practices (BMP's) during and after construction and development as a means to prevent erosion, siltation, and flooding.

I.1.A.b.1 The Town of Mammoth Lakes shall maintain an up to date Drainage Master Plan.

I.1.A.b.3 The Town shall regulate the modification of natural stream beds and flow to ensure that adequate mitigation measures are utilized.

I.1.B.e.3 The Town shall require new development in the vicinity of Mammoth Creek maintain minimum setbacks and preserve stream bank vegetation.

II.4.A.a.l The Town shall regulate development in flood plains and near the perimeter of natural water bodies and regulate development in flood areas when there is threat to life or property.

II.4.A.a.2 The Town shall maintain a flood hazard management program including regulations in the Town Development Code.

II.4.A.a.3 The Town shall retain, to the maximum practical extent, primary community water courses and bodies in their natural state, through criteria in the Town Development Code. Creek corridors should be carefully identified, corridor setbacks established, and strict regulations precluding riparian vegetation removal and creek regime modification should be followed.

[29] *ESRI and FEMA U.S. Flood Hazard Areas - Flood Data website, http://mapserver2.esri. com/cgi-bin/hazard*

The implementation measures in the Updated Plan serve to reduce hazards to residential uses as a result of flooding. With these implementation measures and compliance with all applicable federal, state and local design requirements, including FEMA design requirements, residential uses would be designed and located to meet the minimum flood hazard requirements.

Mitigation Measures

The implementation of the Updated Plan would result in less than significant impacts with regard to flooding. Therefore, no mitigation measures are required.

Level of Significance After Mitigation

Impacts with regard to flooding as a result of the placement of housing within a designated flood hazard area would be less than significant.

Issue 4.6-7: *Would development associated with implementation of the Updated Plan result in placement within a 100 year flood hazard area structures which would impede or redirect flood flows?*

Discussion: As stated above, the Updated Plan identifies several potential flood hazard areas in the Town, including Murphy Gulch and the Mammoth Creek drainage. FEMA standards apply to development in the 100-year floodplain, which is the area with a one percent or greater chance of being flooded in any one year. All future development within an identified flood hazard area would be subject to the design requirements and regulations set forth by the Town, Mono County and/or FEMA. Additionally, the Updated Plan contains a number of implementation measures designed to minimize the affects of flooding within the Town.

Implementation Measures in the Updated Plan

I.1.A.a.1 The Town shall require the use of Best Management Practices (BMP's) during and after construction and development as a means to prevent erosion, siltation, and flooding.

I.1.A.b.1 The Town of Mammoth Lakes shall maintain an up to date Drainage Master Plan.

I.1.A.b.3 The Town shall regulate the modification of natural stream beds and flow to ensure that adequate mitigation measures are utilized.

I.1.B.e.3 The Town shall require new development in the vicinity of Mammoth Creek maintain minimum setbacks and preserve stream bank vegetation.

II.4.A.a.l The Town shall regulate development in flood plains and near the perimeter of natural water bodies and regulate development in flood areas when there is threat to life or property.

II.4.A.a.2 The Town shall maintain a flood hazard management program including regulations in the Town Development Code.

II.4.A.a.3 The Town shall retain, to the maximum practical extent, primary community water courses and bodies in their natural state, through criteria in the Town Development Code. Creek corridors should be carefully identified, corridor setbacks established, and strict regulations precluding riparian vegetation removal and creek regime modification should be followed.

The implementation measures in the Updated Plan serve to guide the design of structures within flood hazard areas. With these implementation measures and compliance with all applicable federal, state and local design requirements, including FEMA design requirements, structures within flood hazard areas would not impede or redirect flood flows.

Mitigation Measures

The implementation of the Updated Plan would not result in the placement of structures within a 100 year flood hazard area that would impede or redirect flood flows. Therefore, no mitigation measures are required.

Level of Significance After Mitigation

Impacts with regard to flooding as a result of the placement of structures within a designated flood hazard area would be less than significant.

Issue 4.6-8: *Would development associated with implementation of the Updated Plan result in exposure of people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?*

Discussion: As discussed under Issues 4.6-6 and 4.6-7, the Updated Plan identifies several potential flood hazard areas in the Town, including Murphy Gulch and the Mammoth Creek drainage. Potential hazards to residential uses and other structures as a result of development within a flood hazard area would be minimized through compliance with all applicable federal, state and local regulatory requirements and implementation of the Updated Plan's implementation measures. No future dams or levees are anticipated in the Updated Plan. However, if any future dams and levees were necessary, they would be designed to conform to

all applicable safety and design standards of all applicable federal, state and local requirements. All future development within an identified flood hazard area would be subject to the design requirements and regulations set forth by the Town, Mono County and/or FEMA. Any new development placed in a potential inundation zone of a dam or levee would undergo a site-specific analysis to ensure appropriate drainage is in place or would be constructed so that people or structures are not exposed to significant risk of loss, injury or death involving flooding.

Additionally, the Updated Plan contains a number of implementation measures designed to minimize the affects of flooding and emergencies within the Town.

Implementation Measures in the Updated Plan

I.1.A.a.1 The Town shall require the use of Best Management Practices (BMP's) during and after construction and development as a means to prevent erosion, siltation, and flooding.

II.4.A.a.l The Town shall regulate development in flood plains and near the perimeter of natural water bodies and regulate development in flood areas when there is threat to life or property.

II.4.A.a.2 The Town shall maintain a flood hazard management program including regulations in the Town Development Code.

II.3.A.b.5 The Town shall render all available assistance and cooperation in emergency situations to minimize loss of life, injury to persons, and damage to property.

II.3.A.b.6 The Town shall maintain an Emergency Plan for Mammoth Lakes which sets forth the responsibilities, functions, and operations of the Town government and its interrelationship with other agencies and jurisdictions which provide services during an emergency.

II.3.A.b.7 The Town shall develop and maintain an emergency notification and information system to minimize loss of life during a time of emergency.

The implementation measures in the Updated Plan serve to reduce hazards to people and structures as a result of flooding. With these implementation measures and compliance with all applicable federal, state and local design requirements, including FEMA design requirements, flooding hazards to people or structures within or adjacent to the Planning Area would be reduced to a less than significant level.

Mitigation Measures

The implementation of the Updated Plan would not result in exposure of people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam. Therefore, no mitigation measures are required.

Level of Significance After Mitigation

Impacts with regard to flooding from failure of a levee or dam would be less than significant.

Issue 4.6-9: *Would development associated with implementation of the Updated Plan result in construction of new storm water drainage facilities or expansion of existing facilities, the construction of which would cause significant environmental effects?*

Discussion: The SDMP update was completed on May 26, 2005. The updated SDMP provides hydraulic modeling of the drainage system and prioritizes the implementation of storm drainage facility improvements designed to accommodate development under the existing Plan. However, the improvements would be the same under the Updated Plan since the general distribution and types of land uses are the same with regard to runoff issues. All new storm drain facility upgrades or expansion of existing facilities would be subject to compliance with all applicable federal, state and local construction requirements, including the NPDES Program. Additionally, the Updated Plan includes implementation measures to minimize environmental impacts during construction projects, which includes construction of new storm water drainage facilities or expansion of existing facilities.

Implementation Measures in the Updated Plan

I.1.A.a.1 The Town shall require the use of Best Management Practices (BMP's) during and after construction and development as a means to prevent erosion, siltation, and flooding.

I.1.A.a.2. Projects requiring a grading permit shall implement Best Management Practices (BMP's) and shall be required to control erosion and sedimentation.

II.3.B.a.1 The Town shall update its development standards as needed to include advances in construction techniques which minimize soil erosion and slope instability.

The implementation measures in the Updated Plan serve to protect the environment from pollutants during construction and post-construction. With these implementation measures and

compliance with all applicable federal, state and local water quality and waste discharge requirements, significant environmental effects would not occur.

Mitigation Measures

The Updated Plan would not result in result in construction of new storm water drainage facilities or expansion of existing facilities, the construction of which would cause significant environmental effects. Therefore, no mitigation measures are required.

Level of Significance After Mitigation

Impacts with regard to construction of new or expanded storm water drainage facilities would be less than significant.

Issue 4.6-10: *Would development associated with implementation of the Updated Plan result in people or structures being inundated by seiche, tsunami, or mudflow?*

Discussion: The Project would not result in a higher probability of inundation by seiche, tsunami, or mudflow. The project site is not located in an area that would be impacted by a tsunami. The impacts from mudflows are considered to be negligible given the varying topography and heavily vegetated nature of the Planning Area. Any new development placed in a potential seiche inundation zone would undergo a site-specific analysis to ensure appropriate drainage is in place or would be constructed so that people or structures are not exposed to significant risk of loss, injury or death involving flooding.

Mitigation Measures

The Updated Plan would not result in result in people or structures being inundated by seiche, tsunami, or mudflow. Therefore, no mitigation measures are required.

Level of Significance After Mitigation

Impacts with regard to seiches, tsunamis, or mudflows are less than significant.

4.7 LAND USE AND PLANNING

This section provides a description of the existing land uses within the Planning Area. The section also discusses the existing General Plan and how it relates to the Updated Plan. A more detailed comparison of the adopted General Plan and the proposed General Plan Update is discussed as part of the No Project Alternative, which is contained in Chapter 7 of this EIR.

4.7.1 EXISTING CONDITIONS

4.7.1.1 Existing Land Use

The Planning Area, as defined in this EIR includes the entirety of land within the Town's Municipal Boundary and includes portions of land within unincorporated Mono County, certain lands owned by the City of Los Angeles, and other public and private entities. See Figure 3-2 on page 3-3. The Planning Area includes areas where existing or proposed facilities have direct relationship to the current town boundaries and services. It encompasses land in the unincorporated portions of Mono County for which the Town provides municipal services and extends from the Whitmore Recreation area on the east to the Mammoth Scenic Loop on the north. The Planning Area incorporates the Mammoth Yosemite Airport (which has been annexed into the town boundaries and which currently serves general aviation activity primarily in the Eastern Sierra Nevada); the Whitmore Park facilities southeast of the airport, which the town operates and maintains; Smokey Bear Flat east of United States (U.S.) Highway 395, which offers active recreational opportunities for town residents and visitors; the Mammoth Scenic Loop Road, which the Town maintains; and the Deadman Creek – San Joaquin Area north of the town, which has potential for non-motorized recreational development. The Planning Area also includes Inyo National Forest lands located within Madera County. The only vehicular access to the land within Madera County is through the town, which provides public safety and building inspection services.

The Town boundaries (Municipal Boundary) includes approximately 24.4 square miles of land. The Municipal Boundary includes two separate and distinct areas of land: (i) the portion of the Town that includes the majority of the developed community; and (ii) an entirely separate "island" area (not physically connected with the rest of the Town) that surrounds the Mammoth Yosemite Airport (Airport) and which is located north of Highway 395 and approximately 10 miles east of the portion of the Town described in (i) above.

Of the total 24.4 square miles within the Municipal Boundary, approximately 4.6 square miles, or approximately 2,500 acres, lies within the UGB. The urbanized portion of the Town as well as the entirety of the Town "island" surrounding the Airport lie within the UGB. Within the UGB, approximately 3.5 square miles of land has been developed, leaving only 1.1 square miles of vacant developable land out of the total 4.6 square miles within the UGB.

The land outside the UGB but inside the Municipal Boundary consists largely of public lands administered by the Inyo National Forest. Non-federal lands outside the UGB include approximately 80 acres of patented mining claims on top of the Sherwin ridge, the Valentine Camp of the University of California, and the City of Los Angeles' Camp High Sierra.

The land outside the UGB and outside the Municipal Boundary consists of primarily public and national monument lands administered by the USDA Forest Service, Inyo National Forest and the U.S. Department of the Interior (Bureau of Land Management and National Park Service) These lands are primarily utilized for grazing, agriculture, recreation, and limited geothermal development. The San Joaquin Ridge is located to the northwest of the Town and Sherwin Ridge of the Sierra Nevada ~~Bowl~~ is located to the south; both are on lands administered by the USFS and are located within the Planning Area. These two areas are primarily used for outdoor recreation. National Park System lands (Devil's Postpile National Monument) are located to the west of the Town and are mainly utilized for passive and active outdoor recreation. The John Muir and Ansel Adams Wilderness areas are also located near the Town adjacent to the Planning Area to the south and west respectively. Other significant areas within the Planning Area include Lake Mary/Twin Lakes Basin, Red's Meadow, Mammoth Mountain Ski Area, Casa Diablo Hot Springs, and Convict Lake. There is a limited amount of non-federal land outside the Municipal Boundary and within the Planning Area. This includes lands owned by the City of Los Angeles and a few small private holdings. These lands are under the land use jurisdiction of Mono County.

The land use designations that apply to the urbanized portions of the Town are described in the following sections. Figure 2.1.1 shows the current land use designations for the Town. Table 4.7-1 on page 4-178 provides a comparison of the existing and proposed land use designations as well as the existing zoning.

Residential Uses - Existing

Residential areas in the Town include single-family and multi-family residences including condominiums, including mobile home parks, rural housing and affordable housing. Existing residential uses are shown in Table 4.7-2 on page 4-179. The specific residential land use designations and their definitions are as follows:

Table 4.7-1

Comparison of Existing and Proposed Land Use Designations

Existing General Plan Land Use Designations	Updated General Plan Land Use Designations	Existing Zoning	Changes
LDR Low-Density Residential	**LDR-1** Low-Density Residential	**RR** Rural Residential	CONSISTENT
	LDR-2 Low-Density Residential	**RSF** Residential Single-Family	CONSISTENT
HDR High-Density Residential	**HDR-1** High-Density Residential	**RMF-1** Residential Multi-family	Small portion of the RMF-2 zone in Old Mammoth is now designated HDR-1. Based on use permit history, properties were not being developed for transient use. All properties currently utilized for transient use will be grandfathered. Densities may be transferred from the HDR-2 designation to specific areas within the R and NVSP designations.
	HDR-2 High-Density Residential	**RMF-2** Residential Multi-family	
R Resort	**R** Resort	**R** Resort	Densities may be increased within 500 yards of a ski lift terminus through transfers from the HDR-2 or other Resort Properties. This increase is based upon pedestrian access to the ski lifts.
C Commercial	**C-1** Commercial	**CL** Commercial Lodging	The western boundary of the C-2 designation was expanded to Mono Street based on the nature of existing development and topography. The block from Manzanita Street to Mono Street is a logical extension of the C-2 uses on the south side of Main Street.
	C-2 Commercial	**CG** Commercial General	
SP, IP Specific Plan Institutional Public	**OS, IP, NF, NVSP, I, LDR-2, A** Open Space; Institutional Public; National Forest; North Village Specific Plan; Industrial/Low-Density Residential Airport	**SP, PS, M, RSF** Specific Plan Public and Quasi-Public Industrial/Residential Single Family	The original Specific Plan and Institutional Public designations encompassed a large amount of land with multiple uses. These designations were split to more accurately identify the desired uses. The most substantial changes to the underlying properties are the proposed development of housing on a portion of the IP designation and designation of land outside the Town's Urban Growth Boundary (UGB), managed by the Inyo National Forest as (NF). In addition, densities may be increased within the NVSP designation within 500 yards of a gondola terminal through transfers from the HDR-2 or other Resort Properties.
OS, OSSC Open Space Open Space/Stream Corridor	**OS** Open Space	**OS, RR/OSSC** Open Space, Rural Residential/OSSC	All lands within the UGB that were designated OSSC are combined under the OS designation. Previously, the OSSC was used as an overlay designation on certain RR lands. Lands outside the UGB are designated NF to reflect National Forest administration.

Source: Updated Plan, 2005

Table 4.7-2

Incremental Development for Buildout of the Proposed 2024 General Plan for the Town Of Mammoth Lakes

Land Use	Existing Units (2004)	Increase in Units	Potential New Units under Updated Plan (2024)
Single Family Non-transient	2,087	293	2,380
Single Family Transient	0	97	97
Mobile Home	136	8	144
Multi-Unit Non-Transient	827	1,264	2,091
Multi-Unit Transient	6,821	5,177	11,998
Total Units	9,871	6,839	16,710
Population (persons)	34,265	26,463	60,700

Notes:

Population assumptions Seasonal, visitor, lodging & second home = 4 people per dwelling. Permanent resident = 2.4 per dwelling

38.5% of residential units are permanent, 7% are seasonal, 24% are second home, 29.5% are visitor. Does not equal 100% due to vacancy

Based population calculated utilizing the same assumptions as, except 4 people per unit is assumed for student housing and % of workforce housing.

Includes bonus units for all development projects that provide AH, state mandated density bonus units, doubling of density provision in existing code and student housing.

Source: Town of Mammoth Lakes, 2005

Low Density Residential (LDR). This category applies to single-family residential development of three to five dwelling units per gross acre. This density range is typical of residential subdivisions in Mammoth Slopes and Mammoth Knolls. Development standards including setbacks, height, and lot coverage are intended to provide for building separation, useable yards, snow storage, retention of native trees and other vegetation, and limited structure shading of adjoining parcels.

Special Conservation Planning (SCP), Open Space Stream Corridor (OSSC) or Rural Residential (RR). This designation is an overlay on portions of the LDR designation within the Old Mammoth area near Mammoth Creek and the Bluffs, due to sensitive environmental features including streams, riparian vegetation, and visual sensitivity. Lot coverage within this overlay zone is not to exceed 30 percent with a maximum density of two dwelling units per acre.

High Density Residential (HDR). This designation is intended for multi-family development at a maximum density of six to 12 dwelling units per acre. These densities would accommodate attached homes, two- to four-plexes, and condominium and apartment buildings. There are two districts within the HDR designation: one allows for visitor accommodations and the other prohibits transient (nightly visitor) rentals. Under this designation, the Shady Rest Tract is specifically designated for affordable/workforce housing. The HDR designation is

limited to a maximum of 60 percent lot coverage including buildings and all impervious surfaces. Specific housing issues such as availability and affordability are discussed in Section 4.9 (Population, Housing and Employment).

Residential Uses – Updated Plan

The Updated Plan retains the same residential designations as the current General Plan but provides two LDR and two HDR designations rather than one. The Low Density Residential 1 (LDR-1) allows single-family detached residential development at a maximum of two units per gross acre. The Low Density Residential 2 (LDR-2) allows single-family detached residential development of up to four units per gross acre. The High-Density Residential 1 (HDR-1) allows development of resident-oriented multi-unit housing at a density of 10 units per acre. The High-Density Residential 2 (HDR-2) allows visitor-oriented multi-unit development at 10 units per acre. The provision of more categories for residential uses enables the Town to provide greater specificity and to more accurately identify the desired uses. Table 4.7-2 provides a comparison of existing units with the potential buildout of the Updated Plan, including the increment of housing above the existing housing that could be developed based on the Updated Plan.

Commercial, Industrial, and Resort Uses – Existing

Commercial uses are located along Main Street (SR 203), Minaret Road in the North Village Specific Plan area, and Old Mammoth Road. Commercial uses consist of 28 acres of lodging facilities, 68 acres of general commercial uses (primarily restaurants and shopping center developments), and 16 acres of office uses. Table 4.7-3 on page 4-181 shows the developed, undeveloped, and total square feet of commercial, resort and industrial space under the existing General Plan. The majority of the commercial land uses are devoted to providing services to tourists. The Old Mammoth Road Commercial District contains primarily service and resident oriented uses. This District is characterized by multi-tenant shopping centers, each having surface parking.

The Main Street Commercial District is the oldest business district in the community and is characterized by random strip commercial development. Parking, snow storage, pedestrian access, auto access and circulation problems arise in the area each year during the winter months. The Main Street Commercial District area lacks a cohesive architectural theme, which further contributes to an impression of fragmentation.

Commercial (C) and Industrial (I). This designation allows for retail, lodging, and general commercial activities including offices. It includes two types of commercial areas: resident oriented retail/service commercial areas and specialized visitor oriented commercial areas. Base density for lodging is 40 guest rooms per acre; density can be increased to a maximum of 80 guest rooms per acre with 100 percent understructure parking. Commercial uses

Table 4.7-3

Existing and Potential Commercial/Industrial Floor Area Under Updated Plan

Development	Existing (2004) Floor Area (sq. ft.)	Potential New Floor Area (sq. ft.)	Total Floor Area (sq. ft.) Under Updated Plan
Resort Commercial	115,000	290,000	405,000
General Commercial	749,000	200,000	949,000
Industrial/Warehousing [a]	319,000	105,000	424,000
TOTALS	1,183,000	595,000	1,778,000

Sq. ft. = square feet

[a] *Includes contractor's building supplies, industrial and manufacturing uses, and warehousing and storage facilities.*

Source: Town of Mammoth Lakes, 2005

are limited to a maximum of 70 percent lot coverage, including parking. Residential housing is permitted in the Commercial designation at a maximum density of 12 dwelling units per acre.

The industrial sector consists mostly of construction and automobile related businesses and is included under the commercial land use. The existing industrial developments include a wood lot, the town yard, contractor and construction companies/yards, a glass company, storage facilities, and automobile repair and service operations and related businesses.

Resort (R). This designation includes mixed visitor oriented uses including lodging, visitor oriented commercial, and recreation uses. Maximum housing densities are eight units per acre. Maximum density for hotels and motels is eight units per acre. Development standards are similar to those for equivalent uses in other designations. Lot coverage is limited to 50 percent of the overall project area.

Commercial, Industrial, and Resort Uses – Updated Plan

The Updated Plan retains the same commercial and resort designations but provides two Commercial (C) designations rather than one. This enables the Town to provide greater specificity and to more accurately identify the desired uses in commercial areas. Commercial 1 (C-1) allows for small-scale commercial services for residents and visitors as well as visitor lodging. The designation would be located along Main Street between North Village and Mono Street. The C-1 is intended to create a transition between the intensive retail commercial at the eastern end of Main Street and the resort commercial of North Village. Density for visitor lodging would be a maximum of 20-units per acre. A studio or one bedroom unit is considered to be ½ unit for density calculations and density may be increased up to double for provision of community benefits pursuant to the Density Transfer Policy. The Commercial 2 (C-2) would allow areas for commercial services and sales of goods. The C-2 is intended to promote pedestrian uses, reduce vehicular conflicts, and improve the visual appearance of street

frontages. Multi-unit housing is encouraged as an accessory use. Density for the C-2 designation is the same as for the C-1. The Industrial (I) designation would accommodate industrial uses needed to support a resort community. Uses allowed by right would be those conducted entirely within and enclosed structure and may include light manufacturing, storage and maintenance uses. Other permitted uses may include heavy equipment storage and maintenance, batch plants, automobile repair and service, and similar uses.

4.7.1.2 Open Space, Institutional/Public Facilities, and Specific Plan Area - Existing

Open Space (OS). This designation is applied to lands that have significant recreational or environmental values. The OS designation permits development of facilities that support the environmental and recreational objectives of the community. This zone may include environmentally sensitive areas such as wetlands, floodplains, and streams and may include public recreation facilities such as parks, athletic fields, ski areas, golf courses, and community gathering spaces.

Institutional/Public (IP). This designation allows for public facilities and institutional uses. This designation is applied to lands that are anticipated to be used for schools, hospitals, governmental offices and facilities, museums, and related uses. The IP designation also includes the Airport and aviation and visitor accommodation facilities at the Airport.

Specific Plan (SP). This designation is applied to two districts within the town. The Gateway District designates sites for schools, industrial uses, 100 single-family lots, a hospital, and related uses. The North Village Specific Plan provides for a mix of visitor-oriented commercial and visitor lodging uses. Density in the North Village Specific Plan is calculated in terms of "rooms". Commercial development is converted from the residential density at a rate of 450 square feet per room. The maximum density under the North Village Specific Plan is 3,020 rooms and 135,000 square feet of commercial. Density is not uniform but allocated by districts as specified in the North Village Specific Plan.

Open Space~~,~~ and Institutional/Public Facilities~~, and Specific Plan Area~~ – Updated Plan

The existing SP and IP designations encompass a large amount of land with multiple uses. ~~The updated plan also proposes a new industrial park adjacent to Mammoth Community Water District. The uses at the future industrial site would be similar to existing uses.~~ The Updated Plan provides new designations in order to more accurately identify the desired uses.

Airport (A). This is a new designation in the updated general plan and is applied to the Mammoth Yosemite Airport. Facilities and services associated with aviation, including hangars, fueling and fixed-base operator services, are permitted. Supporting uses including automobile

rental, transient lodging, retail uses, and a recreational vehicle park may be permitted. The Airport zone is designated for 250 visitor lodging units and approximately 50,000 square feet of commercial development.

4.7.1.3 Developable Land

Approximately 3.5 square miles of the available land within the Municipal Boundary has been developed, leaving only 1.1 square miles of vacant developable land. The vacant parcels tend to be scattered throughout the community, making it very difficult to assemble large tracts of land. The Town adopted a General Plan Amendment by resolution that created an Urban Growth Boundary that further constrains where development can occur. The vacant parcels include Town-owned property, National Forest land, land owned by the Mammoth Unified School District (MUSD) and privately-owned parcels. The various parcels/areas are described below.

Town Owned Parcels

The Town-owned parcels are shown on Figure 4.7-1 on page 4-184. The Bell-shaped parcel is approximately 16.7 acres located at the southwest corner of the intersection of Minaret Road and Meridian Boulevard. It is approximately at the geographic center of the Town, about 0.5 mile west of the downtown core. It is bordered on the northwest by the Sierra Star (Intrawest) golf course and on the south by a residential subdivision. Several stands of mature trees surround a broad, open meadow with a wetland drainage meandering through the northern portion of the parcel. A second wetland area has been identified in the southern portion of the parcel. The Bell-shaped parcel is currently undeveloped and is designated Resort.

The existing Community Center (meeting room) and Mono County Library are located on an approximately five-acre tract of land located in the northern quadrant of the town, near the intersection of Minaret Road and Forest Trail. Also on the property are a small park and six tennis courts. This parcel is located at the northern edge of the planned Intrawest Village at Mammoth Lakes Development.

Within the Mammoth Industrial Park, the Town owns approximately six acres of land near the existing waste transfer station. These parcels are the location of the Town Maintenance Yard, which is currently used for Town maintenance use but some expansion is possible.

The Trails Recreation Site is adjacent to and south of the Mammoth Industrial Park. It is at the corner of Meridian Boulevard and Wagon Wheel Road and was conveyed to the Town for open space and recreation purpose. A skate park has been developed on a portion of this property.

Community Center

The Knolls Lot 117

Town Parking Structure Site

Park and Ride

Town Yard

Trails End Park

Mammoth Creek Park

Bell-Shaped Parcel

Mammoth Creek Corridor

Town of Mammoth Lakes

Explanation

Town Owned Parcels

Note: Please note that parcels not labeled are:
utility easements, sedimentation basins, or similar infrastructure sites

N

0 250 500 1,000 Meters

Base Maps: Old Mammoth, Mammoth Mountain, Crystal Crag & Bloody Mountain

Source: Town of Mammoth Lakes

Figure 4.7-1 Town Owned Parcels

Additional Town-owned parcels include the Mammoth Creek Corridor, one lot in The Knolls, two lots in the Sierra Valley Sites, the Park and Ride Lot, Mammoth Creek Park, the Meridian Court Affordable Housing site, and the Old Mammoth Affordable Housing site.

National Forest Land

The majority of the land within the municipal boundaries of the Town is public land administered by the Inyo National Forest (Inyo N.F.). Most of this land is administered for recreational use. National Forest management direction is identified in the Land and Resource Management Plan for the Inyo National Forest.

The Inyo N.F. has identified sites within Mammoth Lakes that are considered to be logical candidates for land exchanges. These are parcels of federal land within the Town that could be developed to meet community needs and would not compromise National Forest management direction if placed into non-federal ownership. A number of those sites are small tracts that would clean up small rights-of-way encroachments (Main Street Frontage, Forest Trail). The National Forest parcels that are important for public community facilities include the Visitor's Center, the Community Church, and the MCWD (East Gateway) parcel.

Inyo N.F. land on the north side of Hwy 203 at the entry to the town contains the existing Inyo N.F. Visitor Center and recently expanded parking lot. The Inyo N.F. and Town are currently expanding the visitor center and offices.

One land exchange is currently being evaluated. This exchange is with the Southern Mono Health Care District for approximately 10 acres of land on the southeast corner of State Route 203 and Sierra Park Road (Sandy Hogan, USFS, Personal Communication, November 5, 2004). This parcel is currently occupied by the Community Church and would be used for the following: an expansion for the existing hospital; construction of a new public safety facility; and Town, State of California, and Mono County administrative facilities. Land exchanges with Snow Creek Investment, LLC and the Mammoth Unified School District were completed in 2005.

South of Meridian Boulevard, between the MCWD property (wastewater treatment plant) and the Community College, are 66 acres of National Forest Land referred to at the East Gateway Site. This area is within the UGB and consists of slightly rolling terrain, with clusters of trees and open ground. The MCWD has expressed an interest in the eastern one-third (approximately 22 acres) of this ground to create a business/industrial park that would meet additional community needs. The Mammoth Lakes Foundation has expressed an interest in the western portion (approximately 15 acres) on behalf of the Community College. These proposed uses are addressed in this EIR.

Several parcels have been discussed as potentially available for exchanges with permittees (Mill City Recreation Tract, Mammoth Mountain Main Lodge Base Area, etc.). None of these exchanges have been initiated and, because they are still speculative, have not been evaluated in this EIR.

The project includes a new designation (NF), which would be applied to lands administered by the Inyo National Forest that are outside the adopted UGB. This designation would better reflect the federal ownership and management of these lands.

The Forest Service holds a number of grazing leases for cattle and sheep operations throughout much of the public land in the Planning Area. All of the leasehold operations are located outside of the UGB, and most of these leases are located outside of the Municipal Boundary. However, some of the staging and holding areas are located inside the Municipal Boundary. The USFS indicates that there have been some land use conflicts (stemming primarily from recreational uses) with respect to leasehold activities in the vicinity of the Visitor Center/Shady Rest Park, and in the vicinity of the Sherwin Gravel Pit (Sawinsky 2005). The conflict is between recreational users of the area and is a forest service user conflict issue. As a result, the leaseholders have been unable to make full use of the lands in their permit boundaries.

Shady Rest Affordable Housing

Not to be confused with Shady Rest Park, the 24.4-acre Shady Rest Affordable Housing Site is located west of the Old Mammoth Commercial Area, on the south side of Main Street, separated from Main Street by a narrow band of commercial and apartment uses. An application is now pending to use the site for affordable housing and the Town has recently reaffirmed the intent to utilize this parcel for affordable housing consistent with the outcome of a Town-wide referendum. The Updated Plan would designate this land as HDR-1 with no transient use permitted. Additional language in the RMF-1 zoning designation would restrict development to workforce housing and accessory uses. The property is considered suitable for affordable housing because of its proximity to adjoining residential uses, compatibility with public uses of the property (particularly as a walking path), and the abundance of very tall conifers on the site that are expected to be incorporated into design standards for the housing development.

Mammoth Unified School District and the Mono County Office of Education

South of Meridian Road, west of the Community College, is approximately 18 acres of land owned by the Mammoth Unified School District (MUSD) and the Mono County Office of Education (MCOE). The land is rolling, with massive rock outcrops and several stands of mature evergreen trees. A portion of this property has been developed for Sierra High School, the Mono County alternative education school, the MUSD and MCOE offices. Another portion of the property is planned for development of a new community library. The balance of the

property could be put to other public or institutional uses if acquired from, or developed in conjunction with, the MUSD and MCOE.

Vacant Old Mammoth Commercial Parcels

Throughout the Old Mammoth Commercial Area there are a number of vacant or underutilized sites. Many of these sites are small and would best lend themselves to one or two smaller facilities. The Town envisions development of these parcels with mixed use infill development. Lot consolidation or redevelopment of existing developed properties is likely as Mammoth matures.

Shopping Center Infill

There are several strip shopping centers with buildings set back from the street with large parking lots adjacent to the street. These parking lots are underutilized during much of the year, but fully used on peak weekend and holiday periods. Infill development along the street frontages of the downtown might be an opportunity to provide additional building sites, as well as to establish a more traditional "main street" character to the core shopping experience. The Minaret Mall, where the Town offices are currently located is one such opportunity. The General Plan Update anticipates additional commercial development on the vacant sites and intensification of existing uses on developed commercial sites.

4.7.2 REGULATORY FRAMEWORK

State law places a General Plan atop the hierarchy of land use planning regulations. Local ordinances and other plans, such as Specific Plans, therefore, must not conflict with the General Plan. Other relevant planning policy documents (i.e., Air Quality Management Plan, Town Storm Drainage Master Plan, etc.) associated with other environmental issue areas are described throughout Chapter 4 of this Revised Draft PEIR.

4.7.2.1 Town Municipal Code

The General Plan is primarily implemented by the Municipal Code, which regulates development type and intensity. Development regulations include building heights, setbacks, lot coverage, parking, landscaping, etc. Zoning classifications for the town are required to be consistent with the land use designations and land use map in the proposed updated Plan. Amendments to the Municipal Code as well as zoning of properties in the UGB would be required in order to comply with the Updated Plan.

4.7.2.2 Specific Plans and Master Plans

Specific and Master Plans are detailed plans for the development of particular areas. Falling under the broader umbrella of the General Plan, Specific and Master Plans are intended to provide more finite specification of the types of uses to be permitted, development standards (density, setbacks, heights, landscape, architecture, etc), and circulation and infrastructure improvements. Specific and Master Plans are often used to ensure that multiple property owners and developers adhere to a single common development plan, as well as to provide flexibility in development standards beyond those contained in the Zoning Ordinance.

The Town uses Specific and Master Plans as a tool to achieve coordinated development of individual parcels within a broader context. Currently adopted Specific and Master Plans include the following: the North Village Specific Plan, the Lodestar (Sierra Star) at Mammoth Master Plan, the Juniper Ridge Master Plan, and the Snowcreek Master Plan. These plans would remain a part of the Updated Plan, as they have been incorporated into the Updated Plan. The following is a summary of the mix of uses that has been approved for each area and the amount of development that has taken place within each area.

North Village Specific Plan: The North Village Specific Plan area consists of 41 separate parcels and encompasses an area of approximately 64 acres near the intersection of Minaret Road and Main Street. The Specific Plan was approved by the Town in December 2000. Since that time, the first phase of "The Village at Mammoth" has been constructed on the west side of Minaret Road. The first phase of construction included the Lincoln House and White Mountain Lodge containing approximately 57,000 square feet of commercial area and 166,000 square feet of residential use. At the Village Plaza, a Skier's Services building and the Gondola building, totaling approximately 20,000 square feet, have also been constructed. The Gondola Building connects the Village to the Mammoth Mountain Ski Area via Canyon Lodge. The Grand Sierra Lodge, containing approximately 93,000 square feet of commercial and residential area, is nearing completion of its construction. Additionally, the "80/50" development of 74,696 square feet of enclosed floor area for a 23-Unit Fractional Share Residence Club with 3,355 square feet of retail area has been approved on a 1.09-acre property located to the south of the Village Plaza. At its buildout, the current North Village Specific Plan could yield 3,320 total residential "rooms" and 135,000 square feet of retail/commercial space.

Lodestar (Sierra Star) at Mammoth Master Plan: The Lodestar at Mammoth Master Plan area consists of approximately 222-acres and was approved by the Town in May of 1991. A 120-acre 18-hole golf course (Sierra Star Golf Course) has been built on the property and several residential project areas adjacent to the golf have been constructed or approved for construction. At the southeast corner of Meridian and Minaret, a 54-lot single-family residential subdivision ("Sierra Star") has been created. Approximately, 35 lots within this subdivision have been developed. At the northwest intersection of Sierra Star Parkway and Meridian, the 32-Unit

Townhome development, "The Timbers," has been constructed. Also, along Sierra Star Parkway, the 58-Unit "Solstice" Condominium project on 20.91-acres has been approved for development. Along Lodestar Drive, the 46-Unit "Mammoth Green" Condominiums have been constructed on 5.44-acres and the 24-Unit "Crooked Pines" Condominium project on 1.99-acres is under construction. Eleven single-family residential lots on 29 acres abutting the east side of Lodestar Drive have also been approved. Near the southeast corner of the Lodestar at Mammoth Master Plan area, the "Tallus" project has been approved for 19 Single Unit Residences and a Clubhouse on 7.5-acres. At buildout, the Lodestar at Mammoth Master Plan area could accommodate 1251 units including 751 residential and 500 hotel units and 80,000 square feet of commercial/retail space.

Juniper Ridge Master Plan: The Juniper Ridge Master Plan area is primarily built out and consists of an approximately ~~12.5~~45 acres~~-acre site~~ located on the south side of Lake Mary Road where the 40-lot "Juniper Ridge" single-family subdivision is located. The Master Plan area also includes the Juniper Springs Lodge resort condominiums with 174 units and the "Sunstone" and "Eagle Run" Condominiums with approximately 120 residential condominium units, as well as the proposed Eagle Lodge development.

Snowcreek Master Plan: The Snowcreek Master Plan consists of approximately 345-acres of land. This master plan is for an integrated resort tied to a village at the base of the Sherwin ridge. The site is improved with a 9-hole golf course (Snow Creek Golf Course), a mix of residential condominiums and single family homes, and the Snowcreek athletic club. A second nine holes of golf is planned for land to the southeast of the existing Master Plan area. A substantial area of riparian and wetland habitat along Mammoth Creek has been protected from development. The property straddles Old Mammoth Road from near Minaret Road to past Ski Trail. Approximately 1,000 of the approximately 2,300 residential units allowed for the area have been constructed.

4.7.2.3 Airport Land Use Plan

In order to provide guidance for the growth of the airport area, the County of Mono and federal agencies, together with the Mono County Airport Land Use Commission, prepared and adopted the 1986 Mammoth/June Lake Airport Land Use Plan. The airport has since been renamed the Mammoth Yosemite Airport and the land area on which the airport is located and immediately surrounding area has been annexed into the Town and is included within the Municipal Boundary and the UGB as a separate "island" surrounded by unincorporated County territory.

The Mammoth/June Lake Airport Land Use Plan (ALUP) establishes a comprehensive land use plan that defines the type and pattern of future development in the 28 square mile area surrounding the existing Airport. The ALUP creates an Airport Development District within

which future airport development may occur. Surrounding land uses are planned with respect to airport compatibility, National Forest policies, and other factors. The plan also served as the basis for amending the Mono County General Plan and the Mammoth-Mono Unit Plan of the USFS (now the Land and Resource Management Plan). The ALUP primarily provides a framework for the orderly growth and development of the airport over the next 20 years. A Final EIR and Environmental Assessment (EA) was certified for the Land Use Plan in October 1986, by the Mono County Airport Land Use Commission. This Final EIR and EA analyzed potential impacts associated with major development/expansion of the Airport terminal area, including a new passenger terminal, hotel and extensive infrastructure improvements. The Airport was incorporated into the Town jurisdictional boundaries in April 1995 (per Local Agency Formation Commission Resolution 95-04) and the Town is the local agency with primary jurisdiction over land use planning policies for the airport.

The Airport is within the UGB and the land use designations contained in the Land Use Chapter of the Updated Plan as well as other Plan policies and implementation measures are consistent with the adopted Airport Land Use Plan and with amendments to it.

4.7.2.4 Inyo National Forest Plan

Each National Forest is governed by a Land and Resources Management Plan (Forest Plan). Forest Plans tie the requirements of laws, regulations, Executive Orders, policies, and the Forest Service National Strategic Plan to specific National Forests. Forest Plans outline the desired resource conditions, the objectives for management, standards to be followed, designation of suitable land uses (similar to zoning), and a monitoring strategy. Forest Plans provide a framework to guide site-specific project planning.

The majority of the land within the Planning Area is National Forest land administered by the Inyo National Forest; therefore, consistency between the Sierra Nevada Forest Plan Amendment (USDA ~~2001d~~ 2004 Record of Decision), which updates the Inyo National Forest Plan, and the project is desirable for both the Town and the USFS. To that end, the Town provides opportunities for USFS input on the project and other Town planning and maintains a consistent level of involvement.

4.7.2.5 Mono County Plan

The Mono County General Plan guides land use decision-making in unincorporated sections of Mono County. Therefore, large areas of land within the Planning Area are governed by this document. Mono County has designated the unincorporated lands adjacent to the Town of Mammoth Lakes as RM/INF, Resource Management/Inyo National Forest. The Town has applied a similar designation NF, National Forest, to those lands within the Town boundary that

abut the unincorporated land. These designations both recognize the Inyo National Forest as the principal regulatory agency governing land use decisions in these areas. As a result, the Town and County designations match and are consistent.

4.7.3 THRESHOLDS OF SIGNIFICANCE

Based primarily on Appendix G in the CEQA Guidelines, the project would be considered to have a significant impact on land use and planning if the Updated Plan would:

Physically divide an established community, create incompatibility with adjacent uses, or adversely affect the community character of an established community;

Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.

4.7.4 IMPACTS AND MITIGATION

Issue 4.7-1: *Would the project physically divide an established community or adversely affect the community character of an established community?*

The project would result in additional development of the remaining undeveloped land or redevelopment of existing developed lands. Development would occur in accordance with the land use designations and intensities of development allowed in the proposed Updated Plan. The Updated Plan would alter the existing land use and intensities within the Municipal Boundary. The project would result in some alterations of the development characteristics of the Town within the UGB when compared to existing conditions and would allow development of vacant parcels including lands that may potentially be exchanged with the USFS. Infrastructure improvements would be necessary to support the increased development and population.

The project is a comprehensive update of the Town's General Plan. The Updated Plan provides additional categories of land uses. For example, the High Density Residential and Low Density Residential designations have been divided into High Density Residential 1 and 2 and Low Density Residential 1 and 2 provide additional categories and a greater level of detail in the land use designations. The same concept is proposed for the Commercial designation, where a Commercial 1 and 2 are now proposed. The overall land use pattern proposed in the Updated

Plan is similar to the land use pattern that exists on the ground and is similar to the land use pattern in the existing General Plan.

The intensification of development adjacent to existing land uses may create incompatibilities with regard to events and activities, noise and lighting levels, circulation patterns, parking availability and traffic volumes, and infrastructure needs. Such incompatibilities would most likely occur where residential neighborhoods adjoin resort nodes, including lands around North Village, Snow Creek and Juniper Ridge. The development of new commercial and entertainment centers is also likely to increase pedestrian traffic into and around major development nodes, most of which do not currently offer safe walkways. However, opportunities exist in such areas for new pedestrian networks, additional parking areas, bike paths, and transit stops that would reestablish more convenient access from residential neighborhoods to commercial, employment, and community centers as well as the resort restaurants and shops. Such connections would substantially offset potential incompatibilities by improving mobility and access, and serving as buffers and transitions between adjacent land uses.

Policies and Implementation Measures in the Updated Plan

The Plan Update proposes the adoption of numerous polices and implementation measures to reduce potential impacts associated with land use. These policies and measures are as follows:

II.1.B.b.1 Require that new development areas and associated community-wide facilities (open space resources, parks libraries, etc.) be linked and oriented to existing developed areas of the community through road networks, public transit systems, open space systems, bicycle, and pedestrian systems.

I.3.A.1.a The Town will work with the Inyo National Forest, BLM, LADWP, Mono County, and other regional land management agencies to ensure that surrounding public lands are protected while remaining readily accessible to residents and visitors on a year-round basis, and where feasible trails shall be connected to the larger regional network.

I.3.A.1.b All new development along adjacent to National Forest Lands shall be required to provide pedestrian access routes.

I.7.B.a.4 Higher density residential and mixed-use development shall be encouraged adjacent to commercial centers, mountain portals, and transit corridors to reduce vehicle trips.

II.1.B.a: Town regulations provide opportunities for neighborhood commercial zoning as an overlay in residential zones. The overlay is not intended as an extension of general commercial development, and uses are to be restricted to those that provide commercial services to the immediate neighborhood. This overlay may be applied only to lots on arterial or collector streets and will be limited to a maximum of one or two sites per neighborhood, depending upon walking distance.

II.1.D.a.6 The Town shall provide sites for public safety facilities at locations that facilitate prompt response times.

III.1.B.b.1 The Town shall promote, through development standards, mixed housing and commercial developments in commercial designations.

IV.1.F.c.3 Ensure, through conditions of development approval, that transportation, pedestrian, and visual connections between primary commercial nodes and the rest of the community are improved.

V.1.A.b.1 When existing developed properties on lands administered by the United States Forest Service (USFS) within the Town of Mammoth Lakes are exchanged into private ownership, those properties shall be considered as non-contiguous development sites deemed to be included within the adopted Urban Growth Boundary.

V.1.A.b.2 In addition to the automatic inclusion of federal exchange lands into the Urban Growth Boundary, the Town may consider adjustments to the UGB where those adjustments that do not increase the acres of developable land of the Town of Mammoth Lakes are contiguous to the UGB and are otherwise in the public interest.

VI.1.D.a.1 The Town, through development approvals and other Town programs shall support the development of land use patterns and mixed use developments that integrate residential and non-residential land uses, such that residents and visitors may easily walk or bike to shopping, services, and employment and leisure activities.

VI.1.D.a.2 Require that new developments are linked to communitywide facilities (open space resources, parks, libraries, etc.) through road networks, public transit systems, open space systems, bicycle, and pedestrian routes.

VI.3.B.a.2 The Town shall provide mixed-use pedestrian scale zoning and development standards for the Old Mammoth Commercial Corridor. Encourage government,

arts, entertainment, recreation, business facilities, and residential uses to be mixed in multi-story buildings with sidewalk orientation and off-site parking to facilitate the development of a major social and economic activity in the community.

VII.1.A.a.6 The Town, through the development approval process, shall require developers to finance and install pedestrian walkways, and multi-use trails in new development, consistent with adopted plans and policies, or as appropriate and necessary to address circulation needs.

VII.1.A.a.7 Pedestrian overpasses are encouraged and incentivized.

VII.1.A.a.8 An interconnected pedestrian network shall link Meridian Boulevard, Main Street, Minaret Road, and Old Mammoth Road as per the Sidewalk Master Plan.

VII.1.C.a.2 The Town shall develop a Town-wide sidewalk, trail, and maintenance program to ensure that pedestrians and bicyclists have the ability to travel throughout the community on a year round basis.

No policy or proposal in the plan divides the community or any neighborhood within the community. For example, no roadway, other public project, or proposed land use designation is being proposed as part of this project to divide an existing residential or commercial neighborhood. Further, the policies and implementation measures in the Updated Plan serve to create a community that is integrated and cohesive. The policies and implementation measures also serve to create a community that is interconnected and that provides for alternative modes of transportation. With the proposed land use plan and these policies and implementation measures, no established area within the community would not be physically divided and the character of an established community would not be adversely affected. The distribution of land uses in the proposed general plan reinforces the current pattern of community development and maintains the separation between incompatible land uses. For example, incompatible uses are not planned around school sites and residential zones. Further, policies in the plan and current regulations serve to protect existing and future land uses from other incompatible uses and impacts, including, but not limited to, traffic and other existing standards through development standards and discretionary reviews that ensure neighborhood compatibility.

Mitigation Measures

No significant impacts would result with regard to physically dividing an established community or land use incompatibilities from the adoption of the Updated Plan. Therefore, no mitigation measures are necessary.

Level of Significance After Mitigation

This impact regarding the physical division of a community or land use incompatibilities is less than significant.

Issue 4.7-2: *Would the project conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?*

The project would provide for the development of the 1.1 square miles of undeveloped land as well as the redevelopment of existing developed lands. Full buildout of the Updated Plan would alter the existing land use density and intensities within the Municipal Boundary. The project would alter the development characteristics of the Planning Area when compared to existing conditions and would allow development of vacant parcels including lands that may potentially be exchanged from USFS ownership. Increased development would cause indirect impacts to public services and utilities such as water, wastewater, drainage, and roadways. The corresponding increases in demand and capacity may also result in long-term land use impacts such as increased traffic and noise, and impacts to air quality. Infrastructure improvements would be necessary to support the increased development and population.

The project anticipates an increase in the amount of residential development in the UGB. Approximately 1,294 acres would be designated residential (Figure 2.1.3). The existing General Plan allows for approximately 1,274 acres of residential land uses (HDR, LDR, and RR) within the Planning Area (Figure 2.1.2). Therefore, the Updated Plan would result in an increase of approximately 20 acres of residential land over existing conditions. The Updated Plan would allow for a total of 16,710 residential units. Compared with the existing 9,871 units, the project would result in an increase of 6,839 residential units. The existing General Plan allows for 17,396 residential units. The Updated Plan would therefore, result in a reduction of 686 residential units compared with buildout under the existing General Plan. The decrease in residential units in the Updated Plan is primarily a result of decreases in densities under the HDR-2 designation and multi-unit transient units.

As shown in Table 4.7-4 on page 4-196 the Updated Plan would allow for an increase of 298,990 square feet of non-residential floor area (102,384 square feet of commercial/office space and 196,606 square feet of industrial space) above the existing level of non-residential development. In comparison with existing development, the Updated Plan would allow for an increase of 6,839 non-transient and transient residential units.

To the extent that existing zoning districts do not accommodate the proposed land uses or intensities, the Town would be required to revise the Zoning Code and applicable Plan

Table 4.7-4

Incremental Development for Buildout of the Proposed 2024 General Plan for the Town of Mammoth Lakes

Land Use	Existing Units/Acre	Potential New Units	Potential New Units
Single Family Non-transient	2087 units / 409 acres	293 units / 167 acres	2380 units / 576 acres
Single Family Transient	0	97 units/ 24 acres	97 units / 24 acres
Mobile Home	136 units / 15 acres	8 units / 1 acre	144 units / 16 acres
Multi-Unit Non-Transient	827 units / 60 acres	1264 units / 59 acres	2091 units / 119 acres
Multi-Unit Transient	6821 units / 402 acres	5,177 units / 157 acres	11998 units / 559 acres
Industrial	296,941 sq. ft. / 36 acres	196,606 sq. ft. / 28 acres	493,547 sq. ft ./ 64 acres
Commercial/Office Uses	1,262,618 sq. ft. / 58 acres	102,384 sq. ft. / 26.5 acres	1,365,002sq. ft. / 84.5 acres
Total Units	9,871	6,839	16,710
Population (persons)	34,265	26,463	60,700

Notes:

Population assumptions Seasonal, visitor, lodging & second home = 4 people per dwelling. Permanent resident = 2.4 per dwelling

38.5% of residential units are permanent, 7% are seasonal, 24% are second home, 29.5% are visitor. Does not equal 100% due to vacancy

Based population calculated utilizing the same assumptions as, except 4 people per unit is assumed for student housing and % of workforce housing.

Includes bonus units for all development projects that provide AH, state mandated density bonus units, doubling of density provision in existing code and student housing.

Source: Town of Mammoth Lakes, 2005

documents to ensure consistency between the Town's General Plan, Specific and Master Plans and the Municipal Code. Other ordinances and guidelines used by the Town may also require revision to conform to the goals and policies.

The project has the potential to conflict with USFS practices governing grazing allotments and activities within the Municipal Boundary. As noted in the baseline analysis, there are two active leases that have been curtailed as a result of conflicts between the leasehold activities and recreational uses on public lands in the area of Shady Rest Park. The conflicts have intensified as resident and visitor populations have increased, and USFS foresees the potential for additional incompatibility as the number of visitors and range of recreation facilities expand in future years. However, the allotments are non-exclusive. In other words, and as is consistent with the policies in the Inyo National Forest Land and Resource Management Plan, Management Area #9 Direction is not allotments for grazing. Rather, management area direction places an emphasis on specific: cultural resources, ski facility development, fish resources, geology research, land exchanges, visual resources, wildlife resources, water resources and also encourages recreational use of the Inyo National Forest lands. Therefore, the projected increase in population that would result from the Updated Plan would not conflict with the USFS Plan.

In a response to the original Notice of Preparation, the USFS made several additional recommendations concerning the use of public lands, including a suggestion that the Town

identify any sites considered appropriate for land exchange and also that the Town provide informal "zoning" designations for Forest Service lands located inside of the Town boundaries. As stated in Section 3.7.I, the project includes a new designation (NF), which would be applied to lands administered by the Inyo National Forest that are outside the adopted UGB. This designation would assure consistency with the Town's building codes and other specific Town regulations.

Lands identified by the Town as having potential for exchange are those National Forest Lands that are within the existing UGB. Lands outside the UGB, but under Special Use Permit from the Inyo National Forest can be exchanged without violating the UGB; however, any such exchange would require a General Plan amendment to establish the appropriate Town land use designation.

Policy LU.1 provides for density transfers between properties in the Resort, Specific Plan, and HDR 2 designations. The policy includes a list of findings that would be applicable in order for a density transfer to be approved by Council such as: the transfer cannot increase the overall Town population, the transfer must result in a Town-wide decrease in vehicle miles traveled, the receiving property must be developed in a way that is consistent with Town policies and regulations, and the transfer will not result in new significant environmental effects or a significant increase in the severity of previously identified significant effects. While this increase in intensity of development could increase impacts locally the circumstances and locations under which such density transfers may occur are unknown and it is speculative to analyze potential impacts at this time. If and when an application is submitted for a density transfer, environmental review would be necessary.

~~While this increase in intensity of development could increase impacts locally the circumstances and locations under which such density transfers may occur are unknown and it is speculative to analyze potential impacts at this time. If and when an application is submitted for a density transfer, environmental review would be necessary.~~

As described above, the project is consistent with the plans and policies outlined in the Mono County General Plan for those lands adjacent to the Mammoth Lakes Municipal Boundary. The issues, opportunities and constraints identified in the Mono County General Plan have been identified in this EIR and are carried forward into the analysis.

Mitigation Measures

The project would not conflict with applicable land use plans, policies, or regulations and therefore, no mitigation measures are necessary.

Level of Significance After Mitigation

This impact would be less than significant.

4.8 NOISE

This section provides a discussion of noise and vibration that could result from development associated with the implementation of the Updated Plan. Specifically, the existing noise environment within the Planning Area and future noise and ground-borne vibration levels are addressed. In addition, this section describes the means by which noise and vibration are regulated from a federal, state and local perspective.

4.8.1 ENVIRONMENTAL SETTING

4.8.1.1 Noise and Vibration Basics

Noise

Noise is most often defined as unwanted sound. Although sound can be easily measured, the perceptibility of sound is subjective and the physical response to sound complicates the analysis of its impact on people. People judge the relative magnitude of sound sensation in subjective terms such as "noisiness" or "loudness." Sound pressure magnitude is measured and quantified using a logarithmic ratio of pressures, the scale of which gives the level of sound in decibels (dB). The human hearing system is not equally sensitive to sound at all frequencies. Therefore, to approximate this human, frequency-dependent response, the A-weighted filter system is used to adjust measured sound levels. The A-weighted sound level is expressed in "dBA." This scale de-emphasizes low frequencies to which human hearing is less sensitive and focuses on mid- to high-range frequencies.

The sound measurement scale (dB) is logarithmic. A logarithmic scale is used because sound levels can span a very large range and the logarithmic scale permits use of relatively small numbers. For example, sound pressures at about 115 dBA are not uncommon in discotheques or near loudspeakers at rock concerts. A sound pressure at 115 dBA is equal to 10,000,000 micropascals. In contrast, zero dBA is the threshold of human hearing, which is equivalent to 20 micropascals. Thus, a range of about ten million pressure units can be described with only 115 dB units.

Logarithmic scales cannot be added arithmetically. For example, one sound at 80 dB plus another sound at 80 dB would not equal 160 dB. The combined 80 dB sounds would result in a total sound level of about 83 dB because sound is measured on a logarithmic scale. The

combined total sound level from two sources is only 40.3 dBA if one sound is at 40 dBA and the second sound is at 29 dBA. The following are rules that may be helpful in understanding this analysis:

- In general, one sound must be at least three dB louder than another sound for people to reliably determine that one sound source is louder than a second source; and
- A sound that is about ten dB louder than a second sound would be perceived as being about twice as loud as the second sound.

Time variation in noise exposure is typically expressed in terms of the average energy over time (L_{eq}), or alternatively, as a statistical description of the sound level that is exceeded over some fraction of a given period of time. For example, the L_{50} noise level represents the noise level that is exceeded 50 percent of the time. Half the time the noise level exceeds this level and half the time the noise level is less than this level. This level is also representative of the level that is exceeded 30 minutes in an hour. Similarly, the L_8 and L_{25} represent the noise levels that are exceeded 8 and 25 percent of the time, respectively, or for 5 and 15 minutes during a 1-hour period, respectively.

Although the A-weighted scale accounts for the range of people's response, and therefore, is commonly used to quantify individual event or general community sound levels, the degree of annoyance or other response effects also depends on several other perceptibility factors. These factors include:

- Ambient (background) sound level;
- Magnitude of sound event with respect to the background noise level;
- Duration of the sound event;
- Number of event occurrences and their repetitiveness; and
- Time of day that the event occurs.

Several methods have been devised to relate noise exposure over time to human response. Commonly used noise metrics for this type of study are the Community Noise Equivalent Level (CNEL) or day-night average level (L_{dn}). Both of these descriptors represent the weighted energy noise level for a 24-hour day after including a 10 dB penalty for noise levels occurring at night between the hours of 10:00 P.M. to 7:00 A.M. The CNEL, originally developed for use in the California Airport Noise Regulation, additionally includes a 5 dBA penalty to noise occurring during evening hours from 7:00 P.M. to 10:00 P.M. These descriptors account for the increased sensitivity to noise events that occur during the quiet late evening and nighttime periods.

Ground-Borne Vibration

Vibration is an oscillatory motion through a solid medium in which the motion's amplitude can be described in terms of displacement, velocity, or acceleration. The peak particle velocity (PPV) or the root mean square (RMS) velocity is usually used to describe vibration amplitudes. PPV is defined as the maximum instantaneous peak of the vibration signal, while RMS is defined as the square root of the average of the squared amplitude of the signal. According to data published by the California Department of Transportation (Caltrans), 0.1 inch/sec PPV is the level at which continuous vibrations begin to annoy people, and 0.2 inch/sec PPV is the threshold at which there is a risk of "architectural" damage to normal dwelling structures that contain plastered walls and/or ceilings.[28] In addition, the Federal Transit Administration (FTA) recommends protecting existing structures by limiting vibration levels to 0.2 inch/sec PPV.[29] Typically, ground-borne vibration generated by man-made activities attenuates rapidly with distance from the source of the vibration. Man-made vibration issues are therefore, usually confined to short distances (i.e., 500 feet or less) from the source.

4.8.2 REGULATORY FRAMEWORK

Many government agencies have established noise standards and guidelines to protect citizens from potential hearing damage and various other adverse physiological and social effects associated with noise. Standards and guidelines that are applicable to implementation of the Updated Plan are discussed below.

4.8.2.1 Federal Authorities and Administering Agencies

Noise

There are no federal regulations specifically governing noise issues for the Updated Plan. The Federal Aviation Administration (FAA) sets noise limits for commercial aircraft (14 CFR Part 36) and establishes procedures for airport noise studies and land use compatibility evaluations (14 CFR Part 150) in the Federal Aviation Regulations. The federal Department of Housing and Urban Development (HUD) has site acceptability standards for HUD financed or assisted projects. These standards consider a site with an Ldn of 65 dBA or less "acceptable," while those with an Ldn greater than 75 dBA are "unacceptable." With respect to residential and other sensitive uses, the exterior standard of 65 dBA CNEL is generally consistent with the

[28] *California Department of Transportation, Transportation Related Earthborne Vibrations, Technical Advisory Number TAV-02-01-R9601, February 20, 2002.*

[29] *Federal Transit Authority, Transit Noise and Vibration Impact Assessment, Final Report, April 1995.*

interior standard of 45 dBA CNEL. This is because normal wood frame residential construction usually provides from 12 to 18 dBA of reduction from exterior to interior areas, and a 20 dBA reduction is commonly achieved in new structures.

Ground-Borne Vibration

There are no federal standards for ground-borne vibration; however, the FTA has established a PPV threshold of 0.2 inch per second for vibration in proximity to fragile buildings.

4.8.2.2 State Authorities and Administering Agencies

Noise

The State of California, Department of Health Services, Environmental Health Division, has published the Guidelines for Noise and Land Use Compatibility (the State Guidelines) which recommend guidelines for local governments to use when setting standards for human exposure to noise and preparing noise elements for general plans. The State Guidelines, summarized in Table 4.8-1 on page 4-202, indicate that residential land uses and other noise sensitive receptors generally should be located in areas where outdoor ambient noise levels do not exceed 65 to 70 dBA (CNEL or L_{dn}). Application of this compatibility matrix to development projects is not mandated by the Department of Health Services; however, each jurisdiction is required to consider the State Guidelines when developing its general plan noise element and when determining acceptable noise levels within its community.[30]

The State Department of Housing and Community Development, however, has required that new residential units should not be exposed to outdoor ambient noise levels in excess of 65 dBA (CNEL or L_{dn}), and, if necessary, sufficient noise insulation must be provided to reduce interior ambient levels to 45 dBA.[31] Within a 65 dBA exterior noise environment, interior noise levels are typically reduced to acceptable levels (to at least 45 dBA CNEL) through conventional construction, but with closed windows and fresh air supply systems or air conditioning.

According to the State Guidelines, an exterior noise level of 60 dBA CNEL is considered to be a "normally acceptable" noise level for single-family, duplex, and mobile homes involving normal, conventional construction, without any special noise insulation requirements. Exterior

[30] *These Guidelines are also published by the Governor's Office and Planning and Research in the State of California General Plan Guidelines (2003).*

[31] *The U.S. Environmental Protection Agency identified an indoor CNEL of 45 dB as necessary to protect against sleep interference. Assuming a conservative structural noise insulation of 20 dB for typical dwellings, 45 dB corresponds to an outdoor CNEL of 65 dB as minimizing sleep interference.*

Table 4.8-1

Noise and Land Use Compatibility Criteria

Land Use Category	Normally acceptable	Conditionally Acceptable	Normally Unacceptable	Clearly Unacceptable
Residential-Low Density	50-60	55-70	70-75	75-85
Residential-Multiple Family	50-65	60-70	70-75	75-85
Transient Lodging-Motel, Hotels	50-65	60-70	70-75	75-85
Schools, Libraries, Churches, Hospitals, Nursing Homes	50-70	60-70	70-80	80-85
Auditoriums, Concert Halls, Amphitheaters	NA	50-70	NA	70-85
Sports Arenas, Outdoor Spectator Sports	NA	50-75	NA	70-85
Playgrounds, Neighborhood Parks	50-70	NS	67.5-75	72.5-85
Golf Courses, Riding Stables, Water Recreation, Cemeteries	50-75	NS	70-80	80-85
Office Buildings, Business Commercial and Professional	50-70	67.5-77.5	75-85	NS
Industrial, Manufacturing, Utilities, Agriculture	50-75	70-80	75-85	NS

Notes:
Normally Acceptable - Specified land use is satisfactory, based on the assumption that any buildings involved are of normal construction without special noise insulation requirements.
Conditionally Acceptable - New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and noise insulation features have been included in the design.
Normally Unacceptable - New construction or development should generally be discouraged. Prior to new construction or development, a detailed analysis of the noise reduction requirements must be made.
Clearly Unacceptable - New construction or development should generally not be undertaken.
NS=Not specified.

Source: Modified from the State of California Governor's Office of Planning and Research General Plan Guidelines, Appendix A

noise levels up to 65 dBA CNEL are typically considered "normally acceptable" for multi-family units and transient lodging without any special noise insulation requirements. Between these values and 70 dBA CNEL, exterior noise levels are typically considered "conditionally acceptable," and residential construction should only occur after a detailed analysis of the noise reduction requirements is made and needed noise attenuation features are included in the project design. Exterior noise attenuation features include, but are not limited to, setbacks to place structures outside the conditionally acceptable noise contour and orientation.

Under the State Guidelines, an exterior noise level of 70 dBA CNEL is typically the dividing line between an acceptable and unacceptable exterior noise environment for all other noise sensitive uses, including schools, libraries, churches, hospitals, day care centers, and

nursing homes of conventional construction. Noise levels below 75 dBA CNEL are typically acceptable for office and commercial buildings, while levels up to 75 dBA CNEL are typically acceptable for industrial uses. In unacceptable interior noise environments, additional noise insulation features, such as extra batting or resilient channels[32] in exterior walls, double paned windows, air conditioners to enable occupants to keep their windows closed, solid wood doors, noise baffles on exterior vents, etc., are typically needed to provide acceptable interior noise levels. The best type of noise insulation for a land use should be based on detailed acoustical analyses that identify all practical noise insulation features and that confirm their effectiveness.

Other applicable State laws and regulations are shown in Table 4.8-2 on page 4-204 and provide the authority to various state and local agencies to control the exposure of people to noise. The most important of these provisions are found in the Aviation Noise Standards set forth in Title 21 (Public Works) of the California Code of Regulations (21 CCR 5000), and the Noise Insulation Standards set forth in the State Building Code (24CCR Section T25-28).

Ground-Borne Vibration

There are no adopted State policies or standards for ground-borne vibration. The traditional view has been that common vibrations related to roadway traffic and construction activities pose no threat to buildings or structures. However, Caltrans recommends that extreme care be taken when sustained pile driving occurs within 7.5 meters (25 feet) of any building and 15-30 meters (50-100 feet) of a historic building or a building in poor condition.

4.8.2.3 Local Authorities and Administering Agencies

Noise

Chapter 8.16 of the Mammoth Lakes Municipal Code (Town Noise Ordinance) controls unnecessary, excessive and annoying noise in the Town. However, this chapter does not control noise sources that are preempted by other jurisdictions including in-flight aircraft and motor vehicles operating on public rights-of-way. As outlined in Section 8.16.070 of the Town Noise Ordinance and presented in Table 4.8-3 on page 4-205, the Town has established maximum exterior noise levels based on land use zones. Noise levels in excess of the levels indicated in Table 4.8-3 are conditionally permitted, depending on the intensity of the noise and the duration of exposure.[33] The Town Noise Ordinance also states that interior noise levels resulting from

[32] *A resilient channel is a pre-formed section of sheet metal approximately 0.5" deep x 25" wide x 12" long that is installed between wallboard panels and framing to reduce sound transmission through walls. By preventing the wallboard from lying against the studs, the channel inhibits the transmission of sound through the framing.*

[33] *Noise levels may not exceed the exterior noise standard for a cumulative period of more than thirty minutes in any hour; or plus five decibels for a combined period of more than fifteen minutes in any hour; or plus ten*
(Footnote continued on next page)

Table 4.8-2

Applicable State Laws and Regulations

Title 21 (Public Works) CCR 5000 et seq.	Aviation Noise Standards. Basic requirement that CNEL not exceed 65 dBA in exterior areas of residences, schools, hospitals, churches, and synagogues. Standards and procedures for defining noise impact areas, monitoring, resolving complaints.
Title 24 (Building) CCR T25-28	Noise insulation standards. Maximum interior CNEL of 45 dBA for all multi-family residences. Requirement for acoustic report for multi-family structures in areas with exterior CNEL over 60 dBA.
Public Utilities Code Section 21670 et seq.	Establishes and defines planning and review procedures for Airport Land Use Commissions.
Health and Safety Code Sections 17922.6 and 46000 et seq.	Establishes Office of Noise Control, guidelines for preparation of Noise Elements, and adoption of local standards and ordinances.
Title 18 (Industrial Relations) CCR 5095	Establishes standards and procedures for occupational exposures to noise.
Motor Vehicle Code Section 27200 et seq.	Establishes maximum allowable noise levels for motorcycles (Section 27202), heavy vehicles (27204), and other vehicles (27206). Maximum of 80 dBA at 50 feet for most vehicles.
Title 13 (Motor Vehicles) CCR 602 and 1036	Establishes standards and procedures for motor vehicle exhaust noise. Maximum of 95 dBA at 20 inches for most passenger vehicles and light trucks.
California Assembly Bill 2274	Establishes standards and procedures for off-road vehicles. Effective January 1, 2003, all off-road vehicles must meet the static noise test limit of 96 dB to legally use any and all public off-road areas.

Source: PCR Services Corporation, 2005

outside sources within residential units shall not exceed 45 dBA L_{50} between 7:00 A.M. and 10:00 P.M., and 35 dBA L_{50} between 10:00 P.M. and 7:00 A.M.[34] If the existing interior or exterior ambient noise level exceeds that permissible within the noise limit categories, the allowable noise exposure standard is increased in five dBA increments in each category as appropriate to encompass or reflect the ambient noise level (Section 8.16.070 and 8.16.080 of the Town Noise Ordinance).

The Town Noise Ordinance identifies specific restrictions regarding construction noise. As outlined in Section 8.16.090 of the Town Noise Ordinance and presented in Table 4.8-4 on page 4-206, the Town has established maximum exterior noise levels from the operation of

decibels for a combined period of more than five minutes in any hour; or plus fifteen decibels for a combined period of more than one minute in any hour; or plus twenty decibels for any period of time (maximum noise level).

[34] *Noise levels may not exceed the interior noise standard for a cumulative period of more than five minutes in any hour; or plus five decibels for a combined period of more than one minute in any hour; or plus ten decibels for any period of time (maximum noise level).*

Table 4.8-3

Town Exterior Noise Ordinance Standards

Receiving Land Use	Time Period	Noise Zone Classification[a] Maximum Noise Levels (dBA) L_{50} Rural/ Suburban	Suburban	Urban
One and Two Family Residential	10 P.M. to 7 A.M.	40	45	50
	7 A.M. to 10 P.M.	50	55	60
Multiple Dwelling Residential/Public Space	10 P.M. to 7 A.M.	45	50	55
	7 A.M. to 10 P.M.	50	55	60
Limited Commercial/Some Multiple Dwellings	10 P.M. to 7 A.M.	55	—	—
	7 A.M. to 10 P.M.	60	—	—
Commercial	10 P.M. to 7 A.M.	60	—	—
	7 A.M. to 10 P.M.	65	—	—
Light Industrial	Anytime	70	—	—
Industrial	Anytime	75	—	—

[a] *The classification of different areas of the community in terms of environmental* noise *zones shall be determined by the* noise *control officer, based upon assessment of community* noise *survey data. Additional area classifications should be used as appropriate to reflect both lower and higher existing ambient levels than those shown. Industrial* noise *limits are intended primarily for use at the boundary of industrial zones rather than for* noise *reduction within the zone.*

Source: The Town Noise Ordinance, Chapter 8.16

equipment used in construction, drilling, repair, alteration or demolition work. All mobile and stationary internal-combustion-powered equipment and machinery is also required to be equipped with suitable exhaust and air-intake silencers in proper working order.

Ground-Borne Vibration

The Town has established a vibration threshold within the Noise Ordinance. According to Section 8.16.090 of the Ordinance, operating or permitting the operation of any device that creates a vibration which is above the vibration perception threshold of an individual at or beyond the property boundary of the source if on private property or at one hundred fifty feet (forty-six meters) from the source if on a public space or public right-of-way. While not defined, the perception threshold is generally defined as a motion velocity of 0.01 inch per second.

Table 4.8-4

Town Construction Noise Standards

Construction Equipment [a]	Type I Areas Single-Family Residential	Type II Areas Multi-Family Residential	Type III Areas Semi-Residential Commercial [a]	Business Properties
Mobile Equipment [b]				
Daily, except Sundays and legal holidays; 7:00 A.M. to 8:00 P.M.	75 dBA L_{50}	80 dBA L_{50}	85 dBA L_{50}	----
Daily, 8:00 P.M. to 7:00 A.M. and all day Sunday and legal holidays	60 dBA L_{50}	64 dBA L_{50}	70 dBA L_{50}	----
Daily, including Sunday and legal holidays, all hours	----	----	----	85 dBA L_{50}
Stationary Equipment [c]				
Daily, except Sundays and legal holidays; 7:00 A.M. to 8:00 P.M.	60 dBA L_{eq}	65 dBA L_{eq}	70 dBA L_{eq}	----
Daily, 8:00 P.M. to 7:00 A.M. and all day Sunday and legal holidays	50 dBA L_{eq}	55 dBA L_{eq}	60 dBA L_{eq}	----
Daily, including Sunday and legal holidays, all hours	----	----	----	75 dBA L_{50}

[a] *All mobile or stationary internal combustion engine-powered equipment or machinery shall be equipped with suitable exhaust and air intake silencers in proper working order.*

[b] *Maximum noise levels for nonscheduled, intermittent, short-term operation (less than 10 days) of mobile equipment (e.g., excavator, backhoe, dozer, etc.).*

[c] *Maximum noise levels for repetitively scheduled and relatively long-term operation (periods of 10 days or more) of stationary equipment (e.g., generators, compressors, etc.).*

Source: Town Noise Ordinance. 8.16.090

4.8.2.4 Existing Conditions

Existing Noise Environment

Ambient noise levels in the Town have been documented in three separate noise surveys. The most recent noise level testing for the Town was conducted by Brown-Buntin Associates, Inc. in the summer of 2005. The noise survey was conducted within the UGB and was a sampling of the noise conditions within the Town. The results of this survey are included in Appendix D of this EIR. Table 4.8-5 on page 4-207 presents to background noise levels in Town. Extensive conclusions about the meaning of the noise level changes from 1995 to 2005 should not be drawn since the measurements were for a few days and many factors can influence noise levels. However, background noise levels in terms of L_{dn} at all locations were well below the 60 dB L_{dn} criterion in both 1995 and 2005. In addition, the 2005 noise measurements were conducted during the July 4th weekend (July 2nd through July 5th) and represent the busiest time period in the Town during the summer season.

Table 4.8-5

Background Noise Levels in 1995 and 2005

Site No./Location(s)	July 1995 L_{dn}, dB	July 2005 L_{dn}, dB	Change
1/107 Sugar Pine	49.1	50.7	+1.6
2/286 Cortina Court/394 Grindelwald Road	50.5	44.2	-6.3
3/323 Wagon Wheel/203 Trails End	43.9	50.6	+6.7

Source: Brown-Buntin Associates, Inc., 2005

The most significant noise sources in the Town are traffic on State Route 203 and major town roadways, aircraft operations at the Mammoth Yosemite Airport, helicopter operations at Mammoth Hospital, the intermittent noises associated with construction, snow removal activities, snowmaking operations, avalanche control operations, industrial activities near State Route 203 and Meridian Boulevard, and recreation activities.

Construction Noise

Temporary construction activities occur within the Town near noise-sensitive areas. Activities generate noise levels at 50 feet in ranges from 85 to 88 dBA (RBF Consulting 2000). Construction activities are temporary in nature and occur in accordance with the Town Noise Ordinance during the daytime hours and within prescribed noise limits (see Table 4.8-3).

Vehicular Noise

Vehicular traffic is the major long-term noise source in the Town. Table 4.8-6 on page 4-208 presents the noise monitoring data associated with vehicular traffic along the selected roadways. Figure 4.8-1 on page 4-209 shows the locations of those existing noise levels that exceed the 60dB standard.

Snow Removal Activities

Section 8.16.100 of the Noise Ordinance provides an exemption for the performance of emergency work such as may be required to prevent or alleviate personal or property damage caused by an emergency. Although not specifically cited as such in the Noise Ordinance, the Town considers snow removal activities for purpose of public safety as emergency work when it occurs on public roadways, in parking lots, or around places of business.

Table 4.8-6

Existing 2005 Traffic Noise Levels

Roadway	Segment	Road Classifications	Ldn, dB at 100 feet
SR 203/Main	Meridian to Sierra Park	Arterial	59
	Sierra Park to Minaret	Arterial	61
	Minaret to Forest Trail	Arterial	59
	North of Minaret	Arterial	57
Lake Mary Road	Minaret to Kelly	Collector	58
	East of Kelly	Collector	55
Meridian Boulevard	SR203 to Commerce	Arterial	54
	Commerce to Old Mammoth	Arterial	59
	Old Mammoth to Azimuth	Arterial	58
	Azimuth to Minaret	Arterial	60
	East of Minaret	Collector	59
Old Mammoth Road	SR203 to Meridian	Arterial	60
	Meridian to Chateau	Arterial	60
	Chateau to Minaret	Arterial	57
	East of Minaret	Collector	57
Minaret Road	SR203 to Meridian	Arterial	58
	Meridian to Old Mammoth	Arterial	55
Forest Trail	North of Main	Collector	54
	East of Minaret	Collector	48
Canyon Boulevard	Hillside to Lake Mary	Collector	57
Lakeview Boulevard	East if Entry	Collector	53
	West of Entry	Collector	57
Kelley Road	South of Lake Mary	Collector	54
Center	South of Main	Local	53
Azimuth Drive	North of Meridian	Collector	52
	South of Meridian	Collector	57

Source: Brown-Buntin Associates, Inc., 2005

Aircraft Noise

The Mammoth Yosemite Airport currently has 400 flights per month, primarily by single-engine private aircraft. A commercial turbo-prop provides limited service. Existing airport noise does not contribute substantially to the ambient noise level in the Town (County of Mono Noise Element). In addition to the aircraft operation at the airport, the community is occasionally exposed to noise from helicopters using the heli-pad at the Town hospital.

The Final SSEIR for the Mammoth Yosemite Airport Expansion Project states that the FAA accepted the noise exposure criterion levels as required by the California Department of Transportation, Division of Aeronautics of CNEL 60, 65, 70, and 75. The Mammoth Yosemite Airport has a relatively small size of CNEL 70 and 75 noise exposure areas. The area exposed to aircraft noise of CNEL 65 and higher for the proposed project remains within the airfield

Town of Mammoth Lakes

Explanation

- Segment Exceeding 60 dB
- Urban Growth Boundary

Project

- Commercial 1
- Commercial 2
- High Density Residential 1
- High Density Residential 2
- Industrial
- Institutional Public
- Low Density Residential 1
- Low Density Residential 2
- Open Space
- Resort
- Specific Plan
- National Forest Lands
- National Forest Lands Outside the Municipal Boundary

PARCELS

1. Bell-Shape Parcel
2. Mammoth Creek Park
3. Water District
4. Foundation Parcel

N

0 250 500 1,000 Meters

Base Maps: Old Mammoth, Mammoth Mountain, Crystal Crag & Bloody Mountain
Source: Brown-Burtin Associates, Inc; 2005

Figure 4.8-1 Road Segments in Excess of 60 dB Standard Map

boundary of the Airport on either Airport property or vacant land controlled by the Airport through leases or use permits. There are no noise sensitive land uses and no people living within the CNEL 65 noise exposure area.

Recreation Noise

Recreational vehicle noise results from the use of snowmobiles in the winter and motorcycles on dirt trails at the Sherwin Lake Motocross Course in the summer. Additional recreational related noise includes the live and recorded music occurring at Town events. Live amplified music was played at the Village on the evening of July 2, 2005. Sound level measurements and observations were made at several locations from about 7:00-8:00 P.M. to determine noise impacts from this type of entertainment. The results of measurements/ observations are provided in Table 4.8-6 on page 4-208

Noise-Sensitive Receptor Locations

Certain land uses are particularly sensitive to noise including schools, residences, hospitals, rest homes, long-term medical and mental care facilities, parks, and recreation areas. Noise sensitive land uses in the Town include school facilities, residential development, hospitals, libraries, and churches. Additionally, the John Muir and Ansel Adams Wilderness Areas and the roadless area of the Inyo National Forest are in the vicinity of the Town and are considered sensitive areas.

Existing Ground-Borne Vibration Environment

Sources of groundborne vibrations and noise in the Town include current industrial activities, helicopter overflights (mainly to the hospital), airplane takeoffs (experienced in the vicinity of the airport), refuse trucks, avalanche control blasting, snow plowing during winter months, and construction activities. Sources of groundborne vibration identified within the Town would not be considered substantial ground-borne vibration sources (e.g., mining operations).

Vibration-Sensitive Receptor Locations

Certain land uses are particularly sensitive to vibration including schools, residences, hospitals, rest homes, long-term medical and mental care facilities. Vibration sensitive land uses in the Town include school facilities, residential development, hospitals, libraries, and churches. With respect to structures, vibration-sensitive receptors generally include historic buildings, buildings in poor condition, and uses that require precision instruments (e.g., operating rooms or scientific laboratories).

Table 4.8-7

Live Music Noise Levels[a]

Location	Noise Level Range	Noise Level Leq
Condos @ Forest Trail & Hillside Drive	Music not audible	Music not audible
Condos under construction about 200´ from rear of band	68-76 dBA	73 dBA
	69-77 dBA	72 dBA
"Hillside Resort & Spa" construction site, opposite side Canyon Blvd.	56-64 dBA	60 dBA
	56-63 dBA	59 dBA
Mammoth Fireside Condos	55-58 dBA	56 dBA
	54-62 dBA	57 dBA
Forest Trail & Grindelwald	Music not audible	Music not audible

[a] *Background noise measurements were conducted at 286 Cortina Court during the same measurement period as the lime music (6:00 P.M. 46 dBA Leq; 7:00 P.M. 40 dBA Leq; and 8;00 P.M. 38 dBA Leq).*

Source: Brown-Buntin Associates, Inc., 2005

4.8.2 THRESHOLDS OF SIGNIFICANCE

Based on Appendix G in the CEQA Guidelines, the project would be considered to have a significant impact on noise if the project would:

- Expose persons to or generate noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies;
- Expose persons to or generate excessive groundborne vibration or groundborne noise levels;
- Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project;
- Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project; or
- For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, the project would expose people residing or working in the project area to excessive noise levels.
- For a project located within the vicinity of a private airstrip, the project would expose people residing or working in the project area to excessive noise levels.

4.8.3 IMPACTS AND MITIGATION

Issue 4.8-1: *Would development associated with implementation of the Updated Plan expose persons to or generate noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?*

Discussion: Since the Updated Plan does not propose any specific development projects, no specific sources of noise can be identified. However, any specific development projects would be required to comply with standards established in the local general plan or noise ordinance, or applicable standards of other agencies.

As described in the Regulatory Framework section, numerous federal, state and local regulations oversee noise levels from specific projects. While increases in noise levels associated with specific development projects cannot be eliminated, oversight by the appropriate agencies and compliance with the applicable regulations would maintain noise levels within acceptable levels.

Mitigation Measures

The Updated Plan would not expose persons to or generate noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies. Therefore, no mitigation measures are required.

Level of Significance After Mitigation Measures

Impacts related to the exposure of persons to or generate of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies would be less than significant.

Issue 4.8-2: *Would development associated with implementation of the Updated Plan expose persons to or generate excessive groundborne vibrations or groundborne noise levels?*

Discussion: Sources of groundborne vibration and groundborne noise in the Town include current industrial activities, helicopter overflights (mainly to the hospital), airplane takeoffs (experienced in the vicinity of the airport), avalanche control blasting, snow plowing during winter months, and construction activities. With regard to groundborne vibration or noise from the Airport, residences and schools are required to be located outside of the Airport's 65 CNEL noise contour and, as such, residential uses and schools would not be exposed to excessive groundborne vibration or groundborne noise.

The Updated Plan does not propose any specific development projects and no specific sources of groundborne vibration or groundborne noise can be identified. However, any specific

development projects would be required to comply with standards established in the local general plan or noise ordinance, or applicable standards of other agencies. Specifically, Section 8.16.090 of the Ordinance prohibits operating or permitting the operation of any device that creates a vibration which is above the vibration perception threshold of an individual at or beyond the property boundary of the source if on private property or at one hundred fifty feet (forty-six meters) from the source if on a public space or public right-of-way. Oversight by the appropriate agencies and compliance with the applicable regulations would result in a less than significant impact with regard to groundborne vibration and groundborne noise.

Mitigation Measures

Implementation of the Updated Plan would not result in a significant impact with regard to groundborne vibration and groundborne noise impacts. Therefore, no mitigation measures are required.

Level of Significance After Mitigation Measures

Implementation of the Updated Plan would result in a less than significant impact with regard to groundborne vibration and groundborne noise impacts.

Issue 4.8-3: *Would development associated with implementation of the Updated Plan result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?*

Discussion: Controlling ambient sound levels is one element of achieving the Vision Statement for Mammoth Lakes. The principal source of a permanent increase in ambient noise levels is vehicular traffic including automobiles, busses, and recreational vehicles. Table 4.13.3, which is provided in the Transportation and Circulation section of this EIR, outlines the anticipated changes in traffic conditions at specific intersections and selected road segments. The data generally shows a doubling of traffic volumes. The projected increase in traffic that would result from buildout of the Updated Plan would result in an increase in the amount of ambient noise in the Town during the high traffic periods, which are the winter weekend days. The types of developments and activities anticipated under the Updated Plan are not expected to greatly increase traffic volumes at night and thus traffic related noise during nighttime periods are not expected to greatly increase. However, as shown in Table 4.8-8 below, future traffic noise levels at some of the locations would exceed 60 dB Ldn at the 100-foot distance. Where noise-sensitive receptors (full-time occupancy residences) are located next to roads, there is a potential for noise impacts if noise levels exceed 60 dB Ldn. Whether there is an actual impact depends on site-specific conditions. Local topography may shield residences at some locations, and the orientation, location and design of noise-sensitive areas (e.g., patios and backyards) may adequately mitigate noise impacts. Interior noise levels should be satisfactory (45 dB Ldn or less) at all locations. Normal construction practices that satisfy building codes would reduce

Table 4.8-8

Future (2024) Traffic Noise Levels in Terms of Day-Night Average Level (Ldn)

Roadway	Segment	Road Classifications	Ldn, dB at 100 feet		
			Existing (2005)	Future (2024)	Change
SR 203/Main	Meridian to Sierra Park	Arterial	59	62	3
	Sierra Park to Minaret	Arterial	61	63	2
	Minaret to Forest Trail	Arterial	59	61	2
	North of Minaret	Arterial	57	60	3
Lake Mary Road	Minaret to Kelly	Collector	58	62	4
	East of Kelly	Collector	55	57	2
Meridian Boulevard	SR203 to Commerce	Arterial	54	58	4
	Commerce to Old Mammoth	Arterial	59	62	3
	Old Mammoth to Azimuth	Arterial	58	60	2
	Azimuth to Minaret	Arterial	60	62	2
	East of Minaret	Collector	59	63	4
Old Mammoth Road	SR203 to Meridian	Arterial	60	62	2
	Meridian to Chateau	Arterial	60	63	3
	Chateau to Minaret	Arterial	57	61	4
	East of Minaret	Collector	57	60	3
Minaret Road	SR203 to Meridian	Arterial	58	61	3
	Meridian to Old Mammoth	Arterial	55	60	5
Forest Trail	North of Main	Collector	54	57	3
	East of Minaret	Collector	48	54	6
Canyon Boulevard	Hillside to Lake Mary	Collector	57	60	3
Lakeview Boulevard	East of Entry	Collector	53	56	3
	West of Entry	Collector	57	57	<1
Kelley Road	South of Lake Mary	Collector	54	57	3
Center	South of Main	Local	53	57	4
Azimuth Drive	North of Meridian	Collector	52	55	3
	South of Meridian	Collector	57	59	2

Source: Brown-Buntin Associates, Inc., 2005

exterior noise levels by 20 to 25 dB. This means that exterior noise levels up to 70 dB Ldn would still provide interior noise levels no greater than 45 db Ldn, assuming windows and doors are closed.

Since the Updated Plan does not propose any specific projects that would incorporate sensitive receptors, no specific requirements can be provided at this time. However, any specific development projects would be required to comply with standards established in the local general plan or noise ordinance, or applicable standards of other agencies. In addition, the Town would require projects to incorporate design measures as appropriate during the environmental review process. Such measures may include the following:

- Incorporating buffers and/or landscaped earthen berms to screen adjoining land uses from elevated noise levels;
- Orientating windows and outdoor living areas away from unacceptable noise exposure;
- Using acoustic building materials;
- Incorporating traffic calming measures, alternative intersection designs (roundabouts), and lower speed limits; and
- Incorporating state-of-the-art structural sound attenuation and setbacks.

With regard to stationary noise sources, since the Updated Plan does not propose any specific development projects, no specific stationary sources of noise can be identified at this time. However, any specific development projects would be required to comply with standards established in the local general plan or noise ordinance, or applicable standards of other agencies.

Implementation Measures in the Updated Plan

I.4.A.a.1 New development of noise-sensitive land uses shall not be permitted in areas exposed to existing or projected future levels of noise from transportation which exceed 60 dB Ldn in outdoor activity areas or 45 dB Ldn in interior spaces.

I.4.A.a.2 Noise created by new transportation noise sources, including roadway improvement projects, shall be mitigated so as not to exceed 60 dB Ldn in outdoor activity areas of 45 dB Ldn within interior spaces of existing noise-sensitive land-uses.

I.4.A.a.3 New development of noise-sensitive land uses shall not be permitted where the noise level from existing stationary noise sources exceeds the level standards of Table VII.

Table VII: Maximum Allowable Noise Exposure Stationary Noise Sources[1]

	Daytime (7 a.m. to 10 p.m.)	Nighttime (10 p.m. to 7 a.m.)
Hourly Level dB	50	45
Maximum Level, dB	70	65

[1]As determined at the property line of the receiving land use. When determining the effectiveness of noise mitigation measures, the standards may be applied on the receptor side of noise barriers or other property line noise mitigation measures.

I.4.A.a.4 Noise created by new proposed stationary noise sources or existing stationary noise sources which undergo modifications that may increase noise levels shall be mitigated so as not to exceed the noise level standard of Table VII at noise-sensitive uses.

Implementation Measures in the Noise Element

Measure 5.1 The Town shall review new public and private development proposals to determine conformance with the policies of the Noise Element.

Measure 5.2 The Town shall require an acoustical analysis in those cases where a project potentially threatens to expose noise-sensitive land uses to excessive noise levels. The presumption of the noise levels shall be based on the location of new noise-sensitive uses to known noise sources, or staff's professional judgment that a potential for adverse noise impacts exists. Acoustical analyses shall be required early in the review process so that noise mitigation may be included in the project design. For development not subject to environmental review, the requirements for an acoustical analysis shall be implemented prior to the issuance of building permits.

Measure 5.3 The Town shall develop and employ procedures to ensure that noise mitigation measures required pursuant to an acoustical analysis are implemented in the development review and building permit processes.

Measure 5.4 The Town shall develop and employ procedures to monitor compliance with the policies of the Noise Element after completion of projects where noise mitigation measures have been required.

Measure 5.5 The Town shall enforce the State Noise Insulation Standards (California Code of Regulations, Title 24) and Chapter 35 of the Uniform Building Code (UBC) concerning interior noise exposure for multi-family housing, hotels and motels.

Measure 5.6 The Town shall request the California Highway Patrol, the sheriff's office and the police department to actively enforce the California Vehicle Code sections relating to adequate vehicle mufflers and modified exhaust systems.

Implementation of the measures provided in the Updated Plan along with measures provided in the Noise Element would ensure that existing and proposed sensitive uses would not exceed applicable noise standards. However, a significant unavoidable impact would occur because the noise generated by traffic from implementation of the Updated Plan would exceed current ambient levels by up to 6 dBA.[35] As an example, Forest Trail east of Minaret would increase from 48 dB Ldn to 54 dB Ldn. An Ldn of 54 dB is well within the generally acceptable

[35] *Community responses to changes in noise levels fluctuate, but a change in noise level from 3 to 5 dBA may be noticed by some individuals who are extremely sensitive to changes in noise, while a 5 dBA increase is readily noticeable.*

outside noise level provided in the Noise Element of 60 dB Ldn, but an increase of 6 dBA would be readily noticeable and, thus, considered a substantial change in noise levels.

Mitigation Measures

The existing regulations and the implementation measures in the Updated Plan and the Noise Element would ensure that permanent increases in noise levels within the UGB would not exceed the threshold of 60 dB Ldn in outdoor activity areas of 45 dB Ldn within interior spaces of existing noise-sensitive uses. However, a significant unavoidable impact would occur due to the incremental increase in noise that would result from the projected increase in traffic. The policies and implementation measures in the Updated Plan along with measures provided I the Noise Element would reduce permanent increases in ambient noise levels in the UGB to the extent feasible. No additional feasible mitigation measures were identified.

Level of Significance After Mitigation Measures

Implementation of the measures provided in the Updated Plan along with measures provided in the Noise Element would ensure that existing and proposed sensitive uses would not exceed applicable noise standards. However, a significant unavoidable impact would occur due to the incremental increase that would occur from traffic. Therefore, the permanent increase in ambient noise levels in the UGB above existing levels that would result from development associated with the Updated Plan would be significant and unavoidable.

Issue 4.8-4: *Would development associated with implementation of the Updated Plan result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?*

Discussion: Implementation of the Updated Plan would result in additional development within the Town, with a particular emphasis on resort and recreational land uses. These uses are associated with certain types of noise events that can represent increases over ambient sound levels; however, these are similar to existing conditions. During construction phases, the areas of concern would include noise from temporary construction and earthwork. However, construction activities are temporary in nature and would occur in accordance with the Town Noise Ordinance during the daytime hours and within prescribed noise limits (see Table 4.8.3). On a long-term basis, the concerns would pertain to an increase in the number and frequency of amplified sound music or other sounds from special events, an increase in the number and frequency of high-noise recreational vehicle use (such as snow jets, power boats, and motorized bikes), and other similar sources. The Updated Plan would provide for additional growth, which would result in an increase in these types of outdoor activities.

Implementation Measures in the Updated Plan

I.4.A.a.3 New development of noise-sensitive land uses shall not be permitted where the noise level from existing stationary noise sources exceeds the level standards of Table VII.

I.4.A.a.4 Noise created by new proposed stationary noise sources or existing stationary noise sources which undergo modifications that may increase noise levels shall be mitigated so as not to exceed the noise level standard of Table VII at noise-sensitive uses.

Table VII: Maximum Allowable Noise Exposure Stationary Noise Sources[1]		
	Daytime (7 a.m. to 10 p.m.)	Nighttime (10 p.m. to 7 a.m.)
Hourly Level dB	50	45
Maximum Level, dB	70	65
[1]As determined at the property line of the receiving land use. When determining the effectiveness of noise mitigation measures, the standards may be applied on the receptor side of noise barriers or other property line noise mitigation measures.		

Implementation Measures in the Noise Element

Measure 5.2 The Town shall require an acoustical analysis in those cases where a project potentially threatens to expose noise-sensitive land uses to excessive noise levels. The presumption of the noise levels shall be based on the location of new noise-sensitive uses to known noise sources, or staff's professional judgment that a potential for adverse noise impacts exists. Acoustical analyses shall be required early in the review process so that noise mitigation may be included in the project design. For development not subject to environmental review, the requirements for an acoustical analysis shall be implemented prior to the issuance of building permits.

Measure 5.3 The Town shall develop and employ procedures to ensure that noise mitigation measures required pursuant to an acoustical analysis are implemented in the development review and building permit processes.

Measure 5.4 The Town shall develop and employ procedures to monitor compliance with the policies of the Noise Element after completion of projects where noise mitigation measures have been required.

Measure 5.6 The Town shall request the California Highway Patrol, the sheriff's office and the police department to actively enforce the California Vehicle Code sections relating to adequate vehicle mufflers and modified exhaust systems.

As indicated above, the Updated Plan would result in an increase in construction activities as well as an increase in outdoor events and recreational activities. All projects would be required to comply with existing regulations as well as policies in the Updated Plan and in the Noise Element. Compliance with applicable regulations and policies and implementation measures would result in a less than significant impact with regard to temporary or periodic increase in ambient noise levels.

Mitigation Measures

Implementation of the Updated Plan would not result in a significant impact with regard to temporary or periodic increases in ambient noise levels. Therefore, no mitigation measures are required.

Level of Significance After Mitigation Measures

Implementation of the Updated Plan would not result in a significant impact with regard to temporary or periodic increases in ambient noise levels.

Issue 4.8-5: *For a project located within an airport land use plan, or where such a plan has not been adopted, within two miles of a public airport or public use airport, would development associated with implementation of the Updated Plan result in the exposure of people residing or working in the project area to excessive noise levels?*

Discussion: The Mammoth Yosemite Airport is located approximately seven miles from the Town and the airport has a relatively small size of CNEL 70 and 75 noise exposure areas. The area exposed to aircraft noise of CNEL 65 and higher remains within the airfield boundary of the Airport on either Airport property or vacant land controlled by the Airport through leases or use permits. There are no noise sensitive land uses and no people living within the CNEL 65 noise exposure area. Implementation of the Updated Plan would comply with applicable regulatory requirements (e.g. Title 24 (Building) CCR T25-28), which would preclude locating sensitive receptors within the airport's 65 CNEL contour and, as such, the Updated Plan would not result in the exposure of sensitive receptors in the UGB to excessive noise levels.

Mitigation Measures

The Updated Plan would not expose people residing or working in the UGB to excessive noise levels from an airport. Therefore, no mitigation measures are required.

Level of Significance After Mitigation Measures

Impacts related to the exposure of persons residing or working in UGB to excessive noise levels from an airport would be less than significant.

4.9 POPULATION, HOUSING, AND EMPLOYMENT

This section outlines the existing population, housing, and employment trends in the Town and assesses impacts to these trends from implementation of the Updated Plan. Information in this section is based on the Updated Plan, the EIR and Subsequent EIR for the North Village Specific Plan Amendment (1999), the Community Facility Needs Assessment (2001), the State of California Employment Development Department (Labor Market Division 2002), the California Department of Finance (Demographic Research Unit 2002), and the 2000 United States Census Data and the adopted Housing Element. Given that various sources are used for data, the numbers do not always match.

The existing Housing Element was updated and certified by the California Department of Housing and Community Development on December 29th 2003. State law requires periodic updating of housing elements. The Town's current and certified Housing Element is not being amended as part of this Updated Plan but will be a part of subsequent General Plan updates.

4.9.1 EXISTING CONDITIONS

Population

Based on the 2000 Census, the resident population of the Town was 7,094, which represents over half of the 12,853 residents in Mono County. The Town has experienced a resident population increase of approximately 80 percent over the past twenty years and over 48 percent in the past ten years (Table 4.9-1 on page 4-221). This population increase far exceeds the State of California as a whole, which experienced a population increase of 13.8 percent in the past ten years.

The permanent population on January 1, 2003 was 7,460 as determined by the California Department of Finance. This increase of 367 residents between 2000 and 2003 represents a five percent increase in three years. The 2004 resident population estimates include 7,569 permanent and 2,264 seasonal residents with an average peak period population of approximately 34,265 (Table 4.9-2 on page 4-221).

Table 4.9-1

Resident Population in Mammoth Lakes between 1980 and 2000

Year	Population
1980	3,929
1990	4,785
2000	7,094

Source: U.S. Census

Table 4.9-2

Existing Population (2004)

Units / Population	Permanent Resident	Seasonal	Second Home	Visitor	Total
Units	3,115	566	1,942	4,166	9,871
Population	7,569	2,264	7,768	16,664	34,265 [a]

[a] *Population assumes seasonal, visitor, lodging and second home equal four people per dwelling. Permanent resident equal 2.4 per dwelling. 38.5 percent of residential units are permanent, seven percent are seasonal, 24 percent are second home, and 29.5 percent are visitor. This does not equal 100 percent due to vacancies.*

Source: Town of Mammoth Lakes, 2005

Average Peak Population

Population intensity is more than just permanent residents. It includes transient residents and visitors. Therefore, the General Plan uses the phrase "people at one time" (PAOT) to describe population intensity. The average peak population of 34,265 is the total number of PAOT, which represents the average winter Saturday. For the purposes of projecting PAOT, the Town applied a person/unit occupancy, based upon the census average of 2.4 people per household, for all units occupied by permanent residents and a person/unit occupancy of 4.0 was applied to all remaining visitor, second home, and seasonal resident units. This figure was verified by the Town of Mammoth Lakes annual visitor survey and is similar to the unit occupancy factor of 4.1 which was used during the 1987 General Plan.

This figure was verified through the following analysis. As indicated in Table 4.9-3 on page 4-222 permanent population in 2003 was 7,460 as determined by the California Department of Finance. The skier number used was 18,476 (the highest day for the month was 21,630). An estimated 600 skiers from the 93546 zip code reduce this number (MMSA, Thom Heller, oral communication). It was assumed that ¼ of the visitors were not skiing (either non-skiers or just not skiing on that day). This is somewhat lower than our peer resorts and is comparable to the ratio that was used in the 1987 population projections. It was also estimated that the town has

Table 4.9-3

Verification Analysis of PAOT as of January 1, 2004

Skiers on MMSA	18,476
Permanent population	7,460
Locals skiing	-600
Non-skiing visitors/second homeowners	5,958
Seasonal residents	2,000
Total	33,294

Source: Town of Mammoth Lakes, 2005

approximately 2,000 seasonal residents. The sum of these numbers is 33,294 PAOT, which is varied from the projection by approximately 3 percent.

To facilitate the development of policies for the current General Plan update, a comprehensive review has been made of population and housing trends in Mammoth Lakes over the past 20 years, including issues that may impact population and housing in the years ahead. Estimates of future population are based on an analysis of the number of units that could be constructed by the project.

Based on the proposed 2005 General Plan, the Town of Mammoth Lakes forecasts the PAOT at build out could reach approximately 60,700 by 2024, an increase of approximately 26,400 from the current PAOT. Figure 4.9-1 on page 4-223 shows the population density by area within the UGB. It should be noted that this forecast was based upon the land use designations, goals policies and objectives of the 2005 General Plan when the forecast was established in July 2005.

Demographics

According to the 2000 Census, the majority of the population (over 63 percent) was between the ages of 20 and 54. The segment of the population between the ages of 35 to 44 made up the largest portion (19.6 percent). Based on the 2000 Census, the ethnic makeup of the Town was over 73.5 percent White and 22.2 percent Hispanic (of any race).

Housing

As shown in Table 4.9-4 on page 4-224, as of January 2004, there were approximately 9,871 units located in the Town, 824 of the units currently developed are multi-unit non-transient;[36] 2,087 are single-family residential units; and 6,821 are multi-unit

[36] *This category includes all attached dwelling units including deed restricted and market rate apartments and multi-family condominiums which prohibit transient rentals. This includes all multi-unit developments located within the Residential Multi-Family 1 zone and Affordable Housing zone and any other multi-unit development in town that prohibits transient rental.*

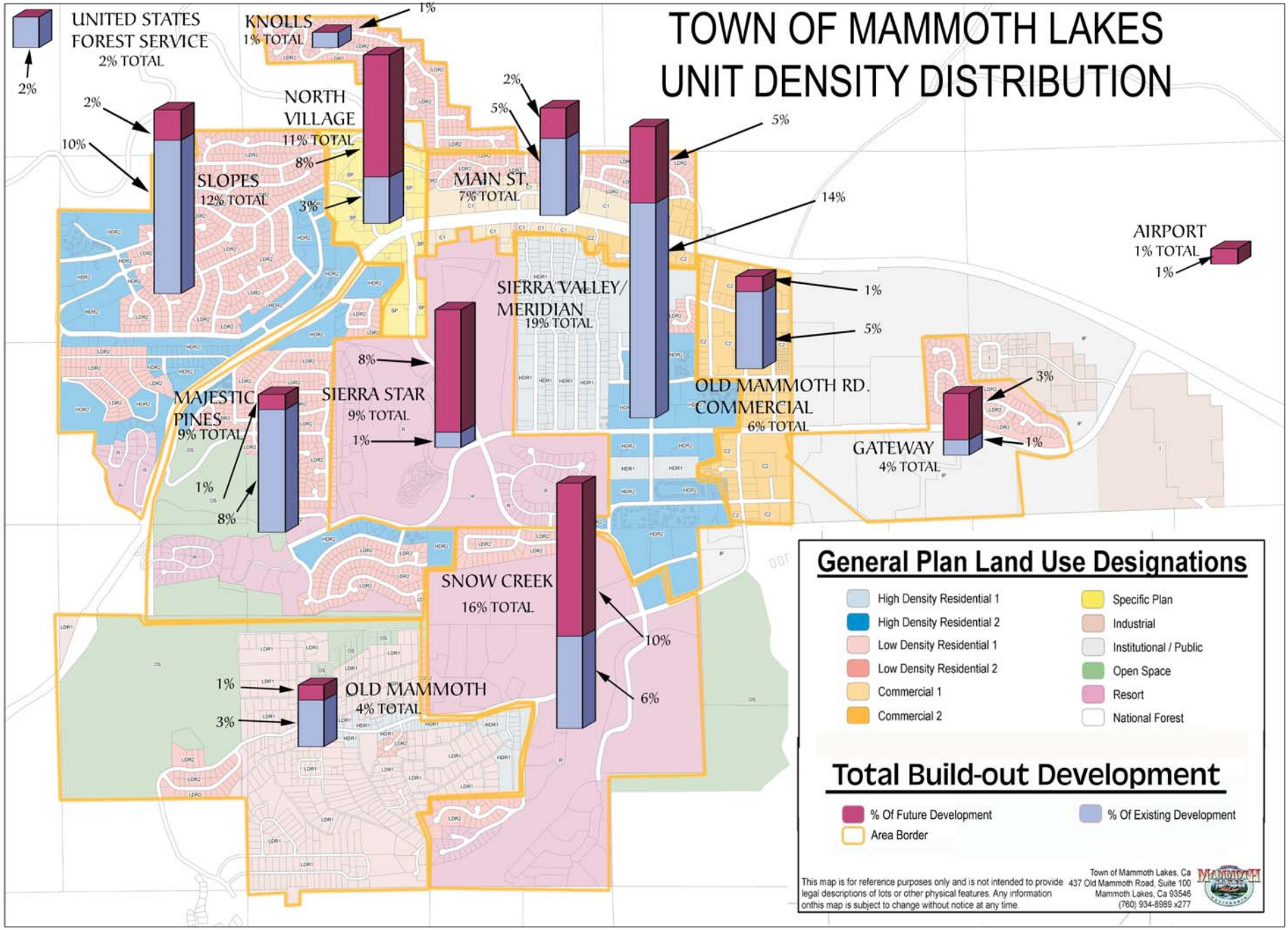


Figure 4.9-1 Population Density by Area within the UGB

Table 4.9-4

Incremental Development for Buildout of the Updated General Plan

Land Use	January 2004 Existing Development Units (Sq. Feet)/Acre	Potential Units at Build-out Updated General Plan Units(Sq. Feet)/Acre
Single Family Non-transient	2,087 units / 409 acres	2,380 units / 576 acres
Single Family Transient	0	97 units / 24 acres
Mobile Home	136 units / 15 acres	144 units / 16 acres
Multi-Unit Non-Transient	827 units / 60 acres	2,091 units / 119 acres
Multi-Unit Transient	6,821 units / 402 acres	11,998 units / 559 acres
Industrial	296,941 sq. ft. / 36 acres	493,547 sq. ft. / 64 acres
Commercial/Office Uses	1,262,618 sq. ft./ 58 acres	1,365,002sq. ft. / 84.5 acres
Total Units	9,871	16,710
Population (persons)	34,265	60,727

Notes: Population assumptions Seasonal, visitor, lodging & second home = 4 people per dwelling. Permanent resident = 2.4 per dwelling.
38.5% of residential units are permanent, 7% are seasonal, 24% are second home, 29.5% are visitor. Does not equal 100% due to vacancy
Based population calculated utilizing the same assumptions as, except 4 people per unit is assumed for student housing and % of workforce housing.
Includes bonus units for all development projects that provide AH, state mandated density bonus units, doubling of density provision in existing code and student housing.

Source: Town of Mammoth Lakes, 2005

transient units.[37] The existing General Plan allows for a total of 2,477 single-family residential units, 2,091 multi-unit non-transient units, 144 mobile homes and 11,998 multi-unit transient units for a total of 16,710 residential units.

The housing stock grew 12 percent between the years of 1990 and 2000. The total housing stock in Summer 1990 was estimated at 7,102 units. Of the Town's 1990 housing stock, the vast majority (67 percent or 4,785) consisted of multi-family units. The Town's housing stock grew eleven percent between the years 1990 and 2000, with an average annual increase of approximately one percent over the decade and a peak increase of 3.3 percent between the years 1990 and 1991. The United States Census identified 7,960 housing units as of January 1st, 2000. The housing type which experienced the greatest increase between 1990 and 2000 was the multi-family category with 56 percent of the housing growth (407 units). During the same period, the proportion of renter-occupied units decreased from 57 percent in 1990 to 47 percent in 2000 and the proportion of vacant units decreased from 73 percent to 65 percent.

[37] *This category includes all attached dwelling units within the Resort, Specific Plan, Commercial General, Commercial Lodging and Residential Multi-family 2 zones which are either intended for transient occupancy or can be rented out on a nightly basis. These include all hotel, motel, fractional and resort condominium lodging as well as condominium units which are privately owned and can be rented out on a nightly basis.*

Vacancy Rates

Due to the large supply of visitor dwelling units available in the Town, recorded vacancy rates are high. The 2000 Census identified approximately 5,146, or over 64 percent, of the 7,960 housing units as vacant and 2,814 units as occupied. Owner-occupied units made up 52.8 percent of the total with the remaining units (47.2 percent) renter-occupied. Homeowner vacancy was 2.4 percent and rental vacancy was 25.1 percent. By comparison, the census showed that the entire state of California had a vacancy rate of 5.8 percent. According to the California Department of Finance, Demographic Research Unit, there were 8,312 housing units in the Town as of January 2002 and of these, 64.65 percent were vacant. Vacancy rates are high in the Town because a majority of the units are short-term rentals. This is a reflection of the resort nature of the Town, and the fact that seasonal, recreation, or occasional use units account for 57.5 percent (4,579) of the total housing units.

Overcrowding and Affordability

The 2000 Census showed that the number of persons per household in the Town was 2.39 for owner-occupied units and 2.51 for renter-occupied units. The most often used indicator of overcrowding relates to the number of rooms (not bedrooms) and persons in a housing unit. The overcrowding indicator cited by the CEQA Guidelines is the number of households living with 1.01 or more persons per room. Some overcrowding has occurred in Mammoth Lakes as a result of high rents and mortgages, and entry level wages for seasonal workers employed in the ski industry. According to the 2000 Census, 201 households (10.7 percent of occupied units) were overcrowded or severely overcrowded. Despite the available supply of housing units which exist in the Town, the supply of affordable housing is insufficient.

Affordable housing, as defined in the Municipal Code, means dwelling units restricted to the housing size and type for individuals meeting asset, income, and minimum occupancy guidelines approved and published for Mono County by the Department of Housing and Urban Development (HUD). The following criteria must be met to meet the HUD requirements: units must be provided in a mix of affordabilities for low and median income households; units for sale shall be deed restricted so that resale prices are limited to the percentage of increase in the median household income level for Mono County; units for rent shall be restricted so the increases in rent are limited to the percentage of increase in the median household income level for Mono County as established by HUD; and affordable rents shall not exceed 30 percent of the applicable household income category, including utilities, per California Government Code Section 65589.5(g). The Town is developing additional income criteria to factor in the higher cost of housing, which is above that for Mono County as a whole.

The median price for a house in the Town in 2002 was $515,000; for a condominium, the median price was $249,750. Just four years earlier, in 1998 the median price for a house was

$235,000 and for a condominium $88,000 (Mammoth Multiple Listing Service, Market Analysis 1998). Over a four year period, house and condominium prices have increased approximately 119 percent and 184 percent, respectively. According to the 2000 Census, 34.3 percent of homeowners spent 35 percent or more of their household income on their mortgage and selected monthly owner costs in 1999. At the same time, 31.5 percent of renters were spending more than 35 percent of their income on rent.

Housing Supply

Lack of housing options for year-round residents and the seasonal workforce has been an issue for more than 30 years and is a common problem in resort areas. Estimates for the existing General Plan, show that the demand for renter occupied housing units could be 2,360 units, 1,160 more than in year 2000. Compounding the current and projected housing problems are seasonal residents and rising rents and mortgages. The seasonal workforce places special demands on housing since fluctuating need and rising rents/mortgages can put units out of financial reach of tenants who need them. Several constraints to the production of affordable housing were cited in the existing Housing Element and include the following: land cost and availability; construction and financing costs; utility constraints; energy conservation and seismic requirements of the UBC; and Town processing and development fees.

Since the adoption of the first Housing Element in 1992, the Town has taken the following proactive measures in an effort to address the housing issues facing the community: 1) the Town Council adopted Affordable Housing Mitigation Regulations (AHMR); 2) the people of the Town approved an ordinance that increased the Transient Occupancy Tax (TOT) to provide revenues for the development of affordable housing; 3) Mammoth Lakes Housing, Inc., a nonprofit housing development corporation, was established with an initial operating budget of $201,500 with contributions from the Mammoth Mountain Ski Area, Intrawest Corporation, and the Town; 4) the Town formally created the Town Housing Trust Fund, which currently has over $2,000,000 in assets; and 5) the Town adopted a Reasonable Accommodation ordinance. These programs directly contributed to the creation of over 282.5 deed restricted, affordable residential units in the Town. The affordable housing projects approved as of July 23, 2004 are outlined in Table 4.9-5 on page 4-227.

In addition to those listed in Table 4.9-5, housing provisions for the Intrawest projects include approximately 214 bedrooms throughout the Town that are either for sale at the median income level, or rented at low and very low income levels. The total number of deed restricted bedrooms (existing or planned) in the Town is approximately 572. Land dedicated for affordable housing totals 4.34 acres and $3,043,480 is the total amount of fees paid other than in-lieu fees. The Affordable Housing Mitigation Ordinance allows developers to submit Alternative Housing Mitigation Plans. These lands and funds have been given to the Town through this mechanism.

Table 4.9-5

Affordable Housing Supply in the Town

	Affordable Units	Bedrooms	Conditions
L'Abri Condominiums	2	4	Town purchased 2 units for use by their employees, not deed restricted
Bristlecone Apartments	30	77	All units rent restricted to very low income occupants for 33 years
Glass Mountain Apartments	25	27	All units rent restricted to very low income occupants
Condominium Conversions Hamilton	1	2	One 2-bedroom unit of the 3 units to be rent restricted to low income
Hooper Mixed Use Two Projects on Sierra Park Road	9	18	8 units for sale restricted to 120 percent of median income, 1 unit at 80 percent of median income
Mammoth Hospital	1	20	1 2-bedroom unit for rent in the L'Abri condominiums, 20 bedrooms purchased throughout the Town
Main Street Housing Project		101	To be allocated to various Intrawest projects; units would be rented to low income residents
Gibbs Mixed Use Meridian and Old Mammoth Roads	2	2	2 studio units are deed restricted to low income
Hooper Mixed Use Center Street	2	4	Two 2-bedroom units are deed restricted to low income
Presson Apartments	1	3	One 3-bedroom unit was deed restricted to low income
Schuyler Mixed Use	2	3	Deed restricted to low income
Davis Condominiums	1	3	Deed restricted to very low income
Snowcreek			Town accepted 4.34 acres of vacant land in lieu of construction of mitigation units
8050			Town accepted $3 million in lieu of construction of mitigation units

Table 4.9-5 (Continued)

Affordable Housing Supply in the Town

	Affordable Units	Bedrooms	Conditions
Mountain Boulevard	8	16	Sales are deed restricted to low income
Tallus		6	Two bedrooms provided as on-site employee unit, four bedrooms provided by purchase of transient rental unit and deed restricted to low income levels
Mammoth Lakes Family Housing	48	120	43 units at very low income levels, 5 units at very, very low income levels (50 percent of median)
Meridian Court	24	50	Nine units at low income levels, 15 units at moderate or above moderate but deed restricted at various levels
Small Commercial and Industrial Project			Paid in-lieu fee as per the AHMR

Source: Town of Mammoth Lakes Building Permit Records, 2005

The Alternative Housing Mitigation Plan provides developers with alternatives to constructing their mitigation housing while still addressing the demand for housing created by their project. The land and money is held by the Town for development of mitigation housing. The Town has partnered with Mammoth Lakes Housing, Inc. to capitalize on these resources and leverage them through the State and Federal Grant process.

Employment

According to the State of California Employment Development Department, Labor Market Division (EDD), the civilian labor force in Mono County in September of 2003 was 6,410 persons (Labor Force Data for Sub-County Areas). An estimated 390 persons were unemployed in September 2003 resulting in an unemployment rate of approximately six percent. As of September 2003, the labor force in the Town was an estimated 3,590 persons, which accounted for approximately 56 percent of Mono County's total. The unemployment rate for the Town was 7.9 percent. It is important to note that these data have not been seasonally adjusted and is derived by multiplying current estimates of county-wide employment by the employment and unemployment percentages of each subcounty area that were calculated at the time of the Census.

Most jobs in the Planning Area depend directly or indirectly on tourism and recreation. According to the 2000 Census, the largest employment sectors included the following: arts, entertainment, recreation accommodation, and food services industries (37.1 percent of the workforce); educational, health, and social services (11.2 percent of the work force); finance, insurance, real estate, and rental and leasing (10.8 percent of the workforce); and retail (9.8 percent of the workforce). 4.3 percent of the workforce was unemployed while the remainder of the workforce was employed in a variety of smaller employment sectors.

In 2002, Town staff prepared The Town Resident Housing and Transit Needs Assessment (Assessment). The employer survey respondents (100 employers) employed a maximum of 3,272 persons during the 2001-2002 winter season and 3,305 maximum during the 2000-2001 winter season. These numbers include management, owners, and part-time staff. The town's analyses were supported by Employment Development Department (EDD) data that showed 3,740 persons employed in January 2002. Findings from the Assessment showed that 15 percent of respondent employers did not achieve full staffing and that there was a shortage of 43 total workers. Seventy-seven percent of respondent employers cited lack of housing as a contributing factor. In addition, 15 percent of respondent employers were not satisfied with the quality of employees they hired and 67 percent of those respondents attributed lack of housing as a factor.

According to the 2000 Census, median per capita income was $24,526 in 1999 with 14.4 percent of individuals and 8.7 percent of families below the poverty level. As of January 2002, the median household income in Mono County was $46,000.

4.9.2 REGULATORY FRAMEWORK

State Level

State Affordable Housing Requirements

AB 1866

In 1982 California enacted the Second Unit Law (better known as the "Granny Unit" law, Government Code Section 65852.2) to encourage the development of accessory dwelling units (ADUs). The accessory units are defined as attached or detached residential dwelling units with complete independent living facilities for one or more persons, on the same parcel as a single family home. The legislation authorized local governments to permit ADUs by enacting a local ordinance, and gave local agencies considerable discretion over the criteria and standards that would apply.

Based on evidence that 1982 law was not achieving desired ends due to obstacles at the local level, the California legislature passed AB 1866 in 2003 which amended Government Code Section 65852.2. AB 1866 prohibits conditional use (or similar) review processes and

established that ADUs must now be permitted by right as long as zoning standards are met. Since AB 1866 requires zoning consistency, implementation is subject to local discretionary action. However, legislative action is under review that would restrict the ability of local agencies to impose standards that thwart the state goal of reducing the shortage of housing in California.

SB 1818

The state recently enacted SB 1818, which took effect in January of 2005. SB 1818 amends density bonus laws, Government Code Section 65915 in a number of ways, including a reduction in the number of affordable units required to obtain a bonus, and an increase in the size of the maximum density bonus from 25 percent to 35 percent. Applicants are also eligible for a new land donation density bonus, and local agencies are required to offer at a minimum of one to three incentives (such as reductions in setbacks) based on the percentage of affordable units provided a development. SB 1818 also limits parking requirements that may be imposed by the local agency (California Housing Law Advocates 2005). The provisions of SB 1818 are not subject to local control.

Town of Mammoth Lakes

Affordable Housing Mitigation Regulations

The Town Council adopted the Affordable Housing Mitigation Regulations (AHMR) on October 4, 2001 (amended July 2004) as a mitigation strategy to offset the impacts on affordable housing in the Town resulting from new development. The AHMR are intended to address the gap between new housing demands created by new development and supply created by other means. The AHMR specifies the method and manner by which the developer shall satisfy the requirements for Employee Housing Units (EHU). A formula is used to estimate the number of full-time equivalent employees for each business type. The result is that new development is required to provide housing for the estimated number of its full-time equivalent employees (FTEE).

A Housing Mitigation Development Plan (HMDP) must be submitted along with the project generating the need for the housing. Housing must be provided at 250 sq. ft. per FTEE. Chapter 17.36 of the Zoning Code Amendment 2004-05 states that each developer would submit to the Town for approval a definitive HMDP which shall contain the following specific and detailed information:

- The housing requirements generated by their project as defined herein;
- The method or combination of methods by which housing is to be mitigated;

- The timetable for the mitigation;
- A description of the land proposed and the type, number, and unit size of the proposed housing plus any management/operational plan;
- Preliminary plans showing the site and floor plans;
- The proposed rent or sales process for very low, low, and median income households; and
- A statement as to the way that the HDMP meets the intent of these regulations (17.36.040).

On-site housing is preferred. However, the regulations do allow Alternate Housing Proposals, which may deviate from the requirement for new construction of on-site affordable housing, but must result in a greater housing benefit than strict adherence to the regulations. In the interest of having existing housing units acquired, rehabilitated and restricted as affordable housing, the Commission shall consider Alternate Housing Proposals that include such an acquisition and rehabilitation component provided that the Commission finds the proposal provides a greater community affordable housing benefit. Regardless of whether housing is provided on site or off site through acquisition and rehabilitation, the majority of the units must be available for rent. Affordability levels range from 80 percent to 200 percent of median household income with the majority being affordable to households making median income or less.

Commercial projects of less than 5,000 square feet, resort or residential projects of less than one-half acre, and all industrial projects may pay a fee in lieu of providing housing. To encourage on-site housing in commercial projects beyond the mitigation regulations, shared parking is permitted.

Transient Occupancy Tax

In March 2002, the people of the Town approved an ordinance that increased the Transient Occupancy Tax (TOT) in order to provide 1/12th of all TOT revenues for the development of affordable housing (approximately $600,000 per year).

Reasonable Accommodation Ordinance

Sections 17.76.070 through 17.76.150 of the Municipal Code (Reasonable Accommodation) regulates housing for persons with disabilities. The purpose of these code sections is to provide reasonable accommodation for persons with disabilities seeking fair access to housing in the application of its zoning and building regulations. In making a determination regarding the reasonableness of a requested accommodation, the following factors (stated in Section 17.76.110) shall be considered:

- Special need created by the disability;

- Potential benefit that can be accomplished by the requested modification;
- Potential impact on surrounding uses;
- Physical attributes of the property and structures;
- Alternative accommodations that may provide an equivalent level of benefit;
- In the case of a determination involving a one-family dwelling, whether the household would be considered a single housekeeping unit if it were not using special services that are required because of the disabilities of the residents;
- Whether the requested accommodation would impose an undue financial or administrative burden on the town; and
- Whether the requested accommodation would require a fundamental alteration in the nature of a program. (Ord. 02-05 §1 (Att. A (part)), 2002)

4.9.3 THRESHOLDS OF SIGNIFICANCE

Based upon Appendix G in the CEQA Guidelines, the project would be considered to have a significant impact on population, housing, or employment if the project would:

- Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure); or
- Displace substantial numbers of existing housing or residents, necessitating the construction of replacement housing elsewhere.

For purposes of this analysis it was assumed that a substantial population growth would be one that results in a significant impact to an environmental resource.

4.9.4 IMPACTS AND MITIGATION

Issue 4.9-1: *Would the project induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure?*

Discussion. The purpose of the Updated Plan is to provide for the orderly growth of the Town, define the limits to that growth and act as a mechanism to accommodate and control future growth. The Updated Plan would neither induce nor foster, that is, cause, this growth to occur. It is interesting to note that while the existing General Plan provided growth capacity in 1987 for 17,396 housing units of all sorts and 61,376 PAOT, both somewhat greater than proposed in the Updated Plan, nowhere close to that growth has actually occurred. This is

because the General Plan does not actually cause or induce growth, but is instead dependent on demand for recreational and related opportunities which has its principal origins in other parts of California and the West. As these regions grow, and southern California, as the dominant source of this demand, will be under tremendous growth pressure for the next 20 years, demand on the recreational potential in and around the Town of Mammoth Lakes would also continue to grow.

The intent of the project is to serve as a blueprint for the physical development of the community and a foundation for optimizing land use decisions based on goals and policies related to land use, transportation, population growth and distribution, development, open space, resource preservation and utilization, infrastructure, and other related physical social and economic factors. In comparison to the existing peak PAOT of 34,265, the Updated Plan would accommodate a peak PAOT of 60,700, for an increase in 26,431 persons.

As shown in Table 4.9-6 on page 4-234, the Updated Plan at buildout would result in a reduction of 686 residential units compared with the existing General Plan, with the majority of this reduction occurring in multi-unit transient housing (reduction of 680 units).[38] The Updated Plan proposes a reduction of six non-transient residential units. However, the Updated General Plan contains additional policies such as limiting Shady Rest to primarily workforce housing and permitting workforce housing within the IP zone. These policies would enhance opportunities for workforce housing increasing the availability of these units to residents through deed restrictions. Therefore, the reduction in residential units would not impact resident housing supply.[39]

In terms of non-residential areas, in comparison with the existing General Plan, the Updated Plan would result in an increase of 20 acres of industrial land. Buildout of the Updated Plan would result in an increase of 154,233 square feet of industrial uses. In addition, while no change would occur in the amount of land designated for commercial uses, the Updated Plan in comparison with the existing General Plan, would allow for an increase of 85,000 square feet of commercial/office use.

The existing General Plan would allow for up to 17,396 dwelling units and the proposed Updated Plan would allow up to an estimated 16,710 dwelling units. The Updated Plan would result in a total population of ~~60,680~~ approximately 60,700 people, which is slightly less than the projected population of 61,376 under the existing General Plan. The Town is not changing or enlarging the area covered by the City's UGB so that the amount and location of growth is

[38] *This category includes all attached dwelling units within the Resort, Specific Plan, Commercial General, Commercial Lodging and Residential Multi-family 2 zones which are either intended for transient occupancy or can be rented out on a nightly basis. These include all hotel, motel, fractional and resort condominium lodging as well as condominium units which are privately owned and can be rented out on a nightly basis.*

[39] *Ownership and residency provided by the Town of Mammoth Lake Building Permit Data Base.*

Table 4.9-6

Incremental Development for Buildout of the Proposed 2024 General Plan Compared with the Existing General Plan

Land Use	Incremental Change
Single Family Non-transient	-20 units / 0 acres
Single Family Transient	0 units / 0 acres
Mobile Home	0 units / 0 acres
Multi-Unit Non-transient	14 units / 20 acres
Multi-Unit Transient	-680 units / 0 acres
Industrial	154,233 sq. feet / 20 acres
Commercial/Office Use	8,500 sq. feet / 0 acres

Source: Town of Mammoth Lakes, 2005

controlled within the UGB. Additional commercial/office and industrial areas are designed to meet the service needs of both residents and visitors. The jobs provided by these non-residential uses would provide for a better jobs/housing balance.

The Updated Plan does not provide for the extension or expansion of roadways into the area. In addition, the Updated Plan does not result in an increase in the capacity of existing infrastructure so as to provide for an increase in population beyond that which is allowed under build-out of the General Plan Update. Therefore, the Updated Plan would not indirectly provide for a substantial increase in population**.**

The Town includes an Urban Growth Boundary, which limits the geographic area in which growth could occur. A number of comments to the original NOP requested information as to how project implementation might impact the carrying capacity of the Mammoth area. While there is no universally accepted formula for determining carrying capacity, most definitions refer to the largest number of a given species that a habitat can support indefinitely. When that sustainable level is surpassed, the resource base and the dependent population begin to decline. The recent increase in population and housing growth in the Mammoth Area indicates that the region has not reached a carrying capacity with respect to human habitation, although declines in some plant and wildlife resources suggest that carrying capacity may have been surpassed for some species.

In this context, the population and housing growth capacities associated with the project would be anticipated to impact Mammoth Lakes in a number of ways. Among the secondary effects would be an increased demand upon the Town's public services and utilities, a change in the appearance of the town consistent with a more dense population and built environment, increases in traffic and air pollutant emissions, more demand upon recreational facilities and open space/natural areas, changes in the cohesiveness of residential neighborhoods and potential incompatibility of adjacent land uses, increased night lighting, and other effects discussed

throughout this Revised Draft PEIR. The impacts to these resources are addressed in Section 4.1 (Aesthetics), Section 4.4 (Geology), Section 4.6 (Hydrology), Section 4.10 (Public Services and Utilities) Section 4.2 (Air Quality), Section 4.11 (Recreation and Open Space), Section 4.3 (Biology), Section 4.7 (Land Use), and Section 4.12 (Transportation and Circulation).

Based on the above, while the Updated Plan would accommodate a relatively substantial increment of population growth, it would neither directly nor indirectly induce that growth or cause it to occur. Rather, the project will shape the location, form, and behavior of the growth increment should external demand be sufficient.

Mitigation Measures

The Updated Plan would not induce substantial population growth either directly or indirectly. Therefore, no mitigation measures are necessary.

Level of Significance After Mitigation

The Updated Plan would result in a less than significant impact with regard to the inducement of a direct or indirect substantial population growth.

Issue 4.9-2: *Would the project displace substantial numbers of existing housing or residents, necessitating the construction of replacement housing elsewhere?*

Discussion: The Updated Plan does not include any changes to the Housing Element. The project would increase, as compared to the existing condition, commercial space, lodging rooms, and recreation and tourist opportunities, thus increasing employment opportunities and staffing needs. The project emphasizes modest growth based on tourism and recreation and promotes increased visitation, length of stay, and occupancy rates, which would create an increased demand for employees. Table 4.9-6 shows the incremental development for buildout under the Updated Plan in comparison with the existing General Plan.

As shown in Table 4.9-6, the Updated Plan at build-out would result in a reduction of 686 residential units compared with the existing General Plan, with the majority of this reduction occurring in multi-unit transient housing (reduction of 680 units).[40] The Updated Plan proposes a reduction of six non-transient residential units. However, the Updated General Plan contains additional policies such as limiting Shady Rest to workforce housing and permitting workforce

[40] *This category includes all attached dwelling units within the Resort, Specific Plan, Commercial General, Commercial Lodging and Residential Multi-family 2 zones which are either intended for transient occupancy or can be rented out on a nightly basis. These include all hotel, motel, fractional and resort condominium lodging as well as condominium units which are privately owned and can be rented out on a nightly basis.*

housing within the IP zone. These policies would enhance opportunities for workforce housing increasing the availability of these units to residents through deed restrictions. Therefore, the reduction in residential units would not impact resident housing supply.[41]

The Updated Plan increases commercial/office sq. footage by 8,500 sq. feet, industrial uses by 20 acres and increases and residential units by 6,839 units. In order to determine the employment that would potentially be generated through implementation of the project, averages of the employee generation rates stated in the AHMR (based on different land uses) were used. Based on the AHMR rates, the project would generate approximately 1,517 additional full-time employee equivalents (FTEE). The FTEE is an aggregation of full-time, part-time, and seasonal employment that yields an average year-round employment rate. The majority of the jobs created under the Updated Plan would be within the services and retail trade industries providing services to the transient units these are historically lower paying jobs. Increased staffing needs could, therefore, lead to an increased demand for affordable/workforce housing. The project's emphasis on modest growth and stability and the resultant increase in employment opportunities would have a positive impact on employment and the local economy.

The project would allow for construction of new housing units (including affordable housing) and increased utilization of residential property. Up to 16,710 residential units would be allowed in the Planning Area under the project. There are currently 9,871 residential units. The project would result in an increase of approximately 6,839 residential units. This would include affordable housing units, which would result in a beneficial impact to housing conditions in the Town.

The recreation-based service economy of Mammoth Lakes depends upon a labor pool of individuals working at low paying jobs. Where there is a lack of affordable housing in the low to moderate income range, these households typically occupy more expensive units and either overpay, overcrowd the unit, or commute from other areas of work. The project emphasizes development of affordable housing units to provide housing for low to moderate income families. One hundred fifty-six affordable housing units have already been approved. This is in addition to the over 282 deed restricted, affordable residential units in the Town. The Updated Plan provides density bonuses for the creation of affordable housing as well as allowing affordable housing in the IP designation. Therefore, the Updated Plan would result in the development of additional affordable housing units over the existing General Plan.

A General Plan Update could result in the displacement of housing units if land designated for residential use were changed to a non-residential designation. However the updated General Plan does not propose any changes of existing residential uses to non-residential

[41] *Ownership and residency provided by the Town of Mammoth Lake Building Permit Data Base.*

uses. In fact, the Updated Plan proposes increased affordable housing opportunities within the IP zone through density bonuses and through the redesignation of a portion of land from HDR to HDR-1, which would prohibit transient residential units in the future preserving more land for resident housing.

Mitigation Measures

The project would not displace substantial numbers of existing housing units or residents and therefore, no mitigation measures are necessary.

Level of Significance After Mitigation

The Updated Plan would result in a less than significant impact with regard to the displacement of substantial numbers of existing housing or residents.

4.10 PUBLIC SERVICES

This section evaluates the potential increase in demand on public services that would occur with development associated with implementation of the Updated Plan. Public services include police protection, fire protection, schools, libraries, roadway maintenance and snow removal, hospitals and health services. This analysis is based on information supplied by the Mammoth Lakes Police Department, the Mammoth Lakes Fire Department, Mammoth Unified School District, Mammoth Lakes Branch Library, and the Mammoth Hospital.

4.10.1 EXISTING CONDITIONS

4.10.1.1 Fire Protection

The Mammoth Lakes Fire Protection District (MLFPD) provides fire protection and emergency response to the Planning Area including the Lakes Basin, Camp High Sierra, and the Mammoth Mountain Ski Area (MMSA). The MLFPD service area includes approximately 3,000 acres of mountain resort area in and around the Town and over 2,500 acres within the Town. Additionally, MLFPD provides fire protection services and emergency response to the upper middle fork of the San Joaquin, Red's Meadow, and Devil's Postpile National Monument (DEPO) located in Madera County. The MLFPD currently utilizes approximately 60 volunteer and four full-time fire fighters.

The MLFPD maintains an extensive system of fire facilities and requisite response vehicles and equipment. It currently responds to calls for service from two fire stations located within the MLFPD, with a third facility being planned ~~in the North Village area~~near Main Lodge to provide increased protection.

Fire Station No.1, the primary station, is located at 3150 Main Street and is in the process of being replaced with a larger, more updated facility. The new expanded facility will be completed by the summer of 2006. The new facility would be approximately 17,600 square feet and would contain administrative offices, as well as expanded housing facilities for full-time fire staff. The second station, Fire Station No.2, is located at 1574 Old Mammoth Road and contains housing facilities for full-time employees. Fire Station No. 2 also functions as a training facility and houses the training tower.

The combined stations are staffed with up to 60 volunteer personnel who are in compliance with National Fire Protection Association recommendations and four full-time employees, including the Chief. Two paramedics employed by Mono County currently are based in Fire Station No. 1 and respond to all MLFPD calls. The MLFPD has a sizeable fleet of response units (each fully equipped) consisting of the following: five engines; one aerial truck; one Chevy rescue unit; one Kenworth tender; one Case loader; two utility vehicles; and two Ford staff trucks. The Town currently has a fire rating of three, as a result of the recent Insurance Service evaluation conducted within the Town. Fire ratings range from one to ten, with one representing the best rating.[42]

4.10.1.2 Police Protection

Police protection and law enforcement in the Town of Mammoth Lakes are provided by the Mammoth Lakes Police Department (MLPD), the Mono County Sheriff's Department (MCSD), and the California Highway Patrol (CHP). The MLPD provides all non-traffic related services for the areas within the Town's incorporated boundary, including the Mammoth Yosemite Airport. MLPD services also include first responder duties for the Red's Meadow area in Madera County, located approximately 15 miles from the Town. The Red's Meadow area is a seasonal outdoor recreation area, accessible only during the summer months. Criminal investigation calls, the primary job function of the MLPD, increase during the peak visitor months. MLPD is responsible for all traffic related offences within the Town except for along SR 203 where CHP also provides traffic related services. The CHP and MCSD are primarily responsible for all other law enforcement issues in the Planning Area located outside of the Municipal Boundary.

The MLPD staff is currently comprised of 20 sworn officers, two non-sworn investigators and one Animal Control officer, all of whom operate out of a leased facility on Old Mammoth Road. The facility, which consists of approximately 3,000 square feet of administrative offices and a booking area, is considered undersized and inadequate for the department.[43] In addition, since the Town does not maintain a jail facility, the MLPD is required to transfer offenders requiring holding to the town of Bridgeport, approximately 56 miles north. The MLPD currently owns six marked and four unmarked patrol cars. Typically, two to four sworn officers are on duty at any one time. Dispatches for both the MLPD and MCSD are routed by Mono County.

[42] *Chief Harold Ritter, MLFPD, Personal Communication, November 5, 2004.*

[43] *Police Chief Mike Donnelly, MLPD, personal communication, November 5, 2004.*

4.10.1.3 Schools

The Town is located within the jurisdiction of the Mammoth Unified School District (MUSD). The MUSD provide~~s~~ education to students in grades kindergarten (K) through grade 12 with facilities that include Mammoth High School, Mammoth Middle School, Mammoth Elementary School, Sierra High School, and the Mammoth Olympic Academy for Academic Excellence. The total current enrollment in MUSD schools is approximately 1,191 students in grades K through 12, slightly below the current estimated capacity of 1,290 students.[44] The current capacity number is based on the highest number of students accommodated in a school year by the MUSD. Both permanent and portable trailer facilities were needed in order to accommodate the student body at capacity. In addition, MUSD ~~is currently~~has ~~completing~~ completed a land trade with the USFS for approximately 11 acres of land that could be used for future expansion.

The MUSD currently maintains an average pupil to teacher ratio throughout the district of 20 to one. The average per pupil spending throughout the district is approximately $7,425 per student per year, including approximately $1,400 per student in federal and state aid for categorical, special education, and support programs.

The Dave and Roma McCoy Learning Center is located on the Mammoth Campus of Cerro Coso Community College, one of three colleges in the Kern Community College District. The College is charged with the responsibility of providing educational opportunities for the widely separated desert, mountain, and valley communities within an 8,000 square mile, four county region of eastern California. Over 150 students are enrolled full-time at the Mammoth Campus.

4.10.1.4 Library

The Mammoth Lakes Branch Library, located at 960 Forest Trail next to the Mammoth Lakes Community Center, serves the Town and surrounding communities. The library is a branch of the Mono County Library and is operated in conjunction with the Mono County Office of Education under the direction of the Mono County Superintendent of Schools. The library provides public access to approximately 42,000 books and periodicals, 12 computers with internet access, and a small reading/conference room. The library has been remodeled and expanded several times since it was originally constructed in 1970. The latest remodel occurred in 1996 and expanded the building to approximately 4,700 square feet. The current structure

[44] *Patricia Henderson, MUSD, Personal Communication, November 10, 2004.*

cannot be expanded further and there is no adjacent land for a new building. The library is currently at capacity with no shelf space for new materials.[45]

A second library facility was opened in August 2004 in the Crowley Lakes community. Known as the Crowley Library at Hilton Creek, this 1,200 square foot facility contains several computers with internet access and a small number of donated books. The Crowley Library facility was not designed to expand or replace the Mammoth Lakes Branch Library and provides only limited service to Crowley Lakes residents.

4.10.1.5 Roadway Maintenance and Snow Removal

Roadway maintenance within the community is provided by the Town for all non state and non federal roadways. This responsibility includes road repair, maintenance, and snow removal. Cal Trans provides repair, maintenance, and snow removal for SR-203 from the junction of U.S. Highway 395 to the MMSA maintenance facility. Roadway maintenance and snow removal on private roads and private property is the responsibility of the land owners.

Snow removal equipment in the Town includes two plow trucks and nine Caterpillar loaders, five of which are equipped with plows and four with blowers. As necessary, snow removal occurs 24 hours a day during two 12-hour shifts. An average of six loaders are employed during the day shift and eight on the night shift. Snow is stored along roadways and in vacant lots. The Town currently requires that all roads within the Town (public or private) provide a ten-foot roadside easement for snow storage. The Town ensures that these easements are accounted for in development plans during the development review process. In a large storm event, the easement alone would not be capable of containing the entire quantity of the snow (Dave Beck, Town, Personal Communication, November 10, 2004). Snow removal uses up to two thirds of each year's total maintenance and improvement budget. During intense snow storm periods, equipment and facilities have been overburdened and unable to maintain the roads clear of snow.

Past development in the Town has resulted in many of the community's roads having improper grading, shoulder improvements, setbacks, and road section design. These conditions increase the cost of road maintenance, repair, and snow removal.

[45] *Diane Hurlburt, Mammoth Lakes Branch Library, Personal Communication, November 5, 2004.*

4.10.1.6 Hospital and Health Services

Major health services in the Town are provided by Mammoth Hospital and the associated Sierra Park Medical Center, both of which are part of the Southern Mono Health Care District. Mammoth Hospital is a modern, full service, fully accredited acute care hospital offering emergency care, inpatient medical, surgical, radiology, laboratory, orthopedic, and obstetric services. The Mammoth Hospital primarily provides emergency and orthopedic services because of the large transient population and the nature of outdoor activities available in the Town. There is also a wide array of private professional medical services including dentistry, optometry, and physical therapy available in the Town, including a new 13,000 square foot orthopedic and rehabilitation clinic.

The Mammoth Hospital is open 24 hours a day 365 days a year and houses 15 inpatient beds, nine outpatient beds, and six emergency room beds. The current emergency room is considered adequate to service an average peak population of 25,000 (Gary Meyers, CEO Mammoth Hospital, Personal Communication, November 9, 2004).The Mammoth Hospital is in the process of expanding the current facility by 38,000 square feet. The expansion would include three additional inpatient beds and nine additional emergency room beds. It is anticipated that the hospital expansion would service the population anticipated under the existing General Plan (population of 61,375) (Meyers 2004).

Long-term health care is not provided in the Town. A new 99 bed long-term care facility was recently opened in Bishop. It is anticipated that this facility would provide adequate long-term care to the Eastern Sierra region, including the Planning Area, for the foreseeable future.

4.10.2 REGULATORY FRAMEWORK

4.10.2.1 Fire Protection

Chapter 15.04.010 of the Town of Mammoth Lakes Municipal Code "Uniform Building Code--Section 102" was enacted for the purpose of adopting rules and regulations pursuant to the state housing law and the California Health and Safety Code, for the protection of the public health, safety and general welfare of the occupants and the public; governing the creation, construction, enlargement, conversion, alteration, repair, moving, removal, demolition, occupancy, use, height, fire protection, sanitation, ventilation, and maintenance of any building used for human habitation. The State Uniform Fire Code, as adopted by the International Conference of Building Officials and the National Fire Protection Association, is the fire code of the town.

All new construction must comply with the applicable provisions as set forth in the Town Municipal Code (MLMC). The MLMC also contains, by reference, State of California Title 24 construction standards and fire safety measures.

In addition, the Town adopted an updated Master Facility Plan, Capital Improvement program and Development Impact Fee schedule in 2005. All of the required fire suppression facilities, vehicles and equipment needed to service buildout of the General Plan are included in the Plan and program. The Town currently collects between $648.00 and $1,349.00 per unit of new development and between $1.79/sq. ft. and $0.86/sq. ft. for non residential uses to fund the required fire suppression equipment.

4.10.2.2 Schools

Senate Bill 50 (SB 50), enacted in 1998, is a program for funding school facilities largely based on matching funds. The approval of Proposition 1A authorized funds for SB 50 in the amount of $9.2 billion, including grants for new school construction and modernization of existing schools. The new construction grant provides funding on a 50/50 State and local match basis. The modernization grant provides funding on a 60/40 basis. Districts that are unable to provide some or the entire local match requirement and are able to meet the financial hardship provisions may be eligible for additional State funding.[46]

SB 50 allows the MUSD to levy a fee, charge, dedication, or other requirement against any development project within its boundaries, for the purpose of funding the construction or reconstruction of school facilities. The current fees as of 2005 collected by the Town on behalf of MUSD are $2.24/sf for residential and $0.34/sf for non-residential. The payment of these fees by a developer serves to mitigate all potential impacts on school facilities that may result from implementation of a project to levels that are less than significant (Government Code Section 65995).

Other major statewide funding sources for school facilities are Proposition 47, a $13.2 billion bond approved in November 2002, containing $11.4 billion for kindergarten through high school (K–12) public school facilities and Proposition 55, a $12.3 billion bond approved in March 2004, containing $10 billion to address overcrowding and accommodate future growth in K–12 schools. Local measures provide additional funding for existing and new school construction projects. Additional funds are collected through local Bond measures by the County tax collector on behalf of MUSD.

[46] *State of California, Office of Public School Construction, School Facility Program Handbook, February 2005.*

4.10.3 THRESHOLDS OF SIGNIFICANCE

Based upon CEQA Guidelines Appendix G, the project would be considered to have a significant impact on public services if the project were to:

- Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:
  - Fire protection?
  - Police protection?
  - Schools?
  - Other public facilities?

Information on recreation in the Town is presented in Section 4.12 of this document.

4.10.4 IMPACTS AND MITIGATION

Issue 4.10-1: *Would development associated with implementation of the Updated Plan result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for fire protection?*

Discussion: Development associated with implementation of the Updated Plan would result in an increase in the quantity of emergency calls received by the MLFPD due to population increases. An increase in calls would strain the current volunteer staff and likely require the employment of additional full-time personnel. The MLFPD anticipates the need for approximately 15 full-time positions within ten to 20 years.[47] Staffing is estimated based on current service levels and the projected service needs of the Town upon build-out of the Updated Plan. ~~In addition,~~Although the MLFPD has received an increased number of complaints concerning the training tower facilities located at Fire Station No. 2~~.~~,[48] ~~It is anticipated that as the area develops around the station,~~ relocation of the training tower is not under consideration at this time as a more suitable location has not been identified.[49]~~would become necessary. The~~

[47] *Town of Mammoth Lakes, 2001.*

[48] *Chief Harold Ritter, MLFPD, Personal Communication, November 05, 2004.*

[49] *Fire Marshal Tom Heller, MLFPD, Personal Communication September 28, 2006.*

~~MLFPD has identified a parcel of land owned by the MCWD that is being considered for the relocation of the training tower.~~ The Town currently collects between $648.00 and $1,349.00 per unit of new development and between $1.79/sq. ft. and $0.86/sq. ft. for non residential uses, which is used to fund the required fire suppression equipment. Overall, new development is projected to pay over 58 percent of the cost of these facilities, vehicles and equipment needed to service build-out of the Updated Plan. MLFPD also collects a fixed percentage of the Town's property taxes to fund their development and operations.

Policies and Implementation Measures in the Updated Plan

The Updated Plan proposes the adoption of the following polices and implementation measures to reduce potential impacts regarding fire protection services:

II.1.C.a.1 The Town shall ensure service providers are involved in development review process.

II.l.C.a.2 As part of the project review process, conditions of approval and implementation of the Development Impact Fee schedule, the Town Shall require that new development adequately mitigates its impact on: fire protection, water availability, public safety, transit services, parking availability, street capacity, workforce housing availability, road capacity, and pedestrian connectivity.

II.1.C.b.1 The Town shall annually review and update the Town of Mammoth Lakes Master Facilities Plan, Capital Improvement Plan, and the Development Impact Fee Schedule shall be updated as needed, based on project development.

II.l.C.b.2 The Town shall develop a Strategic Assessment that identifies specific project elements and characteristics that would support Town goals and objectives.

II.1.D.a.6 The Town shall provide sites for public safety facilities at locations that facilitate prompt response times.

II.4.A.e.4 The Town shall support the Mammoth Lakes Fire District Master Plan for Fire Protection and assist in the establishment and implementation of appropriate funding sources - such as fees, exactions, charges, and assessments - to facilitate the development of a third fire station, expand the Main Street fire station, construct fire employee housing, and relocate the training tower.

IV.1.A.c.1 The Town shall maintain an up to date Master Facility Plan, Development Impact Fee Schedule, and/or participate in public-private partnerships to support the development of facilities and services that enhance mid-week visitation.

IV.1.D.c.1 The Town shall develop a Development Incentive and Exactions Program. The program may offer resort development incentives (including density bonuses, modified standards, development entitlements, and agreement) in exchange for specified community benefits.

V.1.A.a.1 Development of recreational facilities, public facilities, and public utility installations outside of the Urban Growth Boundary are not a violation of the UGB.

The Updated Plan contains Implementation Measures to ensure that service providers have opportunity during the development review process to provide comments (II.1.C.a.1), new development adequately mitigates its impact on fire protection (II.l.C.a.2), and any sites designated for public safety facilities are sited at locations that facilitate prompt response times (II.1.D.a.6). In addition, Policy II.4.A.e.4 of the Updated Plan would assist in establishing and implementing appropriate funding sources to facilitate the expansion of the Main Street fire station, relocation of the training tower, construction of fire employee housing, and development of a third fire station. The imposition of the development impact fee (Code Section 15.16.082) also would serve to further ensure that potential impact to fire protection services is reduced.

In addition, as indicated above, the Town collects development impact fees to fund the required fire suppression facilities, vehicles and equipment. New development is projected to pay over 58 percent of the cost of the required fire suppression facilities, vehicles and equipment needed to service buildout of the Updated Plan. MLFPD also collects a fixed percentage of the Town's property taxes to fund their development and operations. Any necessary amendments to the Master Facility Plan would be made if the Updated Plan were adopted. Therefore, the Updated Plan's implementation measures, along with project-specific environmental review and payment of the development impact fee would reduce impacts to fire protection services to a less than significant level.

Mitigation Measures

Potential impact to fire protection services and facilities would be less than significant. Therefore, no mitigation measures are necessary.

Level of Significance After Mitigation

Impacts to fire protection services and facilities would be less than significant.

Issue 4.10-2: *Would development associated with implementation of the Updated Plan result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for police protection?*

Discussion: Permanent and transient population growth resulting from implementation of the Updated Plan would result in a greater volume of emergency calls to the police department and could potentially impact police protection and law enforcement services and facilities. The MLPD strives to provide a sworn-officer to resident ratio of 0.8 to 1,000 for permanent residents, 1.6 to 1,000 for seasonal residents, 0.4 to 1,000 for second home residents and visitors. With implementation of the Updated Plan, there would be approximately 11,398 permanent residents, 3,494 seasonal residents, 45,528 second home residents, and visitors. The current number of sworn officers (20) would result in a shortfall of 13 officers compared to the standard required to service a peak population of 60,700. Therefore, the project would strain existing police protection services and facilities and create demand for expanded services and facilities. The MLPD ~~currently owns a parcel of land in the Town, which is intended to be used for the construction of a new police facility. In addition, they are~~ is currently negotiating a land exchange with the USFS for a ~~second larger~~ property located east of Sierra Park Road and south of Highway 203 which is proposed to be the site of a new police station. The MLPD plans to construct an approximately 12,500 square foot public safety facility at this location that would be designed with a jail, holding cells, and administrative offices. Additionally, there has been some discussion about the possibility of opening a "storefront" police office within the Village to allow officers to write reports and handle other police related matters at this location.[50] It is anticipated that this office would be staffed occasionally. As build-out of the Update Plan occurs, MLPD services will increase as needed to respond to population growth. The Town currently collects between $473.00 and $788.00 per unit of new development and between $0.78/sq. ft. and $0.14/sq. ft. for non residential uses. New development is projected to cover over 37.74 percent of the cost of the required ~~fire suppression~~police protection facilities, vehicles and equipment needed to service build-out of the Updated Plan. Additional costs are covered by the Town of Mammoth Lakes General Fund which is funded primarily by Transit Occupancy Tax.

Policies and Implementation Measures in the Updated Plan

The Updated Plan proposes the adoption of the following polices and implementation measures to reduce potential impacts regarding police protection services:

[50] *Personal Communication with Randy Schienle, Police Chief, MLPD, October 12, 2006.*

II.1.C.a.1 The Town shall ensure service providers are involved in development review process.

II.l.C.a.2 As part of the project review process, conditions of approval and implementation of the Development Impact Fee schedule, the Town Shall require that new development adequately mitigates its impact on: fire protection, water availability, public safety, transit services, parking availability, street capacity, workforce housing availability, road capacity, and pedestrian connectivity.

II.1.C.b.1 The Town shall annually review and update the Town of Mammoth Lakes Master Facilities Plan, Capital Improvement Plan, and the Development Impact Fee Schedule shall be updated as needed, based on project development.

II.1.D.a.6 The Town shall provide sites for public safety facilities at location that facilitate prompt response times.

IV.1.A.c.1 The Town shall maintain an up to date Masters Facility Plan, Development Impact Fee Schedule, and/or participate in public- private partnerships to support the development of facilities and services that enhance mid-week visitation.

IV.1.A.c.2 Development regulations shall require resort visitor developments provide on-site and off-site amenities for their guests' benefit and enjoyment. These amenities should be available to the public as appropriate.

IV.1.D.c.1 The Town shall develop a Development Incentive and Exactions Program. The program may offer resort development incentives (including density bonuses, modified standards, development entitlements, and agreement) in exchange for specified community benefits.

The Updated Plan contains Implementation Measures to ensure that service providers have opportunity during the development review process to provide comments (II.1.C.a.1), new development adequately mitigates its impact on police protection (II.l.C.a.2), and any sites designated for public safety facilities are sited at locations that facilitate prompt response times (II.1.D.a.6). In addition, Policy IV.1.A.c.2 requires that resort visitor developments provide on-site and off-site amenities for their guests' benefit and enjoyment. These amenities could include security lighting and personnel to support law enforcement. The imposition of the development impact fee (Code Section 15.16.082) also would serve to further ensure that potential impact to police protection services is reduced. The Town currently collects between $473.00 and $788.00 per unit of new development and between $0.78/sq. ft. and $0.14/sq. ft. for non residential uses. New development is projected to cover over 37.74 percent of the cost of the required law

enforcement facilities, vehicles and equipment needed to service build-out of the Updated Plan. Additional costs are covered by the Town of Mammoth Lakes General Fund which is funded primarily by Transit Occupancy Tax. Therefore, the Updated Plan's implementation measures, along with project-specific environmental review and payment of the development impact fee would reduce impacts to police protection services to a less than significant level.

Mitigation Measures

Potential impact to police protection and law enforcement services and facilities would be less than significant. Therefore, no mitigation measures are necessary.

Level of Significance After Mitigation

Impacts to police protection and law enforcement services and facilities would be less than significant.

Issue 4.10-3: *Would development associated with implementation of the Updated Plan result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for schools?*

Discussion: Development associated with implementation of the Updated Plan may strain existing school capacity and create demand for expanded services and facilities. Population growth proposed under the project would generate additional students within the MUSD service area. MUSD projections estimate that 0.499 students are generated from each single-family residential housing unit in the district.[51] Because MUSD does not have student generation factors for multi-family units and mobile homes, the Town applied the same student generation factor (0.499) to these uses. Therefore, the analysis presents a worst-case scenario since multi-family units and mobile homes would normally generate fewer students than single-family residences. A total of 2,380 single-family housing units, 2,091 multi-family units, and 144 mobile homes would be allowed under the project. Single-family transient and multi-family transient units are not anticipated to generate students as these units would be inhabited by visitors. Based on the 0.499 student per household generation factor and the 4,615 ~~2,380 single-family~~ housing units, the project would result in ~~an additional 1,188~~ 2,303 ~~total~~ students, which is approximately 1,000~~92 percent of the~~ students over MUSD's existing capacity of 1,290 student~~s capacity~~. Therefore, the project ~~Given that the current enrollment in MUSD schools is approximately 1,191 students in grades K through 12 and the estimated capacity is 1,290~~

[51] *Schreder, 2002.*

~~students, an increase of 1,188 students~~ would exceed the available capacity of the district. Current facilities have limited area available for staff and visitor parking, student drop off and pick-up areas, and playground or recreation areas. The MUSD also reported that it has limited financial resources to maintain its buildings and grounds. As indicated above, MUSD is ~~currently~~ has ~~completing~~ completed a land trade for approximately 11 acres of land that could be used for future expansion.

Policies and Implementation Measures in the Updated Plan

The Updated Plan proposes the adoption of the following polices and implementation measures to reduce potential impacts regarding schools:

II.1.A.a.1 The Town shall regularly exchange information on (1) the status of development review and construction, (2) the capacity of area schools, (3) the status of site acquisitions by the districts, and (4) applicable student generation factors by type of development.

II.1.A.b.1 School facilities shall be located to allow for pedestrian, bicycle, and vehicular access, including the provisions of traffic calming measures, where appropriate, in the vicinity of schools.

II.1.A.b.2 The Town shall actively seek, in cooperation with the local school districts, grants to improve pedestrian safety to and around the schools.

II.1.A.b.3 The Town shall maximize the joint use of facilities, including athletic fields, community meeting facilities, child care facilities, and park sites, where feasible.

II.1.A.b.5 The Town shall require all new development to pay all legally established fees for the acquisition and development of school sites with adequate, permanent classroom space, as required by the local school district.

II.1.A.c.1 The Town shall develop and maintain a working relationship with the Kern Community College District to develop curriculum and training opportunities that incorporate environmental education, reflect local economic activities, and enhance joint venture business, and development opportunities.

II.1.A.c.2 The Town shall work with the local college district to establish courses in resort management and services that complement labor requirements of local destination resort facilities.

II.1.C.a.1 The Town shall ensure service providers are involved in development review process.

VI.2.B.a.3 The Town shall support the expansion of educational and childcare opportunities within the Town of Mammoth Lakes and Mono County.

Increases in student body populations could be served by reconstructing or adding on to existing facilities and would not require the construction of any new facilities.[52] The MUSD has several options available for collecting the necessary funds for reconstruction and expansion efforts, including general obligation bonds, and developer fees. The current fees as of 2005 collected by the Town on behalf of MUSD are $2.24/sf for residential and $0.34/sf for non-residential. Additional funds are collected through a local bond measure by the County tax collector on behalf of MUSD. All development projects are required to comply with SB 50, which requires the payment of new school construction facility fee. The fee charged is the fee in place at the time of issuance of a permit. The payment of these fees by a developer serves to mitigate all potential impacts on school facilities that may result from implementation of a project to levels that are less than significant (Government Code Section 65995). Furthermore, the Updated Plan contains several Implementation Measures to ensure that potential impacts to school facilities and services are reduced, including payment of appropriate development fees (II.1.A.b.5), and appropriate schools siting, design, and development (II.1.A.b.1, II.1.A.b.2, II.1.A.b.3). Based on the information provided by MUSD and the Updated Plan's implementation measures, the project would have a less than significant impact on school facilities and services.

Mitigation Measures

Pursuant to the provisions of Government Code Section 65995, a development's impacts on school facilities is fully mitigated through the payment of the requisite school facility development fees current at the time building permits are issued. Therefore, potential impact to school facilities and staffing would be less than significant and no mitigation measures are necessary.

Level of Significance After Mitigation

Impacts to school facilities would be less than significant.

[52] *Patricia Henderson, MUSD, Personal Communication, November 10, 2004.*

Issue 4.10-4: *Would development associated with implementation of the Updated Plan result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for other public facilities?*

Discussion:

Library

Development associated with the Updated Plan would result in an increase of population and a corresponding demand for library services. The existing facility is at capacity and inadequate to address the proposed population growth. However, a new approximately 16,000 square foot library is currently under construction ~~A parcel of land has been purchased to accommodate a new library. It is anticipated that construction of the new library could begin as early as spring of 2006. The new facility would be approximately 16,000 square feet~~ and would be adequate to service the increased population under the project.[53] The Town currently collects between $448.00 and $2,593.00 per unit of new development. New development is projected to cover over 53 percent of the cost of the required Mono County Office of Education Facilities (library, child care center and library boos) needed to service build-out of the Updated Plan.

Policies and Implementation Measures in the Updated Plan

The Updated Plan proposes the adoption of the following polices and implementation measures to reduce potential impacts regarding libraries:

II.1.A.b.4 The Town shall support the relocation and expansion of the existing library.

II.1.C.a.1 The Town shall ensure service providers are involved in development review process.

As stated previously, ~~a parcel of land has been purchased to accommodate a new library, which is scheduled for construction early as spring of 2006~~a new approximately 16,000 square foot library facility is currently under construction~~. The new facility would be approximately 16,000 square feet~~ and would be adequate to service the increased population under the project.[54] In addition, Implementation Measures in the Updated Plan support development of this new

[53] *Diane Hurlburt, Mammoth Lakes Library, Personal Communication, November 5, 2004.*

[54] ~~*Diane Hurlburt, Mammoth Lakes Library, Personal Communication, November 5, 2004*~~*Ibid.*

library. Although the Town has control over certain aspects of the funding and construction of the ~~planned~~new library, the library would be a County facility and ultimate control over the development of additional libraries are under the County's control. Consequently, although development of the new library, as well as the Updated Plan's policies and implementation measures, would reduce impacts to library services and facilities to a less than significant level, the impacts to library services cannot be mitigated by the Town to a less than significant level.

Mitigation Measures

Potential impact to library facilities and services would be less than significant from the implementation of the Updated Plan. However, the Town does not have ultimate control over the construction of a County library that would be needed to mitigate impacts to less than significant. Therefore, the impacts to library services remain significant because the mitigation is primarily within the control of another jurisdiction.

Level of Significance After Mitigation

The Updated Plan would result a significant impact to library services because the required mitigation is primarily within the control of another jurisdiction.

Roadway Maintenance and Snow Removal

Implementation of the Updated Plan would result in an increased need for roadway maintenance, as well as an increase in snow removal operations and costs due to development of new roads and pedestrian areas and reduced snow storage space. As development increases, the total number of vacant lots, which are currently used for storing snow, would be reduced. In addition, the Town currently requires roadside easement for snow, and as stated previously, this easement is not sufficient to handle snow storage during a large storm event.[55] Reduction of snow storage areas could result in the need for snow removal services to truck the snow to the nearby snow pit north of SR203, just east of the UGB. Under the current ordinances, residential developments are required to provide minimum of 75 percent of all paved areas for accessible snow storage on site. Commercial development is also required to have on site snow storage if they are not located within a Maintenance District which provides for snow removal.

[55] *Dave Beck, Town, Personal Communication, November 10, 2004.*

Policies and Implementation Measures in the Updated Plan

The Updated Plan proposes the adoption of the following polices and implementation measures to reduce potential impacts regarding roadway maintenance and snow removal:

II.1.C.a.1 The Town shall ensure service providers are involved in development review process.

II.l.C.a.2 As part of the project review process, conditions of approval and implementation of the Development Impact Fee schedule, the Town Shall require that new development adequately mitigates its impact on: fire protection, water availability, public safety, transit services, parking availability, street capacity, workforce housing availability, road capacity, and pedestrian connectivity.

II.1.C.b.1 The Town shall annually review and update the Town of Mammoth Lakes Master Facilities Plan, Capital Improvement Plan, and the Development Impact Fee Schedule shall be updated as needed, based on project development.

IV.1.A.c.1 The Town shall maintain an up to date Master Facility Plan, Development Impact Fee Schedule, and/or participate in public- private partnerships to support the development of facilities and services that enhance mid-week visitation.

IV.1.A.c.2 Development regulations shall require resort visitor developments provide on-site and off-site amenities for their guests' benefit and enjoyment. These amenities should be available to the public as appropriate.

IV.1.D.c.1 The Town shall develop a Development Incentive and Exactions Program. The program may offer resort development incentives (including density bonuses, modified standards, development entitlements, and agreement) in exchange for specified community benefits.

Implementation Measures are contained in the General Plan to ensure that service providers have opportunity during the development review process to provide comments (II.1.C.a.1) and new development adequately mitigates its impact on public safety services (II.l.C.a.2). The imposition of the development impact fee (Code Section 15.16.082) also would serve to further ensure that potential impact to public service providers charged with maintaining the roadways and removing snow would be reduced. The current fees as of 2005 collected by the Town to fund circulation system improvements (streets, signals) are between $1,774.00 to $3,578.00 per for residential units and between and $2.97/sf to $3.71/sf for non-residential. In addition the Town collects DIF monies to fund transit and trails between $9,279.00 to

$15,465.00 per for residential units and between and $15.46/sf to $2.90/sf for non-residential. The Town also collects $171.00 per transient unit per year for Transit operations. Additional funds are also allocated to the town by the State through the Mono County Local Transportation Commission. Therefore, the Updated Plan's implementation measures, along with project-specific environmental review and payment of the development impact fee would reduce impacts to roadway maintenance and snow removal to a less than significant level

Mitigation Measures

Potential impact to roadway maintenance and snow removal would be less than significant. Therefore, no mitigation measures are necessary.

Level of Significance After Mitigation

Impacts to roadway maintenance and snow removal would be less than significant.

Hospital and Health Services

Permanent and transient population increases in the Town as a result of the project would increase the demand for hospital and health services. In addition to general healthcare services, the anticipated population would increase the need for laboratory services, food services, administrative offices, warehouse, maintenance, and staff work space.

With completion of the Mammoth Hospital expansion, which is currently underway, and the recently completed S.P.O.R.T. orthopedic center, no further major modifications are anticipated to be made to the primary care services for the next ten years.[56] However, land exchange negotiations with the USFS are underway and are expected to provide two or three additional acres of land for any future expansion needs. As the population increases, the demand for health services would increase and may require further expansion of the hospital to meet those demands. Any future expansion would require environmental and site plan review.

Implementation Measures in the Updated Plan

The Updated Plan proposes the adoption of the following polices and implementation measures to reduce potential impacts regarding hospitals:

[56] *Meyers, 2004.*

II.1.C.b.1 The Town shall annually review and update the Town of Mammoth Lakes Master Facilities Plan, Capital Improvement Plan, and the Development Impact Fee Schedule shall be updated as needed, based on project development.

II.1.D.a.6 The Town shall provide sites for public safety facilities at location that facilitate prompt response times.

II.1.E.b.1 The Town shall regularly exchange information with the Hospital on the status of development review and construction activity within the Town of Mammoth Lakes.

IV.1.A.c.1 The Town shall maintain an up to date Master Facility Plan, Development Impact Fee Schedule, and/or participate in public- private partnerships to support the development of facilities and services that enhance mid-week visitation.

IV.1.A.c.2 Development regulations shall require resort visitor developments provide on-site and off-site amenities for their guests' benefit and enjoyment. These amenities should be available to the public as appropriate.

IV.1.D.c.1 The Town shall develop a Development Incentive and Exactions Program. The program may offer resort development incentives (including density bonuses, modified standards, development entitlements, and agreement) in exchange for specified community benefits.

Implementation Measures of the Updated Plan provide for open communication between the Town and Hospital to ensure that the Hospital is aware of development review and construction activity status within the Town of Mammoth Lakes (II.1.E.b.1) and siting of public safety facilities at locations that facilitate prompt response times (II.1.D.a.6). In addition, Policy IV.1.A.c.2 requires that resort visitor developments provide on-site and off-site amenities for their guests' benefit and enjoyment. These amenities could include on-site infirmary/medic assistance. These implementation measures would assist in reducing potential impacts to hospital and health services to a less than significant level. However, the Updated Plan is an approximately 20-year plan and the Southern Mono Health Care District does not have funded improvements for the expansion of facilities over a 20-year timeframe. Since the Town does not have ultimate control over the provision of health care services, impacts to hospital and health services is significant and unavoidable.

Mitigation Measures

No mitigation measures are feasible, as mitigation is primarily within the control of another jurisdiction.

Level of Significance After Mitigation

Since the Town does not have ultimate control over the provision of health care services, impacts to hospital and health services would be significant and unavoidable.

4.11 PUBLIC UTILITIES

This section assesses potential impacts on public utilities, including water, sewer, energy, and communications. An analysis of storm drainage system is provided in Section 4.6, Hydrology and Water Quality. Water supply and wastewater treatment are supplied by the Mammoth Community Water District (MCWD). The analysis of wastewater treatment capacity and water supply is based on an original Water Assessment prepared by memo (September 2004). Additional water supply information was provided by MCWD as an Amendment to the Water Assessment (~~September~~ November 2005). The most recent MCWD Water ~~Assessments~~ Assessment is ~~are~~ provided in Appendix E of this EIR. ~~In addition, the~~ The ~~District~~ MCWD further evaluated its water supply and demand calculations and developed more detailed information that provides greater clarity on water supply and demand issues, as presented in the adopted 2005 Urban Water Management Plan.

Solid waste disposal service in Mammoth Lakes is presently contracted to Mammoth Disposal Inc, however, all waste material ends up at the Benton Crossing landfill located within Mono County and managed by Mono County. Landfill capacity is projected by Mono County.

4.11.1 EXISTING CONDITIONS

4.11.1.1 Water Supply

The Mammoth Community Water District (MCWD) is the water supplier (public water system) for the Town of Mammoth Lakes. The MCWD has an Urban Water Management Plan (UWMP) adopted in ~~2004~~2005. The MCWD also prepared a water supply assessment pursuant to SB 610 for the project described in the previously circulated Draft ~~PEIR~~ Program EIR, which concluded that the District had adequate sources of water to supply the project at General Plan buildout. Subsequently, in response to the NOP for this project, the District prepared a new water supply assessment ~~utilizing different methodology~~. In addition, the District commented on the Revised Draft Program EIR and provided updated information based on the 2005 UWMP. The following discussion regarding water supply (existing and planned sources) is from the ~~most recent~~ water assessments prepared by MCWD and ~~. As indicated in the assessment, the discussion regarding the existing and planned sources of water is taken from~~ the ~~District's current~~ 2005 Urban Water Management Plan. ~~Both~~ The previously prepared water supply assessments ~~and the District's Urban Water Management Plan~~ are contained in ~~the~~ Appendix E. The 2005 UWMP is hereby incorporated by reference.

Water supply is provided by local surface water as well as groundwater sources. Surface water within the Mammoth Basin is generally supplied by snowmelt ~~and not by groundwater~~. The diversion point for surface water is located at Lake Mary in the Lakes Basin. In 2006, ~~About~~ based on actual water supply, about ~~fifty~~ 67 percent of potable water for the community ~~comes~~ came from surface water diverted from the Mammoth Creek watershed and ~~fifty~~ 33 percent ~~comes~~ came from groundwater pumped from wells, located within Town boundaries. When lower than normal precipitation years are experienced, the use of groundwater is increased, as less surface water supply is available. As growth in the community occurs, the District will become more dependent on the use of groundwater supplies to meet future increased demand for water. The MCWD has water entitlements from Mammoth Creek for domestic uses, storage rights in Lake Mary, and operates eight groundwater production wells within the MCWD service area. Current maximum water supplies are 6,760 acre feet,[55] of which 2,760 acre feet are from surface sources and 4,000 acre feet are from groundwater sources.[56] Table 4.11-1 on page 4-260 provides the current and projected water supplies.

The District ~~is currently preparing~~ ~~an Updated~~ adopted a Groundwater Management Plan (~~U~~GWMP) for the purpose of developing a monitoring and operation plan for the long-term use of local groundwater and surface water resources. The ~~UGWMP will be completed and adopted by January 2006~~ GWMP was approved by the Board of Directors in July, 2005.

The District pumps groundwater from the Mammoth Basin watershed, which is located within the Long Valley Groundwater Basin identified by the Department of Water Resources as part of the South Lahontan Hydrologic Region. The Mammoth Basin is located on the eastern side of the Sierra Nevada Mountain Range. Surface elevations range from a high of about 12,000 feet at Mammoth Crest to 7,000 feet at the downstream easterly extremity. Mammoth Basin is the watershed of Mammoth Creek and is bounded on the south by the drainage divide of Convict Creek; on the west, by Mammoth Crest; on the north by the drainage divide of Dry Creek; and on the east extending along the watershed of Hot Creek. The area of the Mammoth

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[55] *1 acre-foot = 325,850 gallons of water.*

[56] *The MCWD currently is entitled to divert 2,760 acre feet annually from Lake Mary at a maximum diversion rate of ~~5.0~~ 5.039 cfs.~~, however~~ However, this quantity is dependent upon maximum bypass streamflows in Mammoth Creek. This value includes ~~not necessarily available each year despite treatments plant upgrades. An additional~~ 25,000 gallons per day that may ~~are allowed to~~ be diverted between May 1 and November 1 of each year. MCWD has two licenses and one permit that comprise the total surface water rights. These rights are subject to several constraints and conditions imposed in the permits issued to MCWD by the State Water Resource Control Board and in a Master Operating Agreement between the MCWD and the USFS. The Master Operating Agreement between the District and USFS is currently in the process of being cancelled by the USFS based on ~~their~~ its legal opinion that they do ~~no~~ not have legal authority to implement the management constraints listed in the document. The constraints contained in this agreement have been modified and will be contained in ~~the Districts~~ MCWD's SWRCB permits for water rights ~~The District~~ MCWD is currently waiting for the USFS to provide documentation of this cancellation process to the State. (MCWD ~~Letter~~ Letters April 2005 and November 2005).*

Table 4.11-1

Current and Projected Water Supplies

	Acre-Feet				
Water Supply Sources	**2005**	**2010**	**2015**	**2020**	**2025**
Lake Mary	2,760	2,760	2,760	2,760	2,760
Well #1	500	500	500	500	500
GWTP #1	2,000	2,000	2,000	2,000	2,000
GWTP #2	1,500	1,500	1,500	1,500	1,500
Recycled Water	0	360	360	360	360
~~Dry Creek~~ Future Wells	0	0	1,000	1,000	1,000
Total	6,760	7,120	8,120	8,120	8,120

Units of Measure: acre-feet
GWTP = Groundwater Treatment Plant
Source: MCWD, ~~2004.~~ 2005

Basin is about 71 square miles and extends approximately 13 miles west to east and 9 miles north to south.

Elevated areas on the north and west that are comprised largely of extrusive igneous rocks generally form the Mammoth Basin; a central trough filled with alluvial and glacial debris; and an abrupt southern flank of igneous intrusive and metamorphic rocks. The central trough area opens and drains to the east to the Owens River and Lake Crowley.

The California Department of Water Resources subdivided the Mammoth Basin into six internal drainage basins in its 1973 report for purposes of determining total water produced in the watershed.

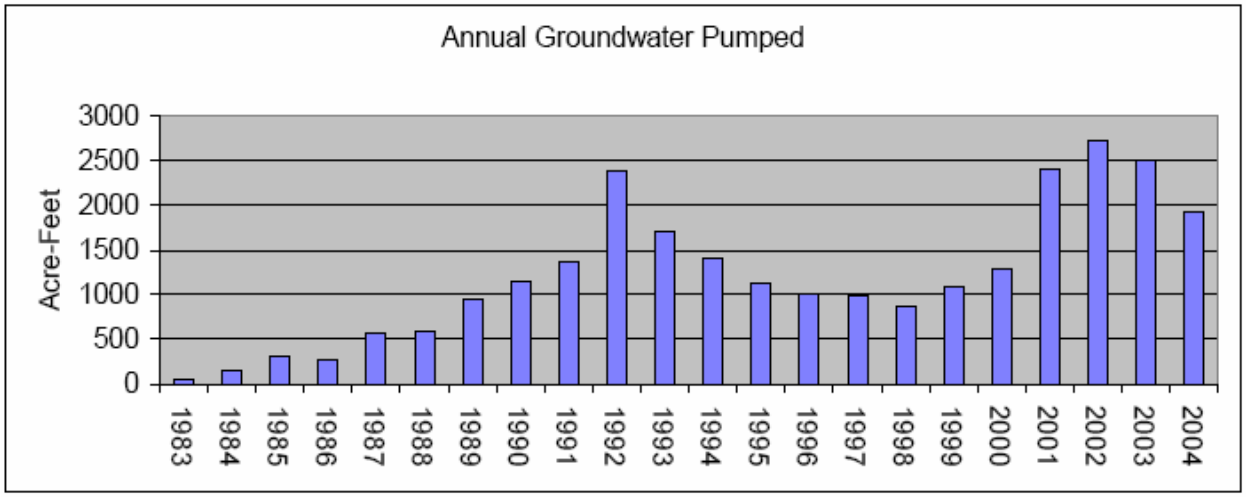
The Mammoth Basin has not been adjudicated or identified by DWR as being overdrafted.[57] In order to prevent the basin from being overdrafted, ~~the District~~ MCWD maintains an extensive groundwater and surface water monitoring system. Groundwater levels are monitored in 8 production wells and in 14 shallow and deep monitor wells in around the service area. Surface water levels and flow rates are monitored at 14 locations throughout the basin watershed. The District prepares an annual groundwater monitoring report that provides an evaluation of groundwater level, surface flow, and water quality monitoring data accumulated

[57] *The Department of Water Resources Bulletin 118 provides the following definition of overdraft: Groundwater overdraft is defined as the condition of a groundwater basin or subbasin in which the amount of water withdrawn by pumping exceeds the amount of water that recharges the basin over a period of years, during which the water supply conditions approximate average conditions (DWR 1998). Overdraft can be characterized by groundwater levels that decline over a period of years and never fully recover, even in wet years.*

throughout the year. In addition, the wells are used to monitor for future potential impacts from ~~the Districts~~ MCWD's groundwater operations. Future plans include the use of water level sensors on all production wells connected to ~~the District's~~ MCWD's supervisory control and data acquisition (SCADA) system to allow for automatic shutdown of production wells when targeted groundwater pumping ~~groundwater~~ levels are sensed.

During the past 5-year period, the District pumped a total of ~~8,367~~10,850 acre-feet of groundwater, averaging ~~1,673~~2,170 acre-feet per year. The maximum volume pumped occurred in 2002 and amounted to 2,717 acre-feet. Groundwater was pumped from the District's eight (8) production wells located within the boundaries of the District's service area serving the Town of Mammoth Lakes. Production volumes of groundwater in any one year are dependent on the type of precipitation year experienced and consequent availability of surface water. Chart 1 below shows historical annual groundwater volumes pumped by the District between 1983 and 2004.

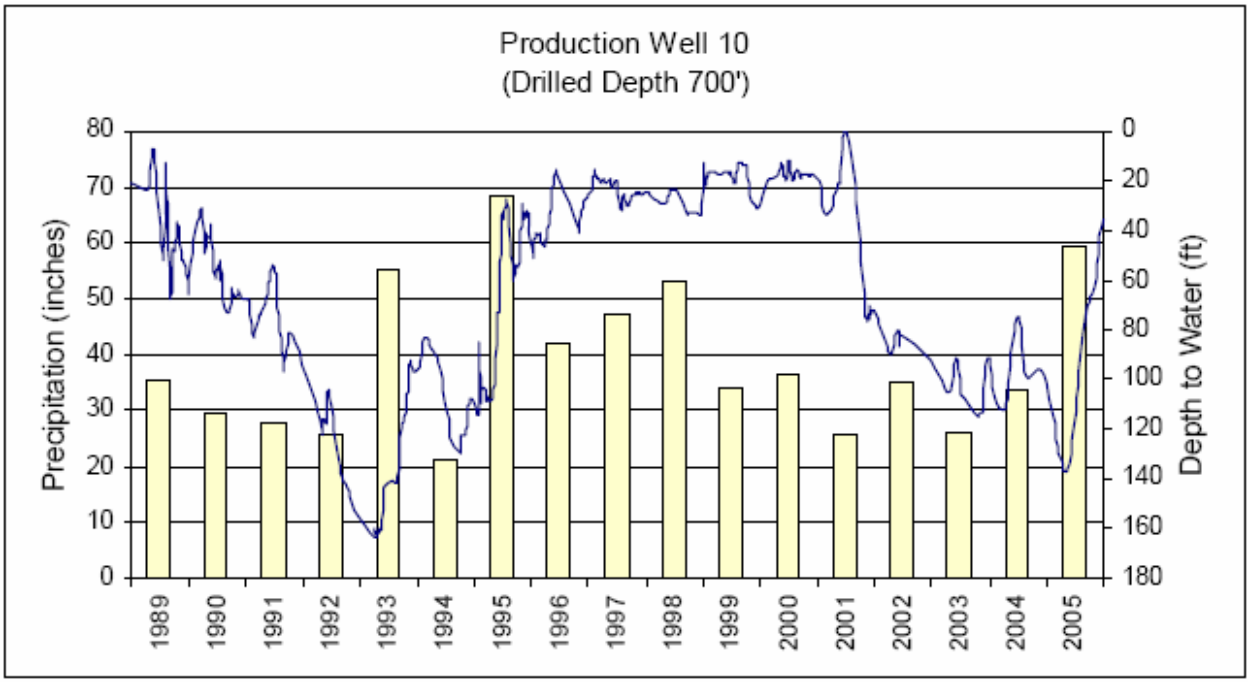
Chart 1



During dry-year periods, groundwater levels within the Mammoth Basin decrease due to increased pumping and less recharge. During normal and above-normal precipitation years, groundwater levels increase and tend to fully recover after two years of normal precipitation. Chart 2 on page 4-262 depicts historical groundwater levels in one of the District's production wells and also shows the variability of groundwater levels based on pumping and type of recharge year.

Future groundwater production rates have been projected based on community growth projections and on type of climatic conditions. Tables 4.11-2 and 4.11-3 on pages 4-263 and 4-263 describe projected volumes of groundwater that will be pumped under normal and multiple dry-year water year conditions, respectively.

Chart 2



As indicated by groundwater pumping projections for the future, the volume of groundwater currently available from existing wells is insufficient to meet the total demand under multiple dry-year conditions as the community nears build-out in the year 2015. A study conducted for the Mammoth Community Water District ("Investigation of Groundwater Production Impacts on Surface Water Discharge and Spring Flow", Wildermuth Environmental, Inc. November 2003) indicates that an estimated volume of 3,800 acre-feet annually could be pumped from the Mammoth Basin, based on current data, to meet projected demands in multiple dry years. There is no verification, however, that pumping this volume of water will not impact surface water or spring flows. As the District's monitoring program is enhanced and more data is collected, this value may need to be modified.~~.~~

~~CDFG and the University of California have expressed concerns regarding potential impacts from groundwater pumping on wildlife, vegetation, and fishery resources within Mammoth Creek, the Hot Creek headsprings, and Valentine Reserve. Several hydrogeologic evaluations have been conducted (Schimdt and Associates 1993, 1994, 1995, 1996, 1997, 1998 and 1999; Wildermuth 1996 and 2003). Although reports from multiple studies in the basin indicated no connection between the Districts' groundwater pumping and surface flows in Mammoth Creek, spring flows in the Basin, or springs at Valentine Reserve, the District continues to improve and expand its monitoring program to ensure that negative environmental impacts do not occur. The District has recently upgraded its production well monitoring by adding water level traducers to each well. District staff accesses the data through the District's existing supervisory control data acquisition system (SCADA) to control pumping levels and to~~

Table 4.11-2

Groundwater Pumping Projections (acre-feet) In Normal Year Conditions [a]

Well No.	~~2003~~	~~2005~~	2010	2015	2020	2025
1	~~208~~	~~50~~	146	200	74	38
6	~~415~~	~~200~~	200	300	400	500
10	~~848~~	~~200~~	300	300	400	500
15	~~911~~	~~200~~	300	300	400	500
16	~~123~~	~~100~~	0	0	0	0
17	~~184~~	~~200~~	200	300	400	500
18	~~126~~	~~50~~	0	0	0	0
20	~~111~~	~~200~~	200	210	200	100
Future Well(s)	~~0~~	~~0~~	0	0	0	0
Total	**~~2,926~~**	**~~1,200~~**	**1,346**	**1,610**	**1,874**	**2,138**

[a] *Groundwater projections based on utilizing ~~2,500~~ 2,760 ac-ft of surface water in normal year to meet projected demand.*

Source: MCWD, ~~2004.~~ 2005

Table 4.11-3

Groundwater Pumping Projections (acre-feet) In Multiple Dry Year Conditions [a]

Well No.	~~2003~~	~~2005~~	2010	2015	2020	2025
1	~~208~~	~~100~~	161	256	325	356
6	~~415~~	~~400~~	311	415	475	506
10	~~848~~	~~400~~	500	726	960	991
15	~~911~~	~~500~~	336	440	500	531
16	~~123~~	~~100~~	135	139	199	230
17	~~184~~	~~400~~	231	335	395	426
18	~~126~~	~~100~~	28	41	92	123
20	~~111~~	~~400~~	150	154	214	245
Future Well(s)	~~0~~	~~0~~	0	0	0	406
Total	**~~2,926~~**	**~~2,400~~**	**1,852**	**2,506**	**3,160**	**3,814**

[a] *Groundwater projections based on utilizing ~~1,200~~ 1,084 ac-ft of surface water in multiple dry years to meet projected demand. The volume of 1,084 ac-ft is derived from the actual available surface water that could have been available in 1992, the last year of a 6-year drought.*

Source: MCWD, ~~2004~~ 2005

~~reduce draw down when necessary. An advisory committee of local stakeholders has been formed to provide guidance on this project with the goal of managing groundwater resources in a manner that avoids negative environmental impacts.~~

~~The USGS reviewed the monitoring data and believes that it is inconclusive (Farrar 1995, 1996, and 1997), and that additional information would be required in order for the USGS to draw a definitive conclusion on the interaction between ground water pumping and surface water resources. Although some uncertainty may exist, available information and expert opinion support the conclusion that there is not a sufficient connection between the ground water aquifer and the surface water aquifer that would result in an impact from the MCWD ground water pumping to the surface flows in Mammoth Creek, or flow discharges at the Hot Creek headsprings~~.

In 1992, CDFG and the University of California expressed concern regarding potential impacts of the District's groundwater pumping program on wildlife, vegetation, and fishery resources of Mammoth Creek, the Hot Creek headsprings, and Valentine Reserve. Under agreements with CDFG and the University of California, the District installed a groundwater monitoring program in 1993 in order to assess the potential hydrologic connectivity between groundwater and surface water. Annual groundwater monitoring reports were prepared for the District by Kenneth D. Schmidt and Associates from 1993 to present.

From data collected as part of the monitoring program, Schmidt has annually concluded that groundwater pumping from the District's new production wells do not influence flows in north spring at Valentine Reserve, at the Hot Creek headsprings, or in Mammoth Creek. In October 1997, at the request of CDFG, the District also conducted a short-term aquifer test involving Well #15. Schmidt's review of the data from the test determined that there were no effects on stream flow, groundwater levels, or the springs at the Valentine Reserve. On behalf of CDFG, the U.S. Geological Survey reviewed the available data. Chris Farrar of the USGS has commented (1995, 1996, 1997) that in his opinion, the results of the annual groundwater monitoring and aquifer tests are inconclusive in proving or disproving a causative connection between the District's groundwater pumping and discharge rates of springs at Valentine Reserve, the Hot Creek headsprings, and Mammoth Creek.[58]

Farrar indicates that patterns in spring and stream flows may show some correlation to groundwater pumping, but that the available data could not definitively distinguish between a change in spring or stream flows due to groundwater pumping or due to natural variation in precipitation. In addition, Farrar suggested that interpretation of the results of the summer 1993

[58] *MCWD/US Forest Service, Draft EIR/EIS for Changes in Mammoth Creek Instream Flow Requirements, Change of Point of Measurement, and Change of Place of Use, November 2000.*

aquifer tests was complicated by variations in releases to Mammoth Creek, groundwater pumping at wells other than the test well, and variations in pumping rates before, during and after the aquifer test at the test well and other nearby wells.

Farrar also noted that the wet hydrologic conditions of the period following the winter of 1992 through 1993 would greatly affect groundwater conditions in the area. He noted in the 1997 report that "in any year with precipitation comparable to 1996, it is unlikely that groundwater pumpage in Mammoth basin at rates similar to past MCWD pumpage would cause any measurable effect in flow or water temperature at the fish hatchery springs." The year 1996 was considered a normal year, with streamflows and April 1 snowpack figures both slightly below average.

Mark J. Wildermuth conducted a local groundwater study for the proposed Snowcreek Golf Course expansion project (1996). The Wildermuth study evaluated the potential effects of groundwater pumping expected under the golf course expansion project on the Hot Creek headsprings. Based on a review of available data, Wildermuth concluded that "historical groundwater extraction in the western part of the Mammoth basin has not noticeably impacted the discharge at the AB and CD headspring (the Hot Creek headsprings)." Wildermuth also analyzed stream flows in Mammoth Creek and measured at the LADWP gage and found no evidence of an influence of groundwater pumping on flows in Mammoth Creek, concluding that "groundwater extraction has not impacted the surface discharge measured at this location – groundwater levels are too deep to influence streamflows.

In summary, based on the available information on the interaction between groundwater pumping and surface water in the Mammoth Basin, the weight of expert opinion, based upon available data at the time the Draft EIR was circulated, is that there is insufficient evidence to show a connection between groundwater pumping and surface water flows in the Mammoth Basin. Most of the evidence indicates that there is not connection between District groundwater pumping and the surface flows in Mammoth Creek, or the flow discharges at the Hot Creek headspring. However, USGS evaluation of the data indicates that the existing data is inconclusive and that additional information will be required in order to draw definitive conclusions on the interaction between groundwater pumping and surface water resources. "The MCWD is constantly updating its data and engaging in new and additional studies of groundwater and surface waters. The Final Program EIR reflects the most current information available at the time of its preparation."

4.11.1.2 Sewage Collection Systems

The MCWD owns, operates and maintains the sewage collection systems for the Town, including pump stations and over 35 miles of sewer mains and interceptors. There are four main trunks of the District's sewer collection system located on the following streets: Old Mammoth

Road, Meridian Boulevard, Sierra Star Golf Course to Center Street, and Main Street. The inceptor lines vary in diameter from 18 to 21 inches. MCWD also operates and maintains 13 pump stations and 11 miles of sewers for the USFS. Raw wastewater is delivered to the MCWD wastewater treatment facility, located near the intersection of Meridian Boulevard and SR 203, through two 18-inch interceptor sewer lines.

The MCWD's wastewater treatment facility provides what is termed advanced secondary treatment. This includes biological treatment, filtration, and disinfection through utilization of chlorine. Treated wastewater is currently discharged to Laurel Pond, a pond located approximately 5.5 miles southeast of the Town on USFS land. Disposal occurs at the pond through percolation into the ground and evaporation into the atmosphere.

The ~~total~~ capacity of the ~~affected trunk~~ ten-inch sewer line~~s~~ at Minaret Road and Main Street, which is the main confluence for the Town, ~~within the Town~~ has been calculated at 310 gallons per minute (gpm) ~~for the ten-inch sewer at Minaret Road and Main Street, which is the main confluence for the Town~~. Actual flow data are currently being compiled for the entire sewer collection system~~pipeline~~ within the Town.[59] The MCWD is planning to install a new~~expand the current~~ wastewater collection pipeline ~~from~~on Meridian Boulevard from Sierra Park Road to the Sierra Industrial Park. The pipeline ~~expansion~~installation is expected to be completed by 2009.

~~The existing wastewater treatment facility is designed to provide secondary treatment for peak daily flows of 3.0 million gallons per day (mgd).~~ The current average daily flow is 1.4 mgd with a peak daily flow of 2.4 mgd. Based on the MCWD ~~2000~~2005 Urban Water Management Plan, the average and maximum wastewater generated was 1.47 mgd and 2.6 mgd, respectively, (MCWD ~~2000~~2005). The ~~estimated~~ average wastewater generation for ~~2005~~2006 ~~would be~~was 1.6 mgd. An expansion of the wastewater treatment plant ~~is expected to be~~was completed in ~~the summer of~~ 2006~~, after completion of this work, the~~ resulting in a design capacity of the treatment facility ~~will be~~of 4.9 million gallons per day (mgd). The wastewater flow projections for the new Updated Plan would be an average daily flow amount of 2.6 mgd, with peak daily flows as high as 4.3 mgd. ~~Design capacity of the wastewater treatment plant is 4.9 mgd.~~ With the projected wastewater flow demands from the Updated Plan, the District's treatment process would continue to meet the effluent limitations and treatment policies set forth by the Lahotan Regional Water Control Board.[60]

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[59] *The District is currently preparing a wastewater model of its collection system that will be able to identify needed improvements that may be required on specific development site locations such as increased sizes of existing pipelines to handle wastewater flow requirements. These improvements would be the responsibility of each developer prior to connection into the Districts system. (Gary Sisson, October 20, 2005).*

[60] *MCWD Wastewater Data, Email from Gary Sisson, October 20th 2005.*

4.11.1.3 Solid Waste

Solid waste collection service for the Town is provided under a franchise agreement with Mammoth Disposal, Incorporated. Solid waste collection service is provided via community trash bins at a centralized collection station on Commerce Drive and by individual customer pickup by Mammoth Disposal, Incorporated. All solid waste generated by the Town is transferred to the Benton Crossing Landfill for disposal.

The Benton Crossing Landfill is owned and operated by the County of Mono. The Benton Crossing Landfill is located approximately five miles east of the intersection of U.S. Highway 395 and Benton Crossing Road on a site leased from the Los Angeles Department of Water and Power. The landfill is approximately l45 acres in size with a landfill footprint of approximately 72 acres. The landfill receives an average of 108 tons per day (tpd) of nonhazardous and hazardous solid waste, with a peak daily loading rate of 400 tpd. The maximum daily permitted throughput is 500 tons per day. The landfill has a remaining capacity of 1.7 million cubic yards of compacted waste. The projected closure date of the landfill is December 2023.[61] The Town also has a five year option to dispose of solid waste at the Pumice Valley Landfill.

The Town operates the waste collection and recycling program in accordance with Assembly Bill 939. The program includes a recycling center at the Mammoth Disposal transfer station where plastics, aluminum, glass, metal, paper and cardboard are accepted. Cardboard containers are available free of charge for any local businesses who choose to participate. Recycling containers are available adjacent to the supermarket and at the parks and at the Visitors Center. The program also includes the use of sludge from the sewage treatment plant for ground cover at the local landfill, grindings from road maintenance as base for newly paved areas, and wood chips from construction projects and/or downed limbs for erosion control and landscaping.

Sierra Conservation Project also provides curbside recycling to residences and businesses located in the Town of Mammoth Lakes for a monthly fee. In addition, both the Mammoth Lakes Transfer Station and the Benton Crossing Landfill accept and safely dispose of batteries, oil, paint, tires, household appliances, electronic appliances and fluorescent bulbs.

The Town has not yet met the 50 percent diversion rate mandated by Assembly Bill 939. The current diversion rate is 38 percent (Steve Mercer, Town, Personal Communication,

[61] *Projected landfill capacity was provided by Mono County Public Works Department, and based on the estimated waste generated by population projected by the Updated General Plan and annual growth rates projected by the Department of Finance.*

February 9, 2005). Recycling volumes for July 2004 were as follows: aluminum 73.6 pounds; glass 2,731 pounds; plastic No. 1 (water bottles) 348.6 pounds and plastic Nos. 2-7 (milk jugs) 110.8 pounds (Michelle Irwin, Mammoth Disposal, Personal Communication, August 30, 2004). The Town is committed to obtaining or exceeding the 50 percent diversion rate. A new recycling center is planned in the industrial park to handle additional materials. Mammoth Disposal is currently in the preliminary design phases of this facility; construction is anticipated to be completed in the summer of 2006.

4.11.1.4 Electricity

Electricity for the Town is provided by Southern California Edison. Overhead and underground facilities with varying voltages are located throughout the Planning Area. Southern California Edison is currently able to supply enough electricity to accommodate the needs of the region at build-out of the existing General Plan.[62]

4.11.1.5 Propane

Propane is commonly used in the Town to fuel furnaces, water heaters, and stoves. Two private companies, Amerigas and Turner Gas, currently supply the Town with propane.

The Town currently has an agreement with Rock Creek Energy LLP, granting the right, privilege, and franchise to lay and use pipes and appurtenances for transmitting and distributing propane within the Town. As a result of this agreement, ~~there is~~two ~~an~~ underground pipelines were installed from the Industrial Park to the Village in the Town's rights-of-way. The pipelines can be used for propane or liquefied natural gas. One pipeline currently ~~that~~ distributes propane to portions of the community. The other pipeline is currently not in use. These pipelines are available to anyone living in their vicinity. Extension of ~~the~~these lines are~~is~~ an option. Under the franchise agreement any fuel provider can utilize the pipelines.

4.11.1.6 Communications

Land line based phone service in the Town is provided by Verizon Telephone Service, a private company. Cellular phone service is also available within the Planning Area.

[62] *As per correspondence with Southern California Edison.*

4.11.2 REGULATORY FRAMEWORK

4.11.2.1 Water

Section 10610 of the California Water Code establishes the "Urban Water Management Planning Act," which addresses several state policies regarding the conservation of water including the policy that urban water suppliers shall be required to develop water management plans to actively pursue the efficient use of available supplies. In accordance with the Water Code, municipal water suppliers that serve more than 3,000 customers or provide more than 3,000 acre-feet per year of water must adopt an urban water management plan (UWMP). UWMPs are required to include estimates of past, current, and projected potable and recycled water uses, to identify conservation and reclamation measures currently in practice, to describe conservation measures, and to provide a water shortage contingency plan. The MCWD ~~has an~~adopted an updated Urban Water Management Plan ~~of 2000~~in 2005.

Title 24 of the California Administrative Code contains the California Building Standards, including the California Plumbing Code (Part 5), which promotes water conservation. Title 20 addresses Public Utilities and Energy and includes appliance efficiency standards that promote water conservation. In addition, a number of State laws listed below require water-efficient plumbing fixtures in structures.

- Title 24, California Administrative Code, Sections 25352(i) and (j) address pipe insulation requirements, which can reduce water used before hot water reaches equipment or fixtures. Insulation of water-heating systems is also required.
- Title 20, California Administrative Code, Section 1604(g) establishes efficiency standards that give the maximum flow rate of all new showerheads, lavatory faucets, sink faucets and tub spout diverters.
- Title 20, California Administrative Code, Section 1606 prohibits the sale of fixtures that do not comply with established efficiency regulations.
- Health and Safety Code, Section 17921.3 requires low-flush toilets and urinals in virtually all buildings.
- Health and Safety Code, Section 116785 prohibits installation of residential water softening or conditioning appliances unless certain conditions are satisfied and includes the requirement that water conservation devices on fixtures using softened or conditioned water be installed.

Additional State legislation, Senate Bill 221 (Kuehl) and Senate Bill 610 (Costa), expands upon the requirements of the California Urban Water Management Planning Act. Senate Bill 610 recognizes the need to link water supply and land use planning as currently required by Section 10910 of the Water Code. Under certain circumstances, a city or county is

required to request in conjunction with a development project a water supply assessment containing specific information from the water service provider.

Under SB 610, it is the responsibility of the water service provider to prepare a water supply assessment requested by a city or county for any "project" defined by Section 10912 of the Water Code that is subject to CEQA. The bill prescribes a timeframe within which a public water system is required to submit the assessment to the city or county and authorizes the city or county to seek a writ of mandamus to compel the public water system to comply with the requirements relating to the submission of the assessment. If the provider determines that water supplies are, or will be, insufficient, plans must be submitted for acquiring additional water supplies. Additionally, the bill requires a city or county to include the water supply assessment and other pertinent information in any environmental document prepared (e.g., EIR) for the project pursuant to the act. ~~CWS~~Mammoth Community Waster District (MCWD), as a water service supplier, has incorporated the provisions of SB 610 into its water supply planning process. Under Senate Bill 610, a water supply assessment must be evaluated and approved for larger projects (i.e., residential projects with more than 500 dwelling units, shopping centers employing more than 1,000 persons or having more than 500,000 square feet of floor space, or commercial office buildings employing more than 1,000 persons or having more than 250,000 square feet of floor space). The approved water supply assessment, which evaluates the quality and reliability of existing and projected water supplies, as well as alternative sources of water supply and how they would be secured if needed, must be incorporated into the EIR for individual projects. Based on the quantity of development proposed, a water supply assessment for the project was prepared ~~and certified~~ by the ~~CWS~~ MCWD.

Senate Bill 221 requires "written verification" of water availability for large subdivision projects. It is distinct from Senate Bill 610, but requires a similar demonstration of water availability.

4.11.2.2 Sewer

Wastewater generated by the community of Mammoth Lakes flows into a collection system and is transported to a central treatment facility where it receives advanced secondary treatment including filtration and disinfection. The treated wastewater is currently discharged to a percolation and evaporation pond known as Laurel Pond that is located in the eastern quarter of the Mammoth Basin and is southeast of the District's production wells. The wastewater treatment facility operates under a permit issued by the State Water Quality Control Board-Lahontan Region.

4.11.2.3 Solid Waste

During the past few decades, as many of the landfills in the State were approaching capacity and the siting of new landfills became increasingly difficult, the need for source reduction, recycling, and composting became apparent. In response to the increasing solid waste disposal issue, three primary pieces of legislation related to solid waste have been passed at the State level. The State Assembly in September 1989 passed the California Integrated Waste Management Act (AB 939:Sher). AB 939 emphasizes conservation of natural resources through the reduction, recycling, and reuse of solid waste. The Act established an integrated waste management hierarchy with the following priorities: 1) source reduction, 2) recycling and composting, and 3) environmentally safe transformation and land disposal. AB 939 requires all cities and counties in the State to divert 25 percent of the solid waste stream from landfills by 1995 and 50 percent by the year 2000, or face potential fines. The Act also requires that all cities conduct a Solid Waste Generation Study (SWGS) and prepare a Source Reduction Recycling Element (SRRE). In accordance with AB 939, local agencies must submit an annual report to the CIWMB summarizing its progress in diverting solid waste disposal.

Senate Bill 1374 (Kuehl), (Construction and Demolition Waste Materials: Diversion Requirements) passed in 2002, requires that the annual report submitted to the CIWMB also include a summary of the progress made in diversion of construction and demolition waste materials. In addition, SB 1374 requires the CIWMB, by March 1, 2004, to adopt a model ordinance suitable for adoption by any local agency to require 50 to 75 percent diversion of construction and demolition (C&D) waste materials from landfills. Local agencies will be required to adopt C&D diversion ordinances with diversion rates by a specified timeframe in accordance with SB 1374. If such an ordinance is not adopted by the local agency, then the model ordinance adopted by the CIWMB will take effect.

The California Solid Waste Reuse and Recycling Access Act of 1991, as amended, requires each development project to provide an adequate storage area for collection and removal of recyclable materials. The size of these storage areas is to be based on ordinances adopted by each jurisdiction. If no such ordinances exist, the size shall be based on the model ordinance prepared by CIWMB.

4.11.2.4 Energy

Title 24 of the California Administrative Code, known as the California Building Energy Efficiency Standards, regulates energy consumption in new construction. These energy standards, which are among the strictest in the United States, are typically updated every three years by the California Energy Commission. Revised Title 24 standards became effective on June 15, 2001.

The energy efficiency standards regulate building energy consumption for heating, cooling, ventilation, water heating, and lighting. Title 24 may be met in one of two ways: by meeting performance criteria (measured in British thermal units (BTU) per square foot per year) or by installing a prescriptive list of energy conservation measures. Title 24 is enforced through the local building permit process.

The California Public Utilities Code Division 1, Part 1 (Public Utilities Act), Chapter 2.3, Article 16 (Sections 399.11-399.16) outlines the procedures for attainment of 20 percent renewable energy through the California Renewables Portfolio Standard Program. The purpose of increasing the state's reliance on renewable energy resources is to promote stable electricity prices, protect public health, improve environmental quality, stimulate sustainable economic development, create new employment opportunities, and reduce reliance on imported fuels. The California Renewables Portfolio Standard Program is intended to complement the Renewable Energy Program administered by the State Energy Resources Conservation and Development Commission and established pursuant to Chapter 8.6 (commencing with Section 25740) of Division 15 of the Public Resources Code."

Division 15, Chapter 8.6, Sections 25740 through 25751 of the Public Resources Code enacts the Renewable Energy Resources Program for the State of California. The program consists of funding and regulations for the implementation of increased renewable energy use. Section 25740 states "it is the intent of the Legislature in establishing this program, to increase the amount of renewable electricity generated per year, so that it equals at least 17 percent of the total electricity generated for consumption in California per year by 2006."

4.11.3 THRESHOLDS OF SIGNIFICANCE

Based on Appendix G in the CEQA Guidelines, the project would be considered to have a significant impact on public utilities if the project would:

- Exceeding sufficient water supplies available to serve the project from existing entitlements and resources; and/or a substantial depletion of ground water supplies or a substantial interference with ground water recharge such that there would be a net deficit in aquifer volume or a lowering of the local ground water table level;
- Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board;
- Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, and the construction of which could cause significant environmental effects;

- Result in a determination by the wastewater treatment provider which serves or may serve the project that it has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments;
- Require or result in the construction of a new landfill or expansion of existing facilities to accommodate the project's solid waste disposal needs;
- Fail to comply with federal, state, and local statutes and regulations related to solid waste; or
- Result in substantial adverse physical impacts associated with the provision of new or physically altered energy or communication facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable levels of service;

4.11.4 IMPACTS AND MITIGATION

Issue4.11-1: *Would full buildout of the Updated Plan exceed sufficient water supplies available to serve the area from existing entitlements and resources, and/or result in a substantial depletion of ground water supplies or a substantial interference with ground water recharge such that there would be a net deficit in aquifer volume or a lowering of the local ground water table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?*

Discussion: The MCWD provides water supply to the Town. Existing sources of water available to the MCWD include both surface water and groundwater. The primary source of water comes from surface water diverted from the Mammoth Creek watershed, plus eight ground water production wells within the Town. In order to prevent Mammoth Basin from being overdrafted, the MCWD maintains an extensive groundwater and surface water monitoring system. The MCWD prepares an annual groundwater monitoring report that provides an evaluation of ground water level, surface flow, and water quality monitoring data accumulated throughout the year (MCWD 2004a).[63]

The MCWD prepared a Water Assessment for the project described in the previously circulated Draft ~~PEIR~~ Program EIR and an Amendment to the Water Assessment to assess the water demands of the project through the year 2020 as required by SB 610. The District adopted an updated UWMP in December 2005, which includes projections through 2025. The water demand projected for ~~that~~ the project was calculated using MCWD generated demand factors based on land use and unit type. The water demand estimates assumed full buildout of the Draft

[63] *The 2004 data was the most current available at the time the Revised Draft Program EIR was circulated. Since data for 2005 and 2006 has become available, which are consistent with the trends established through 2004.*

General Plan Update with a resulting ~~a~~ proposed peak population at one time of approximately 60,700. Table 4.11-4 on page 4-275 summarizes the past, current, and projected water use including the Updated Plan. The full reports (including the assumptions and calculations underlying Table 4.11-4) are provided in Appendix E of this EIR and in the 2005 UWMP. ~~As shown in Table 4.11-4 , the Updated Plan would result in a reduction in water demand that would increase with each five year increment, beginning with 163 acre-feet per year and increasing to 317 acre-feet per year by the year 2020.~~ As shown in Table 4.11-4, the Draft General Plan Update at buildout would result in a water demand of 4,898 acre-feet per year.

Table 4.11-5 on page 4-276 provides a comparison of the current water supply and the projected demand in acre-feet for a normal year and for multiple dry years. As can be seen in Table 4.11-5, ~~the available water supply under a three dry year period under existing conditions (without the project) would result in a deficiency of 244 acre feet per year at two dry years and a deficiency of 286 acre feet per year at three dry years. With the project~~, the current available water supply with the water demand that would occur at buildout of the Draft General Plan Update under a single dry year would result in a deficit of 1,488 ~~surplus of 622~~ acre-feet. In a multiple dry year scenario, ~~At~~ during one and two dry years ~~a~~ surpluses of 292 and 10 ~~73~~ acre-feet, respectively, ~~is~~ are shown. ~~and at~~ During three and four dry years ~~a deficiency~~ deficiencies of 390 and 406 ~~31~~ acre-feet per year, respectively, ~~is~~ are shown**.** ~~(The table and text provide information presented by MCWD. However, it appears that the three dry years would be a surplus of 31 rather than a deficit of 31 acre feet per year.~~ According to the MCWD, ~~with~~ a surplus of only ~~73~~ 10 acre feet at the end of a two dry year period, ~~presents~~ provides a minimal margin for error in these projections. In comparison with the existing General Plan, because of the greater intensity of buildout and the greater population at one time that would occur under the existing General Plan, the water demand from the existing General Plan would result in a greater deficiency of ~~acre feet~~ acre-feet per year. The existing General Plan would result in a deficiency of up to ~~482 acre feet~~ 66 acre-feet per year at ~~three~~ two dry years (See Section 7.3, No Project Alternative, for a more detailed discussion of the comparison of the existing General Plan with the Updated Plan.)

The revised water supply assessment provided by ~~the District~~ MCWD in ~~September~~ November 2005 addresses detailed analysis of water supply versus demand and evaluates potential impacts of the proposed Updated Plan on a monthly basis. Chart 3 on page 4-275 demonstrates the impacts of projected demand on water supply for each month of the year under multiple dry year periods.

Also, as~~As~~ demonstrated in Chart ~~1~~3, a surplus of available water during the irrigation months of July through September is marginal. This comparison does not include continued delivery of district groundwater supplies to the Sierra Star Golf Course for irrigation, which is now occurring. Sierra Star Golf Course irrigation is not included because of the anticipated future use of recycled water at the Golf Course, which would off-set potable water use.

Table 4.11-4

Past, Current, and Projected Water Use/Demand (acre-feet) ~~Including Water Demand for the Project Evaluated in the Previously Circulated draft PEIR~~

Water Use Sector	~~1992~~	~~1995~~	2000	2005	2010	2015	2020	2025
Single Family	~~329~~	~~393~~	515	549	586	623	659	696
Condominium	~~678~~	~~805~~	961	948	960	973	985	997
Multi-Family	~~98~~	~~88~~	144	140	211	282	353	424
Commercial	~~206~~	~~218~~	217	278	374	469	565	660
Motel/Hotel	~~117~~	~~120~~	112	111	304	496	689	881
Public Sector	~~100~~	~~107~~	170	296	*	*	*	*
Golf Course [a]	~~21~~	~~23~~	297	255	400	400	400	400
Other [b]	~~74~~	~~100~~	53	103	80	80	80	80
Unaccounted	~~942~~	~~787~~	486	746	760	760	760	760
~~Current~~ Total	**~~2,565~~**	**~~2,641~~**	**2,955**	**3,426**	**3,674**	**4,082**	**4,490**	**4,898**
~~*Updated Plan New Total*~~								

* *Included in commercial*

Note: *Existing hotel/motel water-use sector includes only those units that are separately metered and does not include units that share water meters with commercial. Commercial includes mixed uses such as restaurants, condo/hotel, retail, etc. Public sector is included in the commercial water-use sector for future projections for consistency with data from the Town of Mammoth Lakes General Plan Update effort.*

[a] ~~*Existing Snowcreek Golf Course (9 holes) pursuant to water rights agreement.*~~*Golf course water use based on existing demand from Sierra Star and Snowcreek Golf Courses. This value would be reduced by recycled water use in the future.*

[b] *Other = treatment plant process water, fire fighting, line cleaning, etc.*

Source: MCWD, 2005

Chart 3

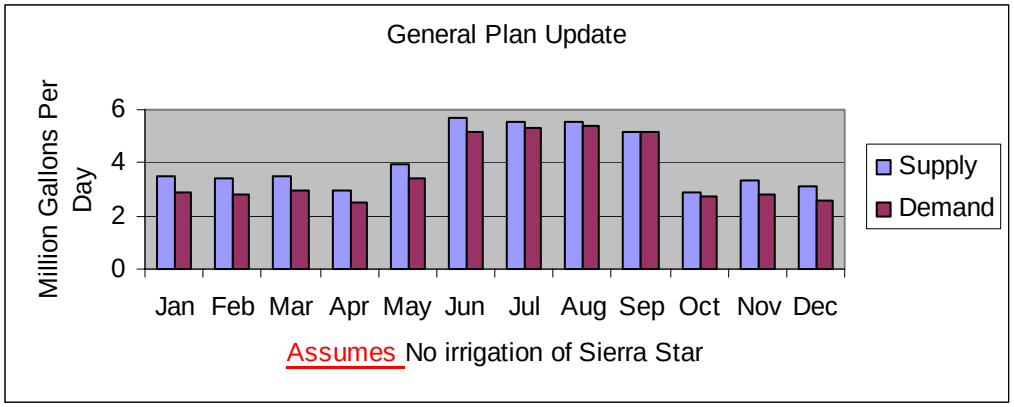


Table 4.11-5

Comparison of Current Supply and Projected Demand in Acre-Feet for Normal, Single Dry, and Multiple Dry Years

Supply and Demand	Normal Year	Single Dry Year	Multiple Dry Years			
			Year 1	~~Two Dry Years~~ Year 2	~~Three Dry Years~~ Year 3	Year 4 [a]
Projected Surface	2,760	0	1,780	1,500	1,100	1,084
Projected Wells	4,000	3,410	3,410	3,408	3,408	3,408
Existing Supply Total	***6,760***	***3,410***	***5,190***	***4,908***	***4,508***	***4,492***
Projected Demand at Buildout (Year 2025)	4,898	4,898	4,898	4,898	4,898	4,898
Surplus or (Deficiency)	1,862	(1,488)	292	10	(390)	(406)
~~***Updated Plan Demand Total (Year 2020)***~~	~~***4,461***~~	~~***4,461***~~	~~***4,461***~~			~~***4,461***~~
~~***Surplus or (Deficiency)***~~	~~***2,299***~~	~~***622***~~	~~***73***~~			~~***(31)***~~

~~*Note: The table and text provided by MCWD indicate a deficiency of 31 acre feet in three dry year period. This appears to be in error and should be a surplus of 31 acre feet.*~~

[a] *This data regarding a fourth year among multiple dry years was not available at the time the Revised Draft Program EIR was circulated.*

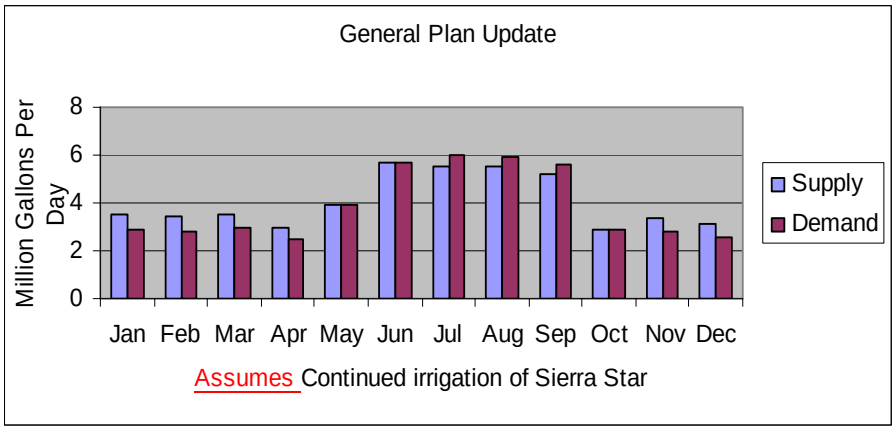
Source: MCWD, 2005

Chart 3 also demonstrates the impacts at build-out ~~of continuing~~ without deliveries of ~~district~~ MCWD groundwater supplies for Sierra Star Golf Course~~golf course~~ irrigation. This scenario could occur if~~, for some currently unforeseen reason,~~ the ~~district~~ MCWD ~~is unable to~~ follows through with plans to provide recycled water to the Sierra Star Golf Course and other large turf irrigators in Mammoth Lakes. The District ~~has~~ completed and ~~adopted~~ certified an EIR in 1998 for the portion of the recycled water project dealing with the wastewater treatment plant upgrades and potential impacts to Laurel Pond. The District ~~has~~ recently ~~begun work on~~ completed and certified a ~~second~~ Subsequent EIR covering the recycled pipeline and recycled water use sites. ~~Until completion of this EIR, t~~The utilization of recycled water is ~~still speculative~~ uncertain until use contracts are signed with both Sierra Star and Snowcreek Golf Course, which will be utilizing the majority of the recycled water system capacity.

Chart 4 on page 4-277 compares water supply versus demand on a monthly basis including golf course irrigation demands and demonstrates the importance of providing recycled water for golf course irrigation and pursuing alternatives to meet water supply deficiencies.

The 2005 UWMP includes a reliability analysis, which focuses on June through September. Table 4.11-6 on page 4-278 provides a summary of the existing supply relative to water demand during the months of June through September. In a normal precipitation year, 2,872 acre-feet would be available (969 acre-feet of surface water and 1,902 acre-feet of groundwater) during the June through September period based on normal year supply

Chart 4



projections. Single dry year estimates are projected using actual groundwater rates pumped during June through September during 1992 and 2001, with no surface water being available. Multiple dry year estimates are based on surface water availability during the 1992 drought year and actual groundwater pumped during 1992 and 2001.

As can be seen in Table 4.11-6, estimated water demands are projected to exceed supplies during dry years for the June through September period. It should be noted that golf course irrigation demands are included in the estimate; therefore, use of recycled water will reduce any deficits in multiple dry years. Under any scenario, landscape irrigation controls would be required during June through September in order to meet demands in extreme dry year conditions.

District Plans for Acquiring Future Water Supplies

Under Water Code Section 10911 it is required, that if, as a result of a water supply assessment, the provider concludes that its water supplies are, or will be, insufficient, the public water system shall provide to the city or county its plans for acquiring additional water supplies. The 2005 UWMP contains a Water Shortage Contingency Plan, which is summarized below.

The projected additional supply volumes associated with these plans are shown in Table 4.11-7 on page 4-279.

New Groundwater Supplies

Overall, depending upon supplies needed, about 1,000 acre-feet of additional groundwater supplies may be developed in the future from the Mammoth Basin watershed or other sources such as the Dry Creek watershed. Volumes of groundwater projected to be available from such sources are estimated at 1,000 acre-feet per year during normal and multiple

Table 4.11-6

Supply/Demand Analysis
June through September

	Existing Supply	Water Demand [a]		Surplus or (Deficiency)	
		Year 2005	Year 2025	Year 2005	Year 2025
Normal Water Year	2,872	1,711	2,264	1,161	608
Single Dry Year	1,636			(75)	(628)
Multiple Dry Years					
Year 1 [b]	2,223			512	(41)
Year 2 [b]	2,042			331	(222)
Year 3	2,035			324	(229)

Unit of measurement: acre feet per year

[a] *Demand is actual demand for June-September 2005 and projected demand at build out for June-September.*
[b] *Years 1 and 2 estimated at 45.3 percent of total minimum supply for year.*

Source: Urban Water Management Plan, 2005; PCR Services Corporation, 2007

dry year periods. The MCWD is evaluating whether or not there is additional water available to be pumped from the Mammoth Basin without causing environmental impacts. The potential for new groundwater supplies is currently under evaluation by the MCWD through its recently expanded monitoring system and the current preparation of the groundwater model of the Mammoth Basin. The evaluation of the potential for increased withdrawal from the Mammoth Basin should be completed within two years. The MCWD is currently focusing on increased groundwater extractions from the Mammoth Basin to meet future demand needs for the community. While funding for Dry Creek well development was removed from the District's connection fees in April of 2007, increased monitoring in the Dry Creek Basin is being pursued through a partnership with the Mammoth Mountain Ski Area. If increased pumping from the Mammoth Basin proves infeasible, the District will begin to more actively pursue well development in the Dry Creek Basin.[64]

Any new groundwater supplies would require permits and approvals from the State Department of Health Services and the U.S. Forest Service where potential well sites are located on federal land. New groundwater wells would require both State of California and federal environmental review.

[64] *Due to the Board's April 2007 decision to remove the Dry Creek project from the District's connection fees, the MCWD is currently budgeting $1,965,198 for future well development in the Mammoth Basin. The cost for the Dry Creek well development project at $15,955,000 is still a current estimate of the MCWD developing new wells and infrastructure to bring Dry Creek groundwater to the Mammoth Basin for municipal use. In addition, the Dry Creek well development project may be revisited in the future.*

Table 4.11-7

Demand Reduction Measures and Potential Additional Water Supply Sources

Source	Potential Volume (afy) ~~(Reduction in Demand)~~	
Water Conservation	500	(demand reduction)
Decrease Water ~~System~~ Loss ~~Reduction~~	300	(demand reduction)
Recycled Water ~~for Irrigation~~ Supply [a]	360	(demand reduction)
Future Well Development [b]	1,000	(increased supply)
~~**Total**~~	~~**2,220**~~	

[a] *Includes irrigation for Shady Rest Park*
[b] *Future well development includes Dry Creek wells and/or additional Mammoth Basin wells*

Source: MCWD, 2005

Recycled Water

As indicated in Section 4.11.1.2, MCWD operates and maintains the wastewater collection and treatment system for the wastewater generated in the Town of Mammoth Lakes as well as in surrounding U.S. Forest Service campground and permittee areas located in the Lakes Basin and Sherwin Creek area. In 2005, the MCWD collected and treated an average of 1.65 million gallons per day of wastewater. The use of recycled water has been identified as a potential source of water supply for large turf irrigation, such as golf courses and Shady Rest Park. A Final Subsequent EIR was certified by the MCWD Board in March 2007, which analyzes the use of recycled water for irrigation on existing and future golf courses as well as at Shady Rest Park.[65] The MCWD currently supplies untreated groundwater for irrigation of the Snowcreek and Sierra Star Golf Courses and supplies potable water to Shady Rest Park. The volume of groundwater supplied to the Sierra Star Golf Course over the past seven years (2000 to 2006) has averaged 238 acre-feet per year. The volume of groundwater supplied to the Snowcreek Golf Course over the past seven years has averaged 85 acre-feet per year. Water supplied to Shady Rest Park over the past four years averaged about 30 acre-feet per year. The maximum water supplied to these locations in dry water years has totaled about 440 acre-feet. Depending upon customer demands, the recycled water project could potentially supply about

[65] *In addition, a pilot project was conducted in 2001 at the Mammoth Pacific Geothermal Power Plant utilizing recycled water for cooling purposes. The power plant was able to increase efficiency and the use of recycled water for cooling purposes appears to be promising. Estimated demand for future recycled water needs would be approximately 600 acre-feet per year for cooling purposes at the power plant. Adequate supply would not exist~~s~~ from the District's facilities during the summer irrigation months if recycled water is also used for golf course irrigation. Also, ~~.~~ ~~I~~if recycled water were to be used for the power plant, the water demand from the community would not be ~~further~~ reduced.*

550 acre-feet annually to large turf irrigators in the community during the summer irrigation season.[66]

It is currently estimated that the total project would take three construction seasons to fully complete. Therefore, recycled water is projected to be available for use by the summer of 2010. Permits that would be required to provide recycled water for irrigation include a waste discharge permit from the Regional Water Quality Control Board and a design and use permit from the State Department of Health Services.

Reductions in Water Demand

In addition to exploring options for increasing water supply, the UWMP presents various opportunities to reduce the water demand. The District's water demand management measures that are being or will be implemented include the following:

- Interior/Exterior Water Audits – The audit would include a checklist to review such items as inspection of interior showerheads, fixtures, and toilets for leakage and efficiency. Replacement of inefficient devices with updated conservation devices would be offered. Water irrigation systems would be inspected for use of efficient irrigation equipment and watering practices would be reviewed. A written report would be prepared and advice offered to assist the customer in reducing water consumption.

- Large Landscape Audits – The audit of large landscape areas, which include condominium projects, parks, ball fields, and school landscape areas, would include a checklist for inspection of irrigation system sprinkling and control equipment, calculation of water usage per 1,000 square feet of landscaping, use of evapotranspiration data, type of vegetation, and general review of watering practices. A written recommendation would be provided to increase water use efficiency. Since many landscaped areas, both residential and large landscape areas, are maintained by private landscape companies, representatives of these companies would be contacted and included in the audits and recommendations prepared by the MCWD.

- Plumbing Standards and Retrofits - The MCWD's Water Service Code requires the installation of water conservation devices in new buildings and those that require permits for remodeling. These devices include showerheads, faucet aerators for sinks, and water conservation toilets.

[66] *The Mammoth Mountain Ski Area (Sierra Star Golf Course) has already paid a connection fee of $1,040,000 for their portion of recycled water once it is made available. The remaining costs of the project would be paid through additional connection fees and through the District's water capital expansion program budget.*

- Commodity Rates - Each MCWD customer pays a monthly water fee, which consists of a minimum service charge and a quantity rate charge. All residential customers pay a minimum service charge of $11.46 per month, while commercial customers pay a minimum service charge that is based on the size of water meter serving their property. Quantity rate charges are imposed in addition to the minimum service charge. The quantity rate charge ranges from a minimum of $1.05 per 1,000 gallons of water used to $7.40 per 1,000 gallons depending on the volume of water used per month.

- Public Information - As part of the MCWD's Water Service Code, a public relations officer has been empowered to provide the public with information in an effort to promote knowledge and understanding of the area's water situation in general and methods to conserve the water supply. Information about all MCWD Board meetings and all other important MCWD activities are promptly routed to the appropriate sources for local news and information.

- School Education - Local school education programs have been enacted in the past and will continue to be considered for the future to teach local students about the importance of conserving water. An annual budget of $18,500 has been approved for the 2007/2008 fiscal year for water conservation/education purposes.

- Ultra-Low-Flush Toilets — The MCWD reinstated a toilet rebate program in 2006 in which customers may receive a cash rebate for installing an ultra-low-flush toilet in place of older model water-wasting toilets. All new construction in the community is required to meet current plumbing code standards, which mandate low-flush toilets.

- Water Audits and Incentives - Through its water meter radio read system and computer monitoring of pressure zones and water storage tanks, the MCWD performs water audits to determine the locations of leaking pipes in the distribution system.

- Efficient Washing Machine Rebate Program - The MCWD will be evaluating the potential benefits of establishing an efficient washing machine rebate program. Water use records will be evaluated to estimate water savings from replacement of older washing machines. A standard of 40 percent reduction in water usage, and 50 percent reduction in energy consumption using a high-efficiency washer would be used in estimating projected savings. The MCWD will also evaluate adding a new policy to its water code that would require efficient washing machines for new construction. The power supply company (Southern California Edison) would be contacted to see if they would be interested in partnering with the MCWD in providing rebates to customers.

In addition, the MCWD has been implementing an aggressive main water pipeline replacement program to replace old leaking water pipes since 2001. Over the past several years, an average of 10,000 feet of pipeline per year have been replaced.[67] The MCWD has also invested in underground pipeline leak detection equipment. In addition, the MCWD performs routine leak detection surveys to locate leaks for repair before the leaks appear at the surface. The MCWD estimates a water demand reduction of 300 acre-feet per year from the implementation of the distribution system leak-detection project.

In addition, water conservation measures are included in the MCWD's Water Code. The implementation of measures, such as landscape irrigation restrictions, would occur by action of the Board of Directors. The MCWD has certain mandatory prohibitions that require the public to become water conscious and to conserve water. The four water conservation measures that are required for all MCWD customers at all times are as follows:

1. Water from the MCWD's potable water system allowed to pool, pond, or run-off of applied areas is considered a waste of water and as such is not permitted.

2. Leaks occurring on the customer side of each meter in the MCWD's potable water system are considered a waste of water and as such are not permitted.

3. Any hose, including those used to wash vehicles, used in conjunction with the MCWD customer's water service shall be equipped with an automatic shut-off device, except that no such shut-off device shall be required for irrigation purposes.

4. District water supplied through the MCWD's potable water system, which is used for watering vegetation outside of any building, shall not be permitted between the hours of 10:00 A.M. and 5:00 P.M. Projections of available water supply are prepared each year after final snowpack measurements are made on April 1. At that time, if projections indicate possible water supply insufficiencies, the MCWD's Board of Directors may declare the existence or threatened existence of a drought and may then implement any level of restrictions as deemed necessary throughout the irrigation season.

During water shortages, the MCWD implements mandatory prohibitions. There are five levels of prohibitions that the MCWD can implement based on the duration and severity of the drought.

[67] *This project is budgeted for approximately $2,300,000 per year over the next 8 years. The District funds water line replacement projects through its capital replacement program, which is derived from primarily property tax revenues.*

In 1992, the MCWD implemented water restrictions that included limiting landscape irrigation to 3 days per week. This restriction resulted in an average reduction in water demand of 25% for the irrigation period of June through September. At build-out of the community under the April 2005 Draft General Plan Update, the projected reduction in water demand from implementation of water conservation measures would be about 500 acre-feet annually.

Table 4.11-8 on page 4-284 shows the future water demand with varying assumptions regarding demand reduction. Table 4.11-9 on page 4-284 shows the future water supply with supply reduction measures and also includes future water supply development. As can be seen in Table 4.11-9, with the future water supply and the full water demand at buildout of the Draft General Plan Update, a deficit of 488 acre-feet would occur in a single dry water year.

In summary, with the inclusion of future water supplies, demand reduction measures, and implementation of the water shortage contingency plan, the projected water demand from buildout of the Draft General Plan Update would not exceed the water supply. However, due to the uncertainty of the timing of implementation of the measures, the EIR concludes that the Draft General Plan Update would have a significant impact on water supply. Mitigation Measure 4.11-1, which would ensure the existence of water supply prior to development, would reduce the impact to a less than significant level.

~~To address these anticipated water supply insufficiencies, MCWD has developed a number of plans including water conservation measures, water system loss reduction, use of recycled water, and development of new water supplies. The projected additional supply volumes associated with these plans are shown in Table 4.11-6 on page 4-269.~~

~~As indicated above, the additional sources would augment available supply by an estimated 1,047 AFY, which is considerably greater than the deficit that would result from implementation of the Updated Plan under the multiple dry year scenario considered. However, two of these programs (i.e. recycled water and new groundwater sources) would require additional entitlements to implement and therefore, cannot be considered as firm supply. While additional water volumes available from more firm supply sources (i.e., water conservation and system loss reduction) would augment supplies by 797 AFY, certainty of these sources occurring does not exist.~~

~~MCWD is now pursuing a set of actions to develop the additional supply sources described above. Water conservation activities are initiated as needed, based on projections of available water supply that are developed on April 1st each year. MCWD is also pursuing permits to provide recycled water for irrigation and upgrade the wastewater treatment plant to meet applicable Health Department standards for the proposed uses. MCWD has already completed an EIR for the overall Recycled Water Project and improvements at the treatment plan, but has not yet completed engineering and environmental studies for required pipeline~~

Table 4.11-8

Future Water Demand with Demand Reduction Measures

Reduction	2005	2010	2015	2020	2025
No reduction	3,426	3,674	4,082	4,490	4,898
Reduce water loss [a]	3,116	3,364	3,772	4,180	4,588
Use Recycled Water	N/A	3,004	3,412	3,820	4,228
Level 1 Restriction @ 25%	N/A	2,644	3,003	3,362	3,721

Units of measurement: acre feet per year

[a] *Reduces water loss to 2004 level (450 ac-ft)*

Note: Water savings from restricted use applied only during months of June, July, August, and September (these months represent 48% of annual demand). Level 1 restrictions historically reduce water use by 25% during summer irrigation periods.

Source: Urban Water Management Plan, 2005

Table 4.11-9

Future Water Supply Including Future Wells

Supply	Normal Water Year	Single Dry Water Year	Multiple Dry Years			
			Year 1	Year 2	Year 3	Year 4
Projected Surface	2,760	0	1,780	1,500	1,100	1,084
Projected Existing Wells	4,000	3,410	3,410	3,408	3,408	3,408
Projected Future Wells	1,000	1,000	1,000	1,000	1,000	1,000
Projected Total Supply	***7,760***	***4,410***	***6,190***	***5,908***	***5,508***	***5,492***
Projected Demand at Buildout	4,898	4,898	4,898	4,898	4,898	4,898
Surplus or (Deficiency)	*2,862*	*(488)*	*1,292*	*1,010*	*610*	*594*
Projected Buildout Demand w/Water Demand Reduction[a]		4,228				
Surplus or (Deficiency)		*182*				

Units of measurement: acre feet per year

[a] *Assumes 310 afy from decrease water loss in system plus 360 afy from use of recycled water at Sierra Star golf course and Shady Rest Park. Alternatively, Level 1 Restriction could be used if water system losses are not complete or recycled water were not available. Level 1 Restriction would reduce the demand to 3,721 afy, which would result in a surplus of 689 afy.*

Source: Urban Water Management Plan, 2005; PCR Services Corporation, 2007

~~improvements or installations at the irrigation sites. MCWD anticipates that these permits and improvements can be completed by the summer of 2007. System water losses are primarily due to leaks in old pipelines, and MCWD has initiated a pipeline replacement program in which 11,000 feet of old pipelines have already been replaced. Over the next 20 years, MCWD would continue to replace about 11,000 feet annually, with full implementation anticipated by 2025.~~

~~Efforts to develop new supply sources would focus on the Dry Creek Watershed. MCWD would also explore options for added supply from Mammoth Basin, but this would depend largely on the results of monitoring data that are now being developed and would become available in 2007. MCWD anticipates that supply from Dry Creek would not become available before 2014.~~

Policies and Implementation Measures in the Updated Plan

The Plan Update proposes the adoption of several polices and implementation measures to reduce potential impacts associated with water supply. These policies and measures are as follows:

I.7.A.a.1 Establish water conservation programs that include both drought tolerant landscaping and efficient building design requirements.

I.7.A.a.2 The Town shall use drought tolerant landscaping and water efficient irrigation practices for all town maintained landscaped areas, new parks, and park improvement projects where feasible.

I.7.A.a.3 The Town shall work collaboratively with Lahontan Regional Water Control Board, Mammoth Community Water District and other interested stakeholders to determine the feasibility of utilizing domestic gray water for landscape irrigation purposes. If it is determined that the use of domestic gray water for landscape irrigation does not pose a threat to the community and its environmental resources, the Town shall develop the criteria to allow and encourage its safe and efficient use for golf courses, parks, town maintained landscaped areas and any other appropriate use.

I.7.A.a.4 New development will use native and compatible non-native plant species, especially drought resistant species, to the extent possible when fulfilling landscaping requirements. Use of turf shall be limited to avoid or minimize adverse impacts on native trees.

II.l.C.a.2 As part of the project review process, conditions of approval and implementation of the Development Impact Fee schedule, the Town ~~S~~shall require that new

development adequately mitigates its impact on: fire protection, public safety, workforce housing availability, road capacity, and pedestrian connectivity.

In addition to implementation measures contained in the Updated Plan, Chapter 15.36 of the Municipal Code requires the installation of water efficient landscaping, which would serve to reduce the water demand for landscaping.

Based on the ~~water assessment~~ 2005 UWMP, ~~prepared by the MCWD, the District~~ MCWD is implementing a variety of programs to reduce the water demand and increase the water supply. However, due to the uncertainty of the implementation as well as the effectiveness of the future programs, based on the information provided in the ~~Amended Water Assessment~~ UWMP, the Updated Plan would have a significant impact on water supply.

Mitigation Measures

4.11-1 The Town shall not approve new development applications that would result in a water demand in excess of available supplies as determined by the MCWD. ~~based on the multiple drought year scenario presented above.~~ The Town shall work with MCWD to ensure that land use approvals are phased ~~in tandem with~~ so that the development of necessary water supply sources is established prior to respective development approvals. This shall be made a policy of the Updated General Plan.

Level of Significance After Mitigation

Implementation of the mitigation measures outlined above would reduce potential impacts associated with development of water supply sources sufficient to meet demands associated with the implementation of the Updated Plan. Mitigation Measure 4.11-1 would ensure that development does not occur without available water supply.

Issue 4.11-2: *Would the Project exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?*

Discussion: With the projected wastewater flow demands for the project estimated to be an average of 2.6 mgd with peak daily flows of 4.3 and the design capacity of the wastewater treatment plant at 4.9 mgd, the District's treatment process would continue to meet the effluent limitations and treatment policies set forth by the Lahontan Regional Water Quality Control

Board. Therefore, the project would have a less than significant impact and no mitigation measures are necessary[68].

Policies and Implementation Measures in the Updated Plan

II.1.C.a: Ensure that new development densities do not exceed the capacity of public service infrastructure and utility systems. Require new development to upgrade or fund facilities to meet increased demand or require reduced density or project redesign for any project that would result in deterioration of service levels or cause available capacity to be exceeded if capacity expansion is infeasible.

II.1.C.a.1 The Town shall ensure service providers are involved in development review process.[69]

Mitigation Measures

Impacts with regard to wastewater treatment requirements of the LRWQCB would be less than significant and no mitigation measures are required.

Level of Significance After Mitigation

Impacts with regard to wastewater treatment requirements of the LRWQCB would be less than significant and no mitigation measures are required.

Issue 4.11-3: *Would the project require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, and the construction of which could cause significant environmental effects?*

Discussion: The population increase and structural development associated with the project would increase the quantity of wastewater generated and associated requirements for collection, treatment and disposal. The existing treatment facility has a capacity for 4.9 mgd. Revised wastewater collection values provided by MCWD based on the estimated peak population under the project (60,700) are estimated to be 2.6 mgd (average) and 4.3 mgd (maximum). The estimated maximum quantity of wastewater requiring treatment would not exceed the capacity of the treatment facility.

[68] *Information provided by Gary Sisson of MCWD e-mail "MCWD Waste Water Data", October 20, 2005.*

[69] *Routing of projects for Agency review is required by CEQA.*

Policies and Implementation Measures in the Updated Plan

II.1.C.a: Ensure that new development densities do not exceed the capacity of public service infrastructure and utility systems. Require new development to upgrade or fund facilities to meet increased demand or require reduced density or project redesign for any project that would result in deterioration of service levels or cause available capacity to be exceeded if capacity expansion is infeasible.

Mitigation Measures

No new construction of water or wastewater treatment facilities or expansion would be required. ~~therefore~~ Therefore, impacts would be less than significant and no mitigation measures are required.

Level of Significance After Mitigation

No new construction of water or wastewater treatment facilities or expansion would be required therefore impacts would be less than significant and no mitigation measures are required.

Issue 4.11-4: *Would the project result in a determination by the wastewater treatment provider which serves or may serve the project that it has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments?*

The capacity of wastewater collection and transfer systems could be strained as a result of increased use related to permanent and transient population growth under the project. However, estimates derived from the MCWD 2000 Urban Water Management Plan found that the maximum quantity of wastewater requiring treatment would not exceed the capacity of the treatment facility. The District ~~is currently preparing~~ has prepared a wastewater model of its collection system that ~~will be able~~ has been used to identify needed improvements that may be required on specific development site locations such as increased sizes of existing pipelines to handle wastewater flow requirements. These improvements would be conditioned as the responsibility of each developer prior to connection into the Districts system.

Policies and Implementation Measures in the Updated Plan

II.1.C.a: Ensure that new development densities do not exceed the capacity of public service infrastructure and utility systems. Require new development to upgrade or fund facilities to meet increased demand or require reduced density or project redesign

for any project that would result in deterioration of service levels or cause available capacity to be exceeded if capacity expansion is infeasible.

Mitigation Measures

The Updated Plan would not result in inadequate capacity for wastewater treatment. Therefore, no mitigation measures are required.

Level of Significance After Mitigation

The Updated Plan would result in a less than significant impact with regard to wastewater treatment capacity.

Issue 4.11-5: *Would the project require or result in the construction of a new landfill or expansion of existing facilities to accommodate the project's solid waste disposal needs?*

Discussion: Solid waste generated in the Town would continue to be disposed of in the Benton Crossing Landfill. The landfill has a remaining capacity of 1.7 million cubic yards of compacted waste and is projected to remain open until 2023. The Benton Crossing Landfill can accommodate the Town's waste generation and disposal needs for the next 20 years, based on site life and loading rate calculations provided by the Mono County Department of Public Works (MCDPW). The MCDPW has indicated that based on their projections, there is sufficient capacity for the projected buildout under the Updated Plan. The Town also has an option for five years at the Pumice Valley Landfill. In addition, the Updated Plan incorporates implementation measures for various recycling programs affecting all types of waste and waste sources. The Town is expanding its recycling capabilities to achieve the state mandated 50 percent diversion rate.

Implementation Measures in the Updated Plan

The Updated Plan proposes the adoption of several implementation measures to reduce potential impacts associated with solid waste. These measures are as follows:

I.1.D.a.1 The Town shall support programs to recycle paper, cardboard, glass, metal, plastics, motor oil, and to compost or generate energy from tree prunings, brush, and other vegetation.

I.1.D.a.2 The Town shall institute a program to achieve maximum recycling of waste products generated by the community to prolong the useful life of the landfill.

I.1.D.a.3 The Town shall develop effective and efficient recycling programs for multi-family developments and businesses.

I.1.D.a.4 The Town shall provide recycling programs and containers at town facilities, projects, and programs to the extent feasible.

With the existing capacity in the Benton Crossing Landfill as well as the option for disposal for five years at the Pumice Valley Landfill, there is adequate landfill capacity for the population that would occur as a result of buildout of the Updated Plan. In addition, the Plan contains measures to reduce waste and increase recycling in the Town. Therefore, the project would not result in the construction of a new landfill or expansion of existing facilities to accommodate the project's solid waste disposal needs.

Mitigation Measures

The Updated Plan would result in less than significant impacts with regard to disposal of solid waste. Therefore, no mitigation measures are required.

Level of Significance After Mitigation

The Updated Plan would result in less than significant impacts with regard to solid waste.

Issue 4.11-6: *Would the project fail to comply with federal, state, and local statutes and regulations related to solid waste?*

Discussion: The Town would continue to operate the waste collection and recycling program in accordance with the IWMA. Although the Town does not currently comply with AB 939 in terms of achieving a 50 percent diversion rate, the Town has a program in place to achieve the required rate. The Updated Plan includes measures to ensure compliance with applicable federal, state, and local statutes and regulations related to solid waste.

Implementation Measures in the Updated Plan

The Plan Update proposes the adoption of several implementation measures to reduce potential impacts associated with solid waste. These measures are as follows:

I.1.D.a.1 The Town shall support programs to recycle paper, cardboard, glass, metal, plastics, motor oil, and to compost or generate energy from tree prunings, brush, and other vegetation.

I.1.D.a.2 The Town shall institute a program to achieve maximum recycling of waste products generated by the community to prolong the useful life of the landfill.

I.1.D.a.3 The Town shall develop effective and efficient recycling programs for multi-family developments and businesses.

I.1.D.a.4 The Town shall provide recycling programs and containers at town facilities, projects, and programs to the extent feasible.

With the Town's existing waste collection and recycling program and the measures in the Updated Plan regarding waste reduction, the project would comply with applicable federal, state, and local statutes and regulations related to solid waste.

Mitigation Measures

Implementation of the Updated Plan would comply with federal, state, and local statutes and regulations related to solid waste. Therefore, no impacts would result and no mitigation measures are necessary.

Level of Significance After Mitigation

Implementation of the Updated Plan would comply with federal, state, and local statutes and regulations related to solid waste.

Issue 4.11:7: *Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered energy or communication facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable levels of service?*

Discussion: The following provides a discussion of potential impacts to energy and communication facilities that could result from the implementation of the Updated Plan.

Electricity and Geothermal Energy

Growth and development under the project may increase the demand for electricity delivery services and facilities. Southern California Edison has stated that it is currently able to supply enough electricity to accommodate the needs of the region and anticipates being able to continue its service following implementation of the project. Therefore, electrical services would be available to serve the projected population that would occur under the Updated Plan and no significant environmental impacts associated with electrical services are expected to occur. In addition, the project outlines measures to achieve improvements in energy

conservation and reduce the quantity of electricity consumed in the Planning Area. These policies include the following:

I.1.C.a.1 The Town shall encourage reduction of energy demand in existing buildings by facilitating energy audits, disseminating information on available conservation methods and cost savings, and developing incentives for efficiency improvements.

I.1.C.a.2 The Town shall optimize energy efficiency in all public building construction and building retrofit by adopting "Mammoth Lakes-specific green building policies and standards," similar to, or patterned on LEED Standards (Leadership in Energy and Environmental Design) with the goal of exceeding 2005 State of California Title 24 minimum requirements by 30%.

I.1.C.a.3 The Town shall encourage optimal energy efficiency in residential and commercial construction and building retrofit, with the goal of exceeding 2005 State of California Title 24 minimum requirements by 30%.

I.1.C.c.4 The Town shall offer accelerated and streamlined permitting and other incentives for builders and developers who incorporate energy conservation and resource use efficiency into new building and retrofit construction.

I.1.C.c.5 Town policies will support the utilization of fuel efficient vehicles and development of housing close to work, commercial services, recreation areas, and transit routes to reduce fuel consumption.

I.1.C.b.1 The Town shall develop and implement standards that enable and encourage the application of passive and active solar in new and existing residential and commercial buildings, and incorporate solar energy provisions into the Town's development and design approval process.

I.1.C.b.2 The Town shall actively evaluate and establish the necessary regulatory framework to encourage the use of decentralized solar electric power production systems.

I.1.C.b.3 The Town shall work collaboratively with other public agencies and private stakeholders to develop a geothermal heating district for the town and, in pursuit of this, shall seek additional funding sources to initiate geothermal heating projects.

I.1.C.b.4 The Town shall establish the regulatory framework to encourage and facilitate the use of geothermal heating, including provisions for installation and operation of district heating, and requirements that future buildings be constructed with heating systems that can readily be converted to geothermal.

I.1.C.b.5 The Town shall encourage the use of renewable fuels, such as biodiesel, and develop a regulatory framework and incentives to facilitate the use of these resources.

Further, the project is consistent with the State of California's Public Utilities Act for attainment of 20 percent renewable energy use.

Although commercial geothermal energy supplies are produced in the Mammoth area, there are currently no direct uses of geothermal energy in the Town or for structures and uses in the Town. As noted in Section 4.4 (Geology), however, a working group has been convened to ensure the compatibility of geothermal operations with Town activities and to explore the potential for future direct use of geothermal energy in the Town and surround area If direct use is eventually found feasible, this would enable the Town to achieve levels of renewable energy use even higher than at present. Project implementation would support efforts to that end. Therefore, the project would result in less than significant impacts and no mitigation measures are necessary.

Propane

Growth and development under the project may increase the demand for propane services and facilities. However, propane services are not anticipated to be significantly impacted by the project. The propane infrastructure is designed for expansion to accommodate the population growth anticipated under the project (Sonya Brynelsen, Town, Planner, email, November 22, 2004). The project would have less than significant impacts so no mitigation measures would be necessary.

Communications

Implementation of the project would not significantly impact existing communication services. Any needed construction or modification would be funded out of user service and connection fees or through developer contributions; therefore, this would be a less than significant impact and no mitigation measures are necessary.

Implementation Measures in the Updated Plan

The Plan Update proposes the adoption of the following implementation measures to reduce potential impacts associated with energy:

I.1.C.b.3: The Town shall work collaboratively with other public agencies and private stakeholders to develop a geothermal heating district for the Town and, in pursuit of this, shall seek additional funding sources to initiate geothermal heating projects.

I.1.C.b.4: The Town shall establish regulatory framework to encourage and facilitate the use of geothermal heating, including provisions for installation and operation of district heating, and requirements and future buildings be constructed with heating systems that can readily convert to geothermal.

VII.1.E.a.2 The Town shall continue to investigate and work with private businesses and public agencies to pursue the development of geothermal heating opportunities for snow removal operations.

I.1.C.b.4 The Town shall establish the regulatory framework to encourage and facilitate the use of geothermal heating, including provisions for installation and operation of district heating, and requirements that future buildings be constructed with heating systems that can readily convert to geothermal.

There are sufficient energy and communication facilities to accommodate the projected growth that would occur under the Updated Plan. In addition, the Town has adopted by Resolution No 04-77, Renewable Energy Policies, for the town which are supportive of energy conservation, renewable energy resources, and community education and outreach. These policies are mirrored in the Updated Plan. Therefore, the project would not result in substantial adverse physical impacts associated with the provision of new or physically altered energy or communication facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable levels of service.

Mitigation Measures

The Update Plan would not result in a significant impact with regard to energy and communication facilities. Therefore, no mitigation measures are required.

Level of Significance After Mitigation

Impacts with regard to energy and communication facilities would be less than significant.

4.12 RECREATION

This section evaluates the potential impacts to parks and recreation facilities and programs that could result from implementation of the Updated Plan.

4.12.1 EXISTING CONDITIONS

The Town provides public recreation facilities for use by the general public. As shown in Table 4.12-1, the existing park areas, which are owned and operated by the Town, equal 18 acres. (A discussion of these parks is provided below.) In addition, there are 4 acres at Mammoth Creek Park and 12.5 acres at Shady Rest Park that are not owned but are operated by the Town under a Special Use Permit from the USFS. In addition, Whitmore Park, which is 18.66 acres, is operated jointly by the Town and Mono County on land leased from the Los Angeles Department of Water and Power. As shown in Table 4.12-1 on page 4-296, there are over 53 acres of park and recreation land currently developed.

Mammoth Creek Park, located off of Old Mammoth Road near Meridian Boulevard, includes 4 acres on USFS-administered lands and 5 acres on property owned by the Town. The park includes Hayden Cabin museum, picnic tables, restroom facilities, children's play area, art sculpture, walking and biking trails, and paved parking.

Shady Rest Park, located at the end of Sawmill Cutoff Road, contains 12.5 acres and is the main active sports municipal park in the Town. It includes a soccer field, softball field, restrooms, two sand volleyball courts, picnic areas, a play area, and paved parking. This park is located on USFS-administered lands.

Community Center Park, located at 1000 Forest Trail, encompasses 4.5 acres owned by the Town and includes the Community Center, library, ~~children's daycare,~~ children's play area, six tennis courts, picnic tables, walking paths, restrooms, and paved parking. The Community Center includes a kitchen, stages, and other facilities and is primarily used for public meetings including Town Council meetings.

Whitmore Park, located 10 miles south of the Town off of U.S. Highway 395 at Benton Crossing, contains three baseball/softball diamonds, restrooms, picnic facilities community swimming pool, and paved parking. As stated above, this 18.66-acre park is operated jointly by

Table 4.12-1

Existing and Planned Park Land Including Acres Owned by Town and Acres Developed

Active Parks	Acres Owned by Town	Acres Dev
Community Center Park	4.52	4.52
Mammoth Creek Park	4.97	8.97[a]
Shady Rest Park	0	12.52[b]
Trails Park	2.30	2.30
Whitmore Park	0	18.66[c]
Deed Restricted Open Space (Trails sub)	6.22	6.22
Subtotal Acres	**18.01**	**53.19**
Acres owned/developed		**53.19**
Planned Parks		
Recreation Center (leased land)		15.00
Festival/Cultural Sites	3.00	3.00
Shady Rest Park Expansion		
Shady Rest Affordable HP	6.00	6.00
Open Space/Park lands	3.78	3.78
Winter Play area (parking)		0.25
Total Acres Planned	**12.78**	**28.03**
TOTAL PARKS		**81.22**

Park Standard	5 acres/1,000 population
Acres of developed parkland per 1,000 population	5
Resident/Seasonal population at buildout	15,000
Acres per 1,000 population	15
Acres needed at buildout	**75**

[a] *Four acres owned by U.S. Forest Service.*
[b] *Owned by U.S. Forest Service.*
[c] *Owned by Los Angeles Department of Water and Power.*

Source: Town of Mammoth Lakes, 2005

the Town and Mono County on land leased from the Los Angeles Department of Water and Power.

Trails Park, located at Meridian Boulevard south of Commerce Drive, is ~~currently being~~ developed as Brothers Skate Park and encompasses approximately two acres owned by the Town.

In addition to parks, the Town has 7 miles of off road, Class A bike trail system totaling 6 acres. The Town also provides recreational programs including adult and youth sports leagues, enrichment classes and community service classes, swimming (swim lessons, swim team), and special events.

In addition to the facilities and programs provided by the Town, there are other public, private semi-public, and commercial recreation facilities in the area which are outlined in Table 4.12-2 on page 4-298.

Several recreation opportunities exist within and adjacent to the Planning Area and include such amenities as the Mammoth Mountain Ski Area, Lakes Basin, Devils' Postpile National Monument, Red's Meadow, Inyo National Forest, and the John Muir and Ansel Adams Wilderness Areas. Downhill skiing and snowboarding are the focus of winter recreation. Mammoth Mountain Ski Area accommodates more than 20,000 SAOT. In 2004 and 2005, Mammoth Mountain accommodated 1.43 million skiers annually (1.46 million guests when Tamarack Cross-Country Ski Center, Scenic Gondola Rides, and Snowmobile Adventures are included)~~and about 1,300,000 skiers' days annually~~. ~~Mammoth Mountain's~~MMSA's Development Plan, which guides the growth of MMSA's downhill facilities, provides for a Peak Design Capacity (PDC) of 24,000 skiers~~ capacity as set in its permit from the Inyo National Forest is 24,000 SAOT~~. Mammoth Mountain Ski Area also owns the Tamarack Lodge at Twin Lakes, the major cross-country ski area in the Town, Mammoth Snowmobile Adventures, and June Mountain Ski Area.

Summer recreation is dispersed throughout the Town with fishing, hiking, mountain biking, and golfing among the more popular activities. Devils' Postpile/Red's Meadow and the Mammoth Lakes Basin are popular day-use destinations. Because of high demand, limited parking, and a narrow road, the Devils' Postpile/Red's Meadow area is accessible only by shuttle bus during most of the summer season.

According to the Sierra Nevada Forest Plan Amendment Final EIS (USDA 2001d), the Inyo National Forest is one of the top five national forests for recreation use nationally and within the Sierra Nevada Forest Plan Amendment study area, which includes 11 national forests; it has the most motorized and non-motorized trails and the greatest number of wilderness acres. In addition, more visits were recorded in the Ansel Adams Wilderness than any of the other wilderness areas in that study area (USDA 2001d).

The Sierra Nevada Forest Plan Amendment Final EIS (USDA 2001d) examined future recreation trends for the Pacific Coast Range, which includes California, Oregon, and Washington and for the nation as a whole. The projected change (increase) in participants from 1995 to 2050 for the Pacific Coast Range was greatest for snowmobiling and downhill skiing. On the national level, the trend showed the greatest change (increase) in participants from 1995 to 2050 in cross-country skiing.

Table 4.12-2

Recreational Facilities in Mammoth Lakes

Type of Facility	Number	Location(s)
Gymnasium	3	Mammoth Elementary School, Mammoth High School, Snowcreek Athletic Club
Baseball/Softball Fields	5	Mammoth Elementary School, Mammoth High School, Shady Rest Park, Whitmore Recreation Area (2 fields)
Tennis Courts	17+	Snowcreek Athletic Club (9 courts), Community Center Park (6 courts), Mammoth High School (2 courts), plus others in private developments
Swimming Pools	2+	Snowcreek Athletic Club, Whitmore Pool, plus others in private developments
Hot Springs	2	Hot Creek, Red's Meadow
Meeting Facilities	7	Community Center (only Town Facility), Mammoth Mountain Inn, Sierra Nevada Inn, Shilo Inn, Canyon Lodge, Village's Grand Sierra Lodge, Eagle Lodge, Main Lodge Mountainside Conference Center, Sierra Holiday Trailer Park, Snowcreek Athletic Club, Fire Station, Ski Museum, USFS Visitor Center~~, Mammoth Mall~~
Handball/Racquetball Courts	8	Snowcreek Athletic Club (8 courts)
Boating/Fishing	3	Lakes Basin, Crowley Lake, Convict Lake
Cross Country Skiing	3	Tamarack Ski Center (Lakes Basin), Sierra Meadows, Shady Rest
Downhill skiing	2	Mammoth Mountain Ski Area, June Mountain Ski Area
Snowmobiling	3	Sierra Meadows, Shady Rest, Smokey Bear Flat
Dog Sledding	1	Sierra Meadows, Shady Rest
Moto Cross	1	Mammoth Moto Cross Track
Volleyball Courts	8	Mammoth Elementary School, Mammoth High School, Shady Rest Park, Grumpy's
Golf	2	Snowcreek, Sierra Star
Equestrian Facilities	4	Agnew Meadows Park Station, Mammoth Pack Outfit, Sierra Meadow Equestrian Center, Red's Meadow Pack Station
Hiking/Backpacking Trailheads	5	Agnew Meadow, Red's Meadow/Devil's Postpile, Lakes Basin (several), Sherwin Lakes, Convict Lake
Camping	16	Shady Rest, Pine Glen, Sherwin Creek, Lake Mary, Lake George, Coldwater, Horseshoe Lake, Agnew Meadows (group), Agnew Meadows, Upper Soda Springs, Pumice Flat (group), Pumice Flat, Minaret Falls, Devils Postpile, Red's Meadow, Convict Lake, Camp High Sierra, Mammoth Mountain RV Park
Picnic Areas	6	Shady Rest, Mammoth Creek, Community Center, Minaret Vista, Lakes Basin, Earthquake Fault
Historic Sites	4	Hayden Cabin/Museum, Mill City, Mammoth City and Mammoth Consolidated Mine
Interpretive Centers	1	Mammoth City Rangers Station and Visitors Center
Natural Reserves	1	Valentine Natural Reserve

Source: Town of Mammoth Lakes, 2005

4.12.2 REGULATORY FRAMEWORK

4.12.2.1 Quimby Act

The Quimby Act (GC 66477) is state legislation that allows the legislative body of cities, towns, and counties to adopt, by ordinance, requirements for the dedication of land, payment of fees in lieu of dedication, or a combination of both, for park or recreational purposes as a condition to the approval of a subdivision at a rate of three to five acres per 1,000 population.[63] Several conditions must be met in order to apply the Quimby Act to land development. These include the preparation of a Parks and Recreation Element within the General Plan and standards that indicate how much land is needed for parks in the particular jurisdiction.

4.12.2.2 Development Impact Fee

Chapter 15.16 of the Municipal Code provides for the creation of special funds, which includes funds for recreation as outlined in Section 15.16.085 part E, which states that:

A parks and recreation facilities fund is established. The parks and recreation facilities fund is a fund for payment of the actual or estimated costs of constructing and improving parks and recreation facilities, including any required acquisition of land, as well as grading, irrigation, and landscaping costs associated therewith.

Table 4.12-1 shows the planned parks. It is estimated that all planned parks would cost approximately $72,624 million dollars with new development responsible for 59 percent of the overall costs. Development Impact Fees (DIF) are collected from all new residential development. DIF fees per unit are collected by the Town prior to building permit and range from $5,020 per unit to $8,366 per unit

[63] *The dedication of land, or payment of fees, or both, shall not exceed the proportionate amount necessary to provide three acres of park area per 1,000 persons residing within a subdivision subject to Section 66477, unless the amount of existing neighborhood and community park area, as calculated pursuant to this subdivision, exceeds that limit, in which case the legislative body may adopt the calculated amount as a higher standard not to exceed five acres per 1,000 persons residing within a subdivision subject to Section 66477 (Government Code Section 66477).*

4.12.3 THRESHOLDS OF SIGNIFICANCE

Based upon CEQA Guidelines Appendix G, the Project would be considered to have a significant impact on recreation if the project were to:

- Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, or other performance objectives for parks; or

- Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.

4.12.4 IMPACTS AND MITIGATION

Issue 4.12-1: *Would the Project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, or other performance objectives for parks?*

Discussion: The project proposes to redesignate Mammoth Creek Park as IP, which would permit the development of facilities such as schools, hospitals, government offices and facilities, and museums. The proposed change would support project objectives for expanded resort and recreational development including efforts to provide enhanced cultural opportunities, as well as joint use of facilities, including athletic fields. Even though redesignation of the 5 acres of Mammoth Creek Park owned by the town would decrease the projected amount of developed parkland to 76.22 acres at buildout, the redesignation would not impact the Town's ability to meet the Town's performance objectives for parks of 5 acres per 1,000 permanent and seasonal residents. On an interim basis, the redesignation of Mammoth Creek Park would reduce the park facilities by 5 acres, which would reduce existing facilities to 48 acres. Based on a current permanent and seasonal population of approximately 9,000 people, 45 acres of park facilities are required and would increase incrementally as population increases. Therefore, the redesignation would not impact the existing provision of parkland in compliance with the performance standard of 5 acres per 1,000 permanent and seasonal residents and is anticipated to be provided by planned parks as population increases. However, while the facilities at Mammoth Creek Park would remain with the redesignation, the redesignation would provide the potential loss of that park. If the park were redeveloped, the loss of the park would be significant

and unavoidable. In addition, at buildout development of all planned parks which are needed to maintain performance objectives for parks may have adverse environmental impacts. Site specific environmental analysis would be undertaken prior to development of each of the proposed projects.

Policies and Implementation Measures in the Updated Plan

The Updated Plan proposes the adoption of the following implementation measures to reduce potential impacts parks and recreation facilities and programs:

II.1.A.b.3 The Town shall maximize the joint use of facilities, including athletic fields, community meeting facilities, child care facilities, and park sites, where feasible.

IV.2.A.a.3 The Town shall maintain an up to date Master Facility Plan to ensure that park development and acquisition is prioritized and planned in concurrence with development.

II.1.C.a: Ensure that new development densities do not exceed the capacity of public service infrastructure and utility systems. Require new development to upgrade or fund facilities to meet increased demand or require reduced density or project redesign for any project that would result in deterioration of service levels or cause available capacity to be exceeded if capacity expansion is infeasible.

While Policies and Implementation Measures contained in the Updated Plan ensure that park development and acquisition is prioritized and planned in concurrence with development (IV.2.A.a.3), and that establishment of joint-use facilities is maximized. An additional 22 acres of park and recreation facilities would be needed at buildout of the Updated Plan to maintain existing performance objectives of parkland per population. The Town would need to construct or expand facilities in order to maintain the stated performance objective. Although additional parks and recreation related policies have been added to the 2005 General Plan, the 1990 Parks and Recreation Element is not being updated at this time. The Town of Mammoth Lakes anticipates adoption of a revised Parks and Recreation Element in ~~2006~~2008. Because it is uncertain at this time where these additional acres would be provided, this impact to existing recreation uses is considered significant and unavoidable. In addition, while the facilities at Mammoth Creek Park would remain with the redesignation, the redesignation would provide the potential loss of that park. If the park were redeveloped, the loss of the park would be significant and unavoidable.

Mitigation Measures

No mitigation measures beyond the policies and/or implementation measures identified in the Updated Plan and the Development Impact Fees are feasible to reduce the potential impact on existing parks and recreation.

Level of Significance After Mitigation Measures

Since it is uncertain at this time where the additional park acres would be provided, the impacts to recreation would be significant and unavoidable.

Issue 4.12-2: *Would the Project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?*

Discussion: The Project would increase demands for, as well as demands upon, recreational facilities and areas, necessitating construction of additional facilities in order to maintain adequate service levels and to prevent overuse and the resultant physical deterioration of existing facilities. The Updated Plan would result in a total resident and seasonal population of approximately 15,000 people. As shown in Table 4.12-1, with a total resident and seasonal population of 15,000 people a total of 75 acres of park land would be required to maintain the Town's performance objective of 5 acres of park land per 1,000 people. There are currently only 53 acres of developed park land. Thus, the Updated Plan would require an additional 22 acres to maintain the stated performance objectives. Therefore, the Project would create more demand upon recreational opportunities and facilities. As discussed above, Development Impact Fees (DIF) are collected from all new residential development for recreation to meet the future demand for parks.

With respect to winter recreation, the MMSA has indicated in remarks to the Mammoth Lakes Planning Commission that the ski facilities are now operating at maximum capacity on peak weekends, and that MMSA is not planning to expand facilities to accommodate additional skiers.[64] The focus would instead be on increasing the number of skiers visiting MMSA during mid-week, when utilization of facilities is low. In this respect, the carrying capacity of a primary recreational attraction has already been reached. This indicates that the General Plan elements would need to successfully increase destination (i.e., mid-week) visitation, or the spill-over demands may adversely impact other recreational facilities in Town. MMSA has identified

[64] *Excerpt of comments by Rusty Gregory, Chairman and CEO of Mammoth Mountain Ski Area, to the Mammoth Lakes Planning Commission, 8 September 2004.*

implementation of airport improvement plans as a key element of achieving the mid-week visitation goals.

Implementation Measures in the Updated Plan

The Updated Plan proposes the adoption of the following policies and implementation measures to reduce potential impacts to parks and recreation:

II.1.B.b.1 Require that new development areas and associated community-wide facilities (open space resources, parks, libraries, etc.) be linked and oriented to existing developed areas of the community through road networks, public transit systems, open space systems, bicycle, and pedestrian systems.

II.1.C.a.1 The Town shall ensure service providers are involved in development review process.

II.1.C.a: Ensure that new development densities do not exceed the capacity of public service infrastructure and utility systems. Require new development to upgrade or fund facilities to meet increased demand or require reduced density or project redesign for any project that would result in deterioration of service levels or cause available capacity to be exceeded if capacity expansion is infeasible.

IV.1.A.c.1 The Town shall maintain and update the existing Masters Facility Plan, Development Impact Fee Schedule, and/or participate in public- private partnerships to support the development of facilities and services that enhance mid-week visitation.

IV.1.A.c.2 Development regulations shall require resort visitor developments provide on-site and off-site amenities for their guests' benefit and enjoyment. These amenities should be available to the public as appropriate.

IV.1.D.c.1 The Town shall develop a Development Incentive and Exactions Program. The program may offer resort development incentives (including density bonuses, modified standards, development entitlements, and agreement) in exchange for specified community benefits.

IV.2.A.a.1 The Town shall ensure that parkland dedicated under the Quimby Act is suitable for active recreation uses with a maximum slope of ten percent, appropriate community access, and free of significant constraints.

IV.2.A.a.2 The Town shall ensure the provision of parkland dedications or payment of in lieu fees through Development Impact Fees or Subdivision approvals.

IV.2.A.a.3 The Town shall maintain and update the existing Master Facility Plan to ensure that park development and acquisition is prioritized and planned in concurrence with development.

V.1.A.a.1 Development of recreational facilities, public facilities, and public utility installations outside of the Urban Growth Boundary are not a violation of the UGB.

Policies and Implementation Measures are contained in the Updated Plan to ensure that park development and acquisition is prioritized and planned in concurrence with development (IV.2.A.a.3), resort visitor developments provide on-site and off-site amenities for their guests' benefit and enjoyment (IV.1.A.c.2), and appropriate parkland dedications or payment of in lieu fees through Development Impact Fees or Subdivision approvals are enforced (IV.2.A.a.2). These measures assist in reducing potential impact to existing parks, and recreation facilities and programs that would occur due to continued growth associated with the Updated Plan. Therefore, the Updated Plan's policies and implementation measures, along with project-specific environmental review by the ~~City~~Town, would reduce impacts to existing neighborhood and regional parks to a less than significant level.

Mitigation Measures

While the current park demand is met and parks are maintained, the demand for parks based on the adopted performance objective would increase as population increases. The Updated Plan contains policies and/or implementation measures and the Town collects development impact fees to reduce potential impacts to parks. However, based on the increased demand, and the uncertainty of the location of additional park lands, impacts to recreation are considered significant and unavoidable. No mitigation measures beyond the policies and/or implementation measures identified in the Update Plan are feasible.

Level of Significance After Mitigation Measures

Due to the projected increase in demand based on the performance objective, impacts to existing parks and recreation due to increased use of existing parks and facilities would be significant and unavoidable.

4.13 TRANSPORTATION AND CIRCULATION

This section of the EIR addresses the impacts of traffic associated with implementation of the Updated Plan, as well as the physical improvements planned and policies/implementation measures proposed in the Updated Plan to mitigate these effects. This section is based upon the *Mammoth Lakes Transportation Model Validation Report* ("Model Validation Report") dated November 11, 2004, the *Mammoth Lakes Transportation Model Level of Service Analysis – Draft 12/6/04* ("Existing Conditions Report") dated December 6, 2004, and the *Mammoth Lakes General Plan – Proposed Action Alternatives Analysis* ("Traffic Analysis Report") dated August 17, 2005, all prepared by LSC Transportation Consultants, Inc., which are provided as Appendix F of this EIR. An updated level of service (LOS) and vehicle miles traveled (VMT) analysis was prepared in October 2006. The updated traffic data has been added to Appendix F of this Final EIR.

4.13.1 EXISTING CONDITIONS

Road Network

The major access into the Town is via SR 203, which intersects with U.S. Highway 395 just east of the Town limits. SR 203 (also named Main Street) is a four-lane road from U.S. Highway 395 through the majority of the developed portion of the Town. SR 203 narrows to two lanes north of the intersection of Main Street and Minaret Road. The highway continues from the developed area of the Town to the Mammoth Mountain Ski Area (MMSA), and terminates at the Mono-Madera county line. Portions of SR 203 are augmented by frontage roads. According to Caltrans' classification system, SR 203 is a minor collector for the ~~westernmost~~ 0.7 miles west of Mammoth Mountain Ski Area Main Lodge. The Mammoth Scenic Loop, a two-lane road off of SR 203, provides secondary access from the Town to U.S. Highway 395 to the north. The Town's Road System is shown in Figure 4.13-1 on page 4-306.

The following roadway classifications are used in the Town:

Arterials - Major streets, which are two to four lanes, augmented with turning lanes and controlled intersections, carrying high volumes of traffic to and from local and collector streets. Arterial roadways in the Town include the following:

- Main Street (SR2 203) to 8.5 miles West of U.S. Highway 395 (including the Main Street Frontage Roads)

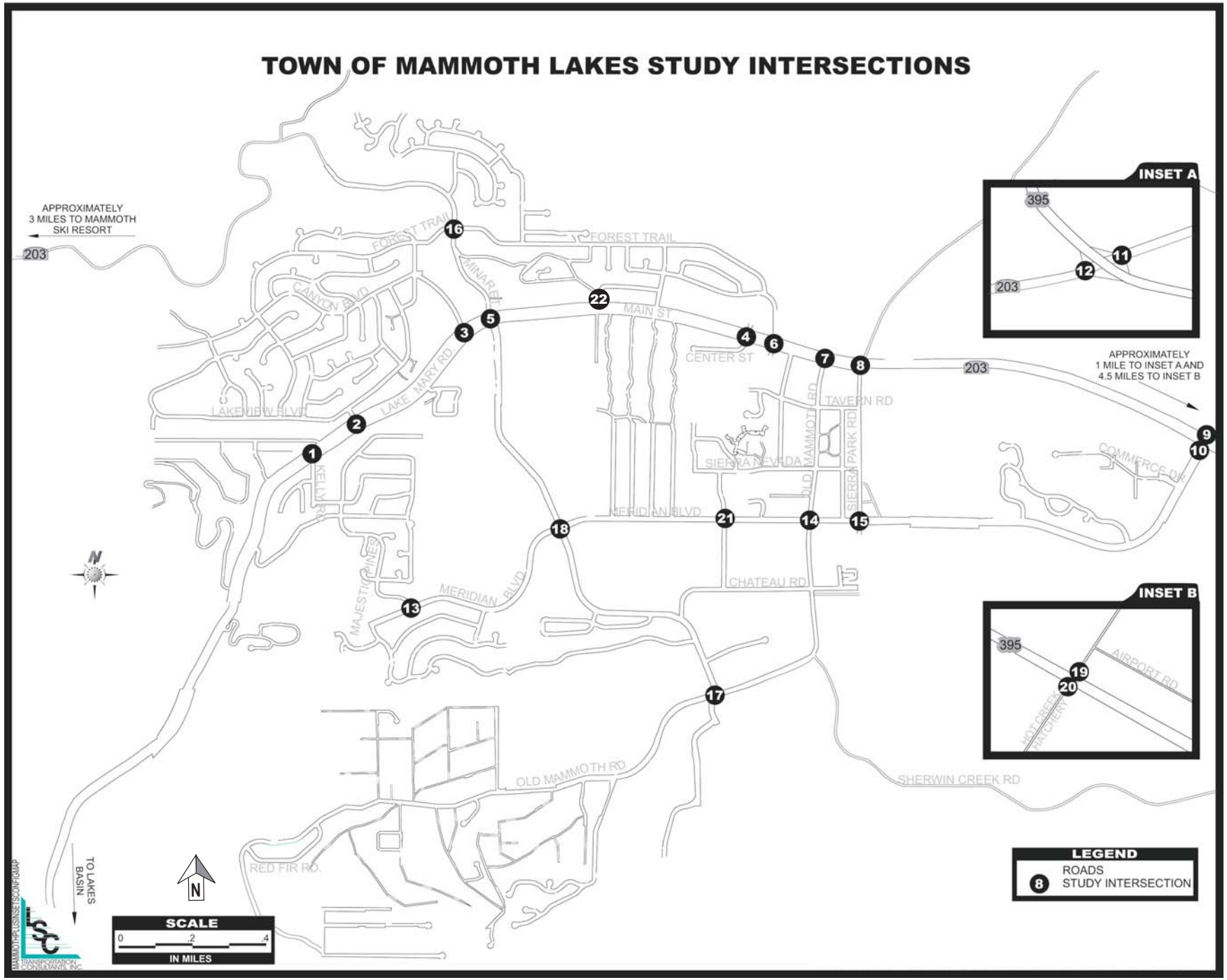


Figure 4.13-1 Traffic Model Intersections

- Minaret Road
- Meridian Boulevard
- Old Mammoth Road east of Waterford Avenue~~Minaret Road~~

Collectors - Two lane streets for traffic moving between arterial and local streets augmented at intersections, which provide access for major land use areas. Collector streets in the Town include the following:

- Old Mammoth Road, west of Minaret
- Canyon Boulevard
- Lakeview Boulevard
- Forest Trail
- Majestic Pines Drive~~, north of Meridian Blvd. to Kelly Road~~
- Waterford Avenue
- Lake Mary Road
- Lakeview Road
- Azimuth Drive
- Chateau Road~~, west of Old Mammoth Road~~
- Sierra Park Road
- Laurel Mountain Road
- Sierra Nevada Road, east of Azimuth Drive
- Tavern Road

Local Streets - Public and private two lane streets that provide direct access to residential properties, and provide access from residential areas to collector or arterial streets.

Rural Roads - Roads that provide access to remote, scenic or recreational areas, and to very low-density residential areas.

At present, all of the roadways in the Town provide one through lane in each direction, other than the following roadways:

Two Through Lanes in Each Direction:

- Main Street east of Minaret Road
- Minaret Road from Main Street north 0.1 mile
- Meridian Boulevard west of Sierra Park Road

One-way street:

- Rainbow Lane Between Canyon Boulevard and Mammoth Slopes Drive

Traffic is controlled by signals at the intersections of Main Street/Old Mammoth Road, Main Street/Minaret Road, Minaret/Meridian Boulevard, Meridian Boulevard/Old Mammoth Road, and Canyon Boulevard/Lake Mary Road. The intersection of Meridian/Sierra Park is controlled by four-way stop signs. Other intersections along the arterial roadways are controlled by stop signs on the minor intersecting street approaches.

Existing Traffic Conditions

Traffic modeling was undertaken to evaluate the current and potential traffic conditions in the Town at buildout of the Updated Plan. The modeling was designed to simulate the average peak traffic conditions on a winter Saturday afternoon which is generally peak traffic periods except near Mammoth Unified School District, Mammoth Hospital, and Cerro Coso College. The model considered traffic loads on the arterials and collectors. The modeling included a roadway capacity analysis along 32 roadway segments and a Level of Service (LOS) analysis of 22 ~~21~~ key intersections (Figure 4.13-1). Additionally, a traffic signal warrant analysis was conducted for the twelve unsignalized intersections within the study area.

The Manual of Uniform Traffic Control Devices (MUTCD) (Federal Highways Administration, 2003) is the most recent MUTCD document published by the Federal Highway Administration, and is commonly used as the guide to the appropriate installation of traffic signals. Eight warrants for traffic signals are cited in Section 4-C of the MUTCD. Table 4.13-4 indicates the degree to which unsignalized intersections with worst movement LOS exceeding LOS standards meet the MUTCD peak-hour signal warrant (Warrant 3), which was evaluated using the Traffix Software Package. The peak-hour signal warrant is typically the first warrant to be met as traffic activity levels increase. If the peak-hour warrant is not met, it is unlikely that any of the seven other warrants are met. Therefore, in the case that the peak-hour signal warrant is not met, a traffic signal is not usually recommended, unless high pedestrian activity or accident rates exist at the intersection. While a similar formal "warrant" system has not been established for roundabouts, roundabouts are generally not considered to be appropriate unless traffic signal warrants are met.

Existing Traffic Volumes

The Town's 1997 traffic model was updated to estimate the existing traffic on the Town's roadway system. Within the traffic model, the traffic generated by a certain type of land use is estimated by applying a representative trip generation rate to the amount of that land use in the area under consideration. The traffic model uses a set of trip generation rates to calculate the peak hour trips by land use. For traffic modeling purposes, the traffic analysis study area was divided into traffic analysis zones (TAZs), and the application of the trip generation rates to the land use in each zone results in zonal estimates of the peak hour trips. For traffic forecast purposes, land use data was collected for 152 TAZs within the study area. The total number of

trips generated by the existing (2004) land uses is 302,685 trips (Mammoth Lakes Transportation Memo Validation Report, LSC, November 11, 2004, see Appendix F). The number of existing trips along individual roadway segments during the peak hour is shown in Table 4.13-1, on page 4-310.

It is noted that as with any representation of a real system, there are associated limitations with a traffic model. To minimize the effects of these limitations, the updated model has been "validated" so that it matches reality for all critical links in the system. In other words, adjustments were made until the modeled traffic volumes approximated existing traffic volumes, often referred to as "ground counts." Existing winter 2004 design volumes at 36 locations were developed in the following steps:

- Available count data was gathered from three key sources: Caltrans, the Town of Mammoth Lakes, LSA Associates, Inc, and LSC Transportation Consultants, Inc. The data provided by LSA and LSC was provided as peak-hour turning-movement data, which was then tabulated as link volume data to use in the model validation process.
- Caltrans hourly count data along SR 203 (Main Street) at the permanent count location immediately east of Minaret Road was tabulated for each Saturday between December 15, 2004 and March 31, 2004. The peak-hour volumes occurring on each Saturday were averaged to establish the average winter Saturday P.M. peak-hour design volume.
- The link volume counts at all the count locations were adjusted to represent the average winter Saturday P.M. peak-hour design volume. This adjustment was largely made based upon hourly Caltrans counts conducted on SR 203 immediately east of Minaret Road. The ratio of the design day peak-hour volume to the peak-hour volume observed on the day of the individual intersection counts was then used to factor the observed intersection count data. Extensive count data along SR 203 in 2004 was not available. Therefore, the 2003 counts were adjusted using the factor for a similar type of day (for example, the third Saturday in March) in 2004. No growth rate was applied to the 2003 count data as a comparison of 2003 and 2004 count data along SR 203 indicates no growth.
- Finally, the adjusted volumes were compared to Caltrans count data and the link volumes at nearby intersections to check for reasonableness.

Once the model was validated, then the model could be used to estimate future travel patterns and volumes.

Table 4.13-1

Existing Roadway Capacities

#	Roadway Segment	Existing (2004) Capacity (Vehicles per Hour per Peak Direction)	Existing (2004) Vehicles Per Direction	Existing (2004) Volume/ Capacity[a]	Existing (2004) Capacity Exceeded?
1	Main St. immediately East of Sierra Park Rd.	2,600	577	0.22	No
2	Main St. immediately West of Old Mammoth Rd.	2,600	1,105	0.43	No
3	Main St. immediately East of Minaret Rd.	2,600	1,100	0.42	No
4	Lake Mary Rd. immediately West of Canyon Blvd.	1,600	364	0.23	No
5	Lake Mary Rd. immediately west of Kelly Rd.	1,600	215	0.13	No
6	Minaret Rd. immediately north of Forest Trail	1,600	621	0.39	No
7	Minaret Rd. – Main St. to Forest Trail	1,300	915	0.70	No
8	Minaret Rd. immediately south of Main St.	1,600	528	0.33	No
9	Minaret Rd. immediately north of Meridian Blvd.	1,600	484	0.30	No
10	Minaret Rd. immediately south of Meridian Blvd.	1,600	258	0.16	No
11	Minaret Rd. immediately north of Old Mammoth Rd.	1,600	339	0.21	No
12	Old Mammoth Road immediately south of Main St.	1,600	815	0.51	No
13	Old Mammoth Road immediately south of Meridian Blvd.	1,600	571	0.36	No
14	Old Mammoth Road immediately east of Minaret Rd.	1,300	251	0.19	No
15	Old Mammoth Road immediately west of Minaret Rd.	1,300	318	0.24	No
16	Meridian Blvd. immediately south of Main St.	1,600	141	0.09	No
17	Meridian Blvd. immediately east of Minaret Rd.	2,600	510	0.20	No
18	Meridian Blvd. immediately west of Minaret Rd.	2,600	448	0.17	No
19	Forest Trail immediately north of Main St.	800	186	0.23	No
20	Forest Trial immediately east of Minaret Rd.	800	57	0.07	No
21	Fairway Dr. immediately south of Old Mammoth Rd.	1,000	64	0.06	No
22	Lakeview Dr. immediately north of Lake Mary Rd.	800	468	0.59	No
23	Kelly Rd. immediately south of Lake Mary Rd.	800	143	0.18	No
24	Center St. immediately south of Main St.	800	129	0.16	No
25	Canyon Blvd. immediately north of Lake Mary Rd.	1,000	345	0.35	No
26	Azimuth Rd. immediately north of Meridian Blvd.	800	115	0.14	No
27	Azimuth Rd. immediately south of Meridian Blvd.	800	321	0.40	No
28	US 395 immediately south of SR 203	2,700	560	0.21	No
29	SR 203 immediately west of US 395	2,700	482	0.18	No
30	Hot Creek Hatchery Rd. immediately west of US 395	1,600	0	0.00	No
31	Hot Creek Hatchery Rd. immediately east of US 395	1,600	19	0.01	No
32	SR 203 immediately east of US 395	1,000	94	0.09	No

[a] *Roadway capacities for planning purposes only*

Source: LSC Transportation Consultants, Inc., 2005

Roadway Capacity

The existing roadway capacities are shown in Table 4.13-1. Please note, however, that the roadway capacities applied in this analysis are for planning purposes only and are only based upon estimated effects of pedestrians, parking maneuvers, and driveway turning-movement conflicts. As shown in Table 4.13-1, the roadways with the greatest capacity (2,700 vehicles per hour per peak direction) are US Highway 395 and SR 203. The second highest capacity roadways are Meridian Boulevard and Main Street, which are coded to have capacities equal to 2,600 vehicles per hour per peak direction. The remaining roadways are coded to have capacities that are between 800 and 1,600 vehicles per hour per peak direction. Most of the lower capacity roadways are collectors or local streets. All roadway segments with a volume to capacity (V/C) ratio greater than one contain traffic volumes that exceed the capacity of the roadway. All roadways within the study area are operating below capacity.

Level of Service

LOS is commonly used as a qualitative description of intersection operation and is based on the type of traffic control and delay experienced at the intersection. The Highway Capacity Manual (HCM) analysis methodology for Signalized Intersections and Unsignalized Intersections was utilized to determine the operating LOS of the study intersections. The HCM analysis methodology describes the operation of an intersection using a range of LOS from LOS A (free-flow conditions) to LOS F (severely congested conditions), based on the corresponding ranges of stopped delay experienced per vehicle for signalized and unsignalized intersections shown in Table 4.13-2 on page 4-312.

An LOS D or better is considered acceptable by the Town on a typical winter Saturday peak-hour for signalized intersections and for primary through movements for unsignalized intersections along arterial and collector streets. Where arterials or collectors intersect, all movements should be LOS D or better. Intersections adjacent to the schools and hospital were also analyzed during the week. Table 4.13-3 on page 4-313 shows the existing LOS of the 22~~21~~ study area intersections. As shown in Table 4.13-3, five ~~four~~ intersections have a LOS E or worse. However, the minimum approach hour delay does not exceed the Town's threshold criteria at the intersection of Center/Main and Forest Trail/Main, thus; these intersections are not considering to be operating at a deficient level of service. Therefore, under current (2004) conditions, three ~~two~~ intersections, Minaret/Forest Trail (LOS F: eastbound and westbound only)~~, and~~ Meridian Boulevard/Azimuth Drive (LOS E: southbound - LOS F: northbound) and Main/Mountain (LOS E: northbound and southbound only) exceed the Town's LOS thresholds. The Town has proposed modifications for the Minaret/Forest Trail intersection (a traffic roundabout) that would improve its function to LOS A. Environmental analysis is currently being prepared for the roundabout. Based on the outcome of that analysis, the roundabout could be constructed as early as Summer 2006.

Table 4.13-2

LOS and Delay Ranges

LOS	Description	Delay (seconds/vehicle)	
		Signalized Intersections	Unsignalized Intersections
A	Operations with very low delay occurring with favorable progression and/or short cycle lengths	≤ 10.0	≤ 10.0
B	Operations with low delay occurring with good progression and/or short cycle lengths	> 10.0 to ≤ 20.0	> 10.0 to ≤15.0
C	Operations with average delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures begin to appear.	> 20.0 to ≤ 35.0	> 15.0 to ≤ 25.0
D	Operations with longer delays due to a combination of unfavorable progression, long cycle lengths, or high V/C ratios. Many vehicles stop and individual cycle failures are noticeable.	> 35.0 to ≤ 55.0	> 25.0 to ≤ 35.0
E	Operations with high delay values indicating poor progression, long cycle lengths, and high V/C ratios. Individual cycle failures are frequent occurrences. This is considered to be the limit of acceptable delay	> 55.0 to ≤ 80.0	> 35.0 to ≤ 50.0
F	Operation with delays unacceptable to most drivers occurring due to over-saturation, poor progression, or very long cycle lengths.	> 80.0	> 50.0

Source: LSC Transportation Consultants, Inc., 2005

Traffic Signal Warrants

The Manual of Uniform Traffic Control Devices (MUTCD) (Federal Highways Administration, 2003) is the most recent MUTCD document published by the Federal Highway Administration, and is commonly used as the guide to the appropriate installation of traffic signals. Eight warrants for traffic signals are cited in Section 4-C of the MUTCD. Table 4.13-4 on page 4-315 indicates the degree to which unsignalized intersections with worst movement LOS exceeding LOS standards meet the MUTCD peak-hour signal warrant (Warrant 3), which was evaluated using the Traffix Software Package. The peak-hour signal warrant is typically the first warrant to be met as traffic activity levels increase. If the peak-hour warrant is not met, it is unlikely that any of the seven other warrants are met. Therefore, in the case that the peak-hour signal warrant is not met, a traffic signal is not usually recommended, unless high pedestrian activity or accident rates exist at the intersection. While a similar formal "warrant" system has not been established for roundabouts, roundabouts are generally not considered to be appropriate unless traffic signal warrants are met. As shown in Table 4.13-4, traffic signals are warranted at three of the 12 unsignalized study area intersections under existing traffic conditions.

Table 4.13-3

Existing Levels of Service

#	Intersection		Unmitigated Traffic Control	Approach	Existing (2004)
1	Kelly	Lake Mary	Two-Way Stop Controlled	Northbound	B
				Westbound	A
2	Lakeview	Lake Mary		Southbound	D
				Eastbound	A
3	Canyon	Lake Mary		Total Intersection	A
4	Center	Main	Two-Way Stop Controlled	Northbound	F
				Southbound	C
				Eastbound	A
				Westbound	B
5	Minaret	Main		Total Intersection	C
6	Forest Trail	Main		Northbound	D
				Southbound	F
				Eastbound	A
				Westbound	B
7	Old Mammoth	Main	Traffic Signal	Total Intersection	C
8	Sierra Park	Main		Northbound	B
				Westbound	A
9	Meridian	Main WB	Two-Way Stop Controlled	Northbound	B
				Westbound	A
10	Meridian	Main EB		Northbound	B
				Southbound	B
11	US 395 NB	Main/SR 203		Northbound	C
				Eastbound	A
12	NS 395 SB	Main/SR 203		Southbound	B
13	Majestic Pines	Meridian		Southbound	B
				Eastbound	A
14	Old Mammoth	Meridian	Traffic Signal	Total Intersection	B
15[a]	Sierra Park	Meridian		Northbound	A
				Southbound	A
				Eastbound	A
				Westbound	A
16	Minaret	Forest Trail	Two-Way Stop Controlled	Northbound	B
				Southbound	A
				Eastbound	F
				Westbound	F
17	Minaret	Old Mammoth		Northbound	B
				Southbound	C
				Eastbound	A
				Westbound	A
18	Minaret	Meridian		Total Intersection	C
19	US 395 NB	Hot Creek Fish Hatchery		Northbound	--
				Eastbound	B
				Westbound	B
20	US 395 SB	Hot Creek Fish Hatchery		Southbound	A
				Eastbound	--
				Westbound	A

Table 4.13-3 (Continued)

Existing Levels of Service

#	Intersection		Unmitigated Traffic Control	Approach	Existing (2004)
21	Azimuth	Meridian	Traffic Signal	Northbound	F
				Southbound	E
				Eastbound	A
				Westbound	A
22	Mountain	Main	Two-Way Stop Controlled	Northbound	E
				Southbound	E
				Eastbound	A
				Westbound	B

[a] *Analysis was performed for midweek*

Note: Bold text Indicates LOS Threshold Exceeded

Source: LSC Transportation Consultants, Inc., 2005

Parking

Parking in Mammoth Lakes is largely provided in private lots. In addition to the substantial parking lots provided at ski access portals, private parking facilities are provided at commercial centers. There is one park-and-ride lot in Town located on the corner of Tavern and Old Mammoth; this lot is free, located adjacent to a transit stop, and can accommodate up to 100 cars. Overall, existing parking lots in the town are well utilized during periods of peak visitor activity. According to the Mammoth Lakes 2005 Parking Study, many of the commercial areas within the Town currently lack adequate parking supply as determined by the Town's municipal code. It would also be desirable to have several more park and ride lots in various locations in town.[67]

Emergency Evacuation Routes

Two year-round emergency evacuation routes serve the Town. SR 203 and U.S. Highway 395 are the main routes for evacuation, and a secondary evacuation option is provided by the Scenic Loop extending from Minaret Road to U.S. Highway 395. During the summer

[67] *Mammoth Lakes 2005 Parking Study, prepared by LSC Transportation Consultants, Inc., May 20, 2005. This study is available for review at the Town offices.*

Table 4.13-4

Existing Traffic Signal Warrants

#	Intersection		Unmitigated Traffic Control	Peak Hour Signal Warrant Met?
	North/South	East/West		Existing (2004)
1	Kelly	Lake Mary	Two-Way Stop Controlled	No
2	Lakeview	Lake Mary	Two-Way Stop Controlled	**Yes**
4	Center	Main	Two-Way Stop Controlled	No
6	Forest Trail	Main	Two-Way Stop Controlled	No
9	Meridian	Main WB	Two-Way Stop Controlled	No
10	Meridian	Main EB	Two-Way Stop Controlled	No
11	IS 395 NB	Main/SR 203	Two-Way Stop Controlled	No
13	Majestic Pines	Meridian	Two-Way Stop Controlled	No
16	Minaret	Forest Trail	Two-Way Stop Controlled	**Yes**
17	Minaret	Old Mammoth	Two-Way Stop Controlled	No
19	US 395 SB	Hot Creek Fish Hatchery	Two-Way Stop Controlled	No
21	Azimuth	Meridian	Two-Way Stop Controlled	**Yes**

Bold Text Indicates Peak-Hour Signal Warrant is Met.

Source: LSC Transportation Consultants, Inc., 2005

months, two additional routes are available including Sherwin Creek Road and the Sawmill cutoff, both of which are primarily graded dirt roads.[68]

Transit

The following public and private transit operations currently serve the Town:

- The Mammoth Area Shuttle (MAS) system, operated by the MMSA, provides winter public transit service to a variety of ski, recreational, dining, lodging, and retail areas, carrying over 700,000 passengers-trips annually.
- During the summer months, the USFS funds a shuttle bus program, which operates a visitor shuttle from Mammoth Mountain Inn to Reds Meadow and Devils Postpile National Monument.
- Condominiums and hotels provide on-demand shuttle services for their guests.
- Mammoth Mountain and June Mountain ski areas provide scheduled shuttle service restricted to ski area employees between Bishop, Mammoth Lakes, and June Lake.

[68] *Communication with Bill Taylor, Town of Mammoth Lakes Community Development Department, February 2005.*

- Taxicab service is offered on a metered, demand-responsive basis. These providers also offer shuttle service to Reno.
- Inyo-Mono Transit (IMT) contracts with the Town of Mammoth Lakes to provide a Dial-a-Ride service Monday to Friday between 7:00 A.M. and 5:00 P.M. This door-to-door service functions on an on-call basis. This system was expanded to provide fixed-route service during the months that the Mountain's transit service is not in operation.
- Spring-summer-fall, the Town of Mammoth Lakes provides scheduled fixed-route service throughout the centralized portion of the community during the months that the mountain's town-wide transit service is not in operation.
- IMT is also servicing the town of Mammoth Lakes with a variety of daily regional and commuter transit services that run from Bishop to Bridgeport.
- Carson Ridgecrest Eastern Sierra Transit (CREST), Mammoth is also serviced by CREST that connects along the U. S. Highway 395 corridor from Ridgecrest to Reno.
- YARTS provides summer weekend shuttle service to Yosemite.

Non-scheduled regional and inter-regional transit service is provided by private charter lines, with the majority typically originating from the Los Angeles and San Diego areas. Private charters originate less frequently from Las Vegas and the Bay Area. According to the Mammoth Lakes Visitors Bureau, approximately 20 to 30 buses per day serve Mammoth Lakes in the summer months, averaging 40 persons per bus. In the winter months, there are approximately 10 to 15 buses per day, averaging 40 persons per bus.

Non-Motorized Facilities

Biking, including organized bike races, has become an increasingly popular activity in and around the Town. The General Bikeway Plan, updated in May 2002, provides a comprehensive plan for bicycle facilities, focusing on direct and convenient routing for the commuting cyclist. Figure 4.13-2 on page 4-317 shows existing and proposed bike paths in the town.

The Town of Mammoth Lakes Trail System Master Plan (MLTSMP) adopted in May 1991 focuses on non-motorized facilities for alternative forms of transportation, including pedestrians, bicyclists, and cross country skiers. The MLTSMP provides trails that connect and pass through a series of parks and open space areas, having numerous access points in and around the Town. Currently, approximately 80 percent or 7.5 miles of trails within the MLTSMP have been developed. Because of the significant existing and future traffic congestion in the Town and the relatively compact development pattern, non-motorized facilities can be more than recreational facilities. The trail system, which allows for pedestrian, cycling, and cross-country skiing use, reduces auto travel, as well as provides important recreational

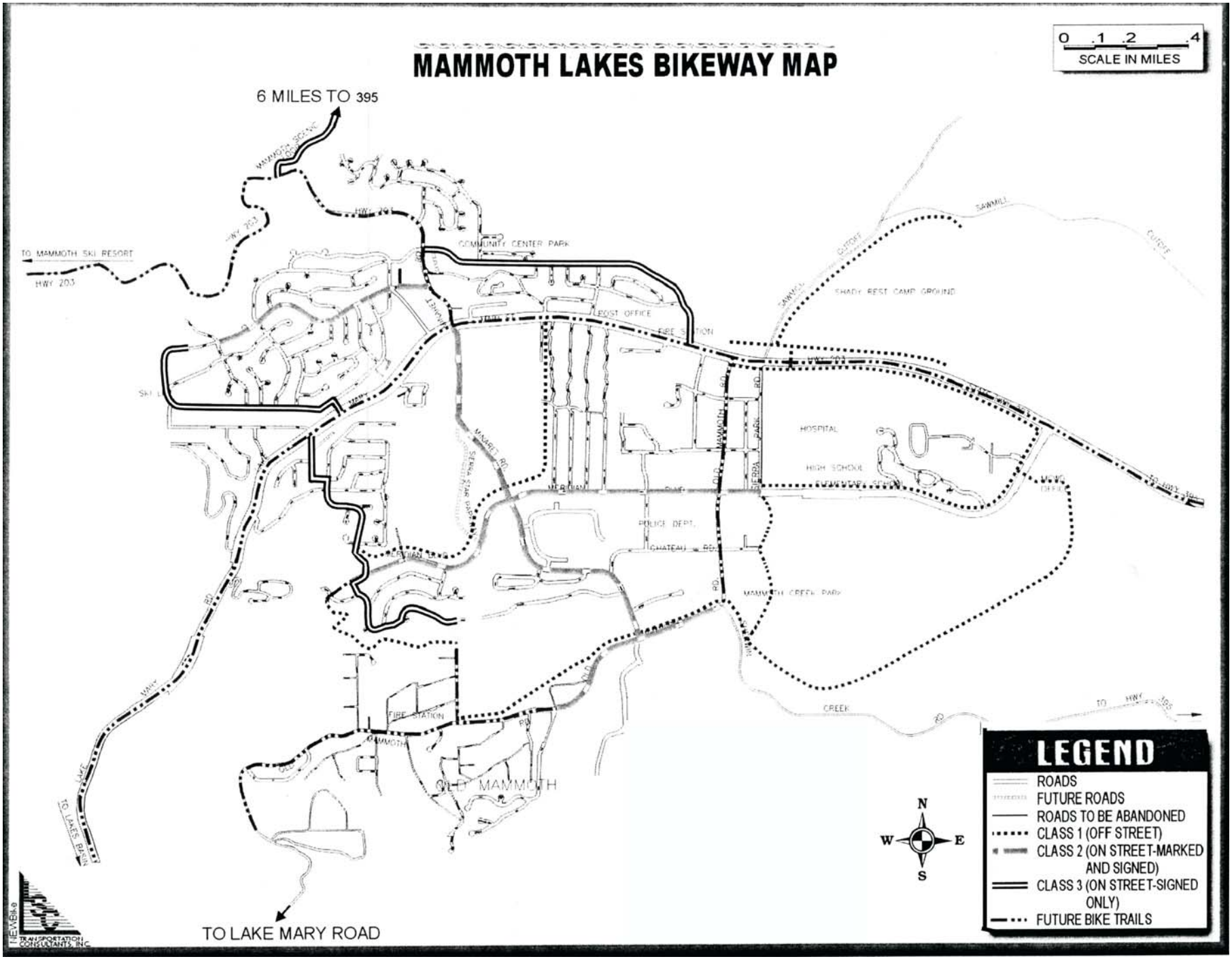


Figure 4.13-2 Bikeway Map

amenities for visitors and community residents. Additionally, to further develop an extensive pedestrian facility system, the Town adopted a comprehensive Sidewalk Master Plan in July 2003 (Figure 4.13-3 on page 4-319).

Aviation

The Mammoth Yosemite Airport is an important asset to the community. Located eight miles east of the town, the airport is FAA certified commercial airport, currently offering charter services. In the past, limited commercial air service has been available to the southern and northern California areas. Scheduled air service was last available in 1996, though plans are currently being formulated to reinstate seasonal scheduled air service. The Mammoth Yosemite Airport is owned and operated by the Town of Mammoth Lakes.

The Mammoth Yosemite Airport provides an important link in the statewide aeronautics system. Pilots flying the Owens Valley-Long Valley corridor along the Eastern Sierra front find the airport to be a vital means of avoiding rapidly shifting weather conditions. The airport is subject to the Federal Aviation Regulations (FAR) Part 139, which sets standards for the operation and safety of airports with small commercial carriers. Under FAR Part 139, the Mammoth Yosemite Airport is required to have established procedure manuals, as well as crash, fire, and rescue equipment.

In 1998, the Mono County Airport Land Use Commission adopted an Airport Land Use Plan (ALUP) for the Mammoth Yosemite Airport. This plan provides for major development and expansion of the airport terminal area, including a hotel, major infrastructure improvements; aircraft support facilities, and passenger terminal. The plan also establishes specific land use policies to protect the public welfare and the safety of aircraft operations.

Additionally, there are helipads located around the town that are operated by the Forest Service and Bureau of Land Management (primarily for fire fighting purposes), as well as a helipad at Mammoth Hospital that is used for air ambulance services.

4.13.2 REGULATORY FRAMEWORK

The Transportation and Circulation Element of the Updated Plan describes the transportation and circulation issues in the Town. This Element includes a description of the existing transportation system, existing and future transportation requirements, and the Transportation findings, goals, and policies. Policy VII.1.B.c establishes a threshold of LOS D or better on a typical winter Saturday peak-hour for signalized intersections and for primary through movements for unsignalized intersections along arterial and collector streets. Pursuant to this policy, this standard is expressly not applied to absolute peak conditions, as it would result

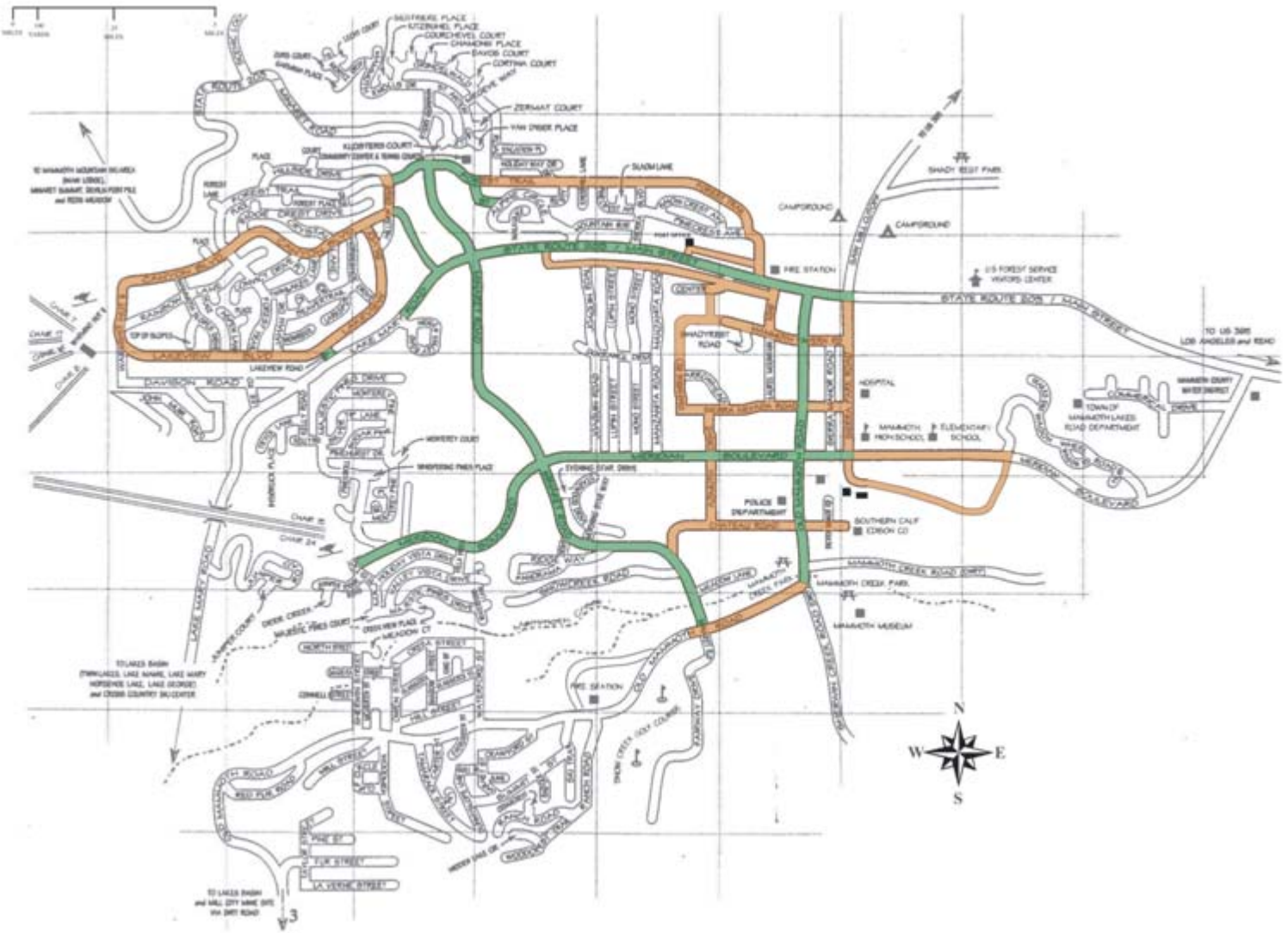


Figure 4.13-3 Sidewalk Master Plan

in construction of roadway improvements that are warranted only a limited number of days per year and that would unduly impact pedestrian and visual conditions.

In addition, the Town of Mammoth Lakes in 2005 adopted an updated Development Impact Fee Schedule based on an Updated Master Facility Plan and Capital Improvement Program. The Master Facility Plan contains all required facility improvements to mitigate build-out traffic of the existing General Plan. These improvements include all circulation system improvements for streets, signals (roundabouts), bridges, transit and trails. Since the Updated Plan does not propose increased overall unit density over the existing General Plan, the majority of these program improvements would be adequate to mitigate the project. However, due to some of the proposed policies such as density transfers, the Master Facility Plan and Capital Improvement Program would be required to be updated to be consistent with the Updated Plan.

With regard to Development Impact Fees (DIFs), currently the Town collects between $1,805 and $3,578 per residential unit, and between $2.90 and $3.71 per square feet for commercial/office and industrial uses to fund street and traffic improvements. In addition, the Town collects between $9,279 and $15,465 per residential unit, and between $15.47 and $2.90 per square foot for commercial/office and industrial uses to fund transit and trail enhancements.

4.13.3 THRESHOLDS OF SIGNIFICANCE

Based primarily on Appendix G of the CEQA Guidelines, the project would be considered to have a significant impact regarding traffic and circulation if the project would:

- Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections);
- Exceed, either individually or cumulatively, a level of service standard established by the Town for designated roads or highways;
- Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks;
- Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment);
- Result in inadequate emergency access;
- Result in inadequate parking capacity; or
- Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks).

4.13.4 IMPACTS AND MITIGATION

***Issue 4.13-1**: Would development associated with implementation of the Updated Plan cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?*

Discussion:

2024 Traffic Volumes

New development within the Town, along with regional traffic growth, would result in an increase in traffic volumes within the Town for the planning horizon year of 2024. To estimate the effect of future traffic on the Town's roadway system, the Town's traffic model developed for existing traffic conditions was updated with the Updated Plan land uses and the most recent data for long-range regional transportation patterns. Any community-wide traffic model is a planning level "tool" and *necessarily* reflects a simplification of the roadway network, individual property access, and land uses. Detailed evaluation of individual roadway elements based upon specific project site plans, therefore, may yield differing results. The model, however, is more than adequate for purposes of overall planning for the Mammoth Lakes transportation network, and meets or exceeds the standards of the traffic engineering profession.

The land use assumptions for the Updated Plan were provided by the Town of Mammoth Lakes Planning staff. The analysis assumed that the maximum allowable density would be built on currently undeveloped parcels under the Updated Plan. In addition, the Updated Plan contains the Density Transfer Policy by which density bonuses may be granted for community amenities and workforce housing. As a result, some traffic analysis zones that are eligible sites for increased densities were assigned higher unit projections in the TAZ modeling than the densities derived from the land use data base. Overall, the total numbers of units contained within the Traffic Analysis Zones (TAZ) are approximately 10 percent higher for the project than those contained within the land use database. The higher number of units at the TAZ level was done in order disclose the potential impacts of the project at the TAZ micro level. However, corresponding density decreases (where density would be taken from) were not made within the traffic analysis because generating sites were unknown at the time of model development. As a result the cumulative impacts on traffic, air quality and noise are over estimated based on these factors. However, since the level of density transfers that may occur in the future is unpredictable the total environmental impacts of each transfer could not be analyzed within this document; therefore, each transfer would be subject to a separate environmental review. The trip generation rates of the Updated Plan land uses were used to project Year 2024 traffic volumes per roadway segment. The number of existing trips along individual roadway

segments under the 2024 Traffic scenario during the peak hour is shown in Table 4.13-5 on page 4-323.

2024 Roadway Capacities

Peak hour volume to capacity ratios (V/C) for the Updated Plan traffic in the study area roadways are provided in Table 4.13-5. As stated previously, all roadway segments with a V/C ratio greater than one contain traffic volumes that exceed the capacity of the roadway. As shown in Table 4.13-5, ~~only the roadway segment of Minaret Road from Main Street to Forest Trail contains 2024~~ no traffic volumes ~~that~~ would exceed the roadway capacity. ~~By 2024, traffic levels are forecast to exceed capacity by approximately 4 percent along this roadway segment. However, as the capacity levels are significantly affected by pedestrian crossings of Minaret Road and parking maneuvers along the roadway segment, the capacity of the roadway has the potential to reduce further with the development of the North Village Specific Plan area. This condition could be mitigated by widening the roadway segment to four travel lanes (two lanes in each direction). The widening could occur within the existing roadway with the removal of parking and therefore, would not require the acquisition of right-of-way.~~

~~Alternatively, if the Town conducts a focused roadway capacity study for this roadway segment prior to construction of not-yet-approved development within a one-mile radius of the roadway segment, which determines that equivalent or better alternative mitigation measures are available then such measures could be implemented instead of the widening. The focused roadway capacity study shall, at a minimum, include the conduction of typical winter Saturday pedestrian crossing counts, traffic and parking maneuver counts, the time lost for through traffic movements due to pedestrian and parking activity, the existing source of traffic delays along Minaret Road, and an analysis of future growth in pedestrian crossings and parking maneuvers along the roadway segment that can be expected upon build out of the North Village Specific Plan area. The study would also provide recommended improvements to the roadway segment or land use plans that would allow the roadway to accommodate future projected traffic growth and attain the Town's level of service standards. The Town would then implement the improvements required to maintain adequate level of service at buildout of the area.~~

Policies and Implementation Measures in the Updated Plan

The Updated Plan proposes the adoption of ~~polices~~policies and implementation measures to reduce potential impacts regarding roadway capacities. These policies and measures are described below.

I.7.B.c.3 The Town shall, in its review of proposed development projects, incorporate such measures which reduce projected total vehicle miles traveled. Examples of such

Table 4.13-5

Traffic Loads Selected Roadway Segments

		Project (2024)			
No.	Roadway Segment	Capacity (Vehicles per House per Peak Direction)	Vehicles Per Hour Per Lane	Volume/ Capacity	Capacity Exceeded?
1	Main Street Immediately East of Sierra Park	2,600	745	0.29	No
2	Main Street Immediately West of Old Mammoth Road	2,600	1,457	0.56	No
3	Main Street Immediately East of Minaret Road	2,600	1,489	0.57	No
4	Lake Mary Road Immediately West of Canyon Boulevard	1,600	462	0.29	No
5	Lake Mary Road Immediately West of Kelly Road	1,600	353	0.22	No
6	Minaret Road Immediately North of Forest Trail	1,600	1,038	0.65	No
7	Minaret Road -- Main Street to Forest Trail	1,300	1,094	0.84	No
8	Minaret Road Immediately South of Main Street	1,600	906	0.57	No
9	Minaret Road Immediately North of Meridian Boulevard	1,600	723	0.45	No
10	Minaret Road Immediately South of Meridian Boulevard		653	0.41	No
11	Minaret Road Immediately North of Old Mammoth Road	1,600	739	0.46	No
12	Old Mammoth Road Immediately South of Main Street	1,600	648	0.40	No
13	Old Mammoth Road Immediately South of Meridian Boulevard	1,600	1,046	0.65	No
14	Old Mammoth Road Immediately East of Minaret Road	1,300	538	0.41	No
15	Old Mammoth Road Immediately West of Minaret Road	1,300	505	0.39	No
16	Meridian Boulevard Immediately South of Main Street	1,600	230	0.14	No
17	Meridian Boulevard Immediately East of Minaret Road	2,600	699	0.27	No
18	Meridian Boulevard Immediately West of Minaret Road	2,600	1,133	0.44	No
19	Forest Trail Immediately North of Main Street	800	174	0.22	No
20	Forest Trail Immediately East of Minaret Road	800	173	0.22	No
21	Fairway Drive Immediately South of Old Mammoth Road	1,000	770	0.77	No

Table 4.13-5 (Continued)

Traffic Loads Selected Roadway Segments

		Project (2024)			
No.	**Roadway Segment**	**Capacity (Vehicles per House per Peak Direction)**	**Vehicles Per Hour Per Lane**	**Volume/ Capacity**	**Capacity Exceeded?**
22	Lakeview Drive Immediately North of Lake Mary Road	800	571	0.71	No
23	Kelly Road Immediately South of Lake Mary Road	800	280	0.35	No
24	Center Street Immediately South of Main Street	800	467	0.58	No
25	Canyon Boulevard Immediately North of Lake Mary Road	1,000	757	0.76	No
26	Azimuth Road Immediately North of Meridian Boulevard	800	157	0.20	No
27	Azimuth Road Immediately South of Meridian Boulevard	800	463	0.58	No
28	U.S. Highway 395 Immediately South of SR 203	2,700	901		No
29	SR 203 Immediately West of U.S. Highway 395	2,700	389	0.14	No
30	Hot Creek Hatchery Road Immediately West of U.S. Highway 395	1,600	28	0.02	No
31	Hot Creek Hatchery Road Immediately East of U.S. Highway 395	1,600	276	0.17	No
32	SR 203 Immediately East of U.S. Highway 395	1,000	95	0.10	No

Source: ~~Mammoth Lakes General Plan – Proposed Action Alternatives Analysis, *prepared by* LSC Transportation Consultants, Inc., *August 17, 2005*~~ *2006*

measures include, but are not limited to, circulation system improvements, mass transit facilities, private shuttles, and design and location of facilities to encourage pedestrian circulation.

II.1.B.b.3 The Town shall revise zoning regulations to allow and encourage Town residents to work from their homes provided that their home-based occupation does not create adverse impacts on adjacent residences (such as increased traffic, noise, exterior signage, or other nuisances).

II.l.C.a.2 As part of the project review process, conditions of approval and implementation of the Development Impact Fee schedule, the Town Shall require that new development adequately mitigates its impact on: fire protection, water availability, public safety, transit services, parking availability, street capacity, workforce housing availability, road capacity, and pedestrian connectivity.

VI.1.D.a.1 The Town, through development approvals and other Town programs shall support the development of land use patterns and mixed use developments that integrate residential and non-residential land uses, such that residents and visitors may easily walk or bike to shopping, services, and employment and leisure activities.

VII.1.B.a.l The Town shall plan for, design, and regulate roadways in accordance with the functional classification system described in this element, as shown in the Circulation Plan.

VII.1.B.a.4 At intersections on arterial roads, ensure that traffic control devices and other traffic safety and operational improvements are installed for the safe and efficient movement of all types of traffic and pedestrians, and provide levels of service that conform to these policies. Lighting will be evaluated to ensure it meets safety standards and conforms to adopted Town standards.

VII.1.B.a.6 To increase roadway capacity, the Town shall investigate and give preference to alternatives to the construction of new traffic signals, including modern roundabouts and prohibitions on turn movements.

VII.1.B.a.8 Work with adjacent jurisdictions to share land use and transportation information and transportation modeling results. Coordinate transportation planning with the Mono County Local Transportation Commission, Caltrans, and the US Forest Service to address the impacts of new development; the transportation system components necessary to mitigate those impacts; the capital, operating, and maintenance cost of the components; and the costs covered by established funding sources.

VII.1.B.b.l The Town shall pursue all appropriate federal, state, and local funding sources for street and highway improvements.

VII.1.B.b.2 The Town shall strive to secure financing in a timely manner for all components of the transportation system, to achieve and maintain adopted level of service standards, and to address potential safety problems.

VII.1.B.b.3 The Town shall implement improvements necessary to address the increase. Mitigation of significant project-related impacts may require improvements beyond those addressed by the Town of Mammoth Lakes Capital Improvement Program

and the Town of Mammoth Lakes Air Quality Management Plan, and Particulate Emissions Regulations.

VII.1.B.b.4 Require new development to dedicate right-of-way consistent with adopted road standards. New development, as warranted, shall pay its fair share of roadway, pedestrian, transit, bicycle, and airport improvements.

VII.1.B.c.1 The Town shall require the preparation of a traffic impact analysis report to identify impacts and mitigation measures for projects that may potentially result in significant traffic impacts. Level of service shall be computed according to the methodology presented in the Highway Capacity Manual. Cumulative impacts shall be modeled assuming full build-out of the General Plan.

VII.1.D.a.3 Work with Caltrans to address existing deficiencies on State Route 203, such as frontage road operational problems, driveway issues, snow storage and removal, and poor pedestrian conditions, while improving the visual and pedestrian qualities of the corridor.

VII.2.B.a.1 The Town shall require major traffic generators, including the school district and ski resorts, to develop and implement trip reduction measures. In particular, ski area operations should be managed to reduce the overall P.M. peak traffic generation and to disperse these trips between the various mountain portals.

VII.2.B.c.6 Scheduling of freight deliveries to avoid periods of peak traffic congestion shall be encouraged.

VII.3.B.a.1 The Town shall work with the Mono Local Transportation Commission and Caltrans to review roadway standards and ensure that roadways are developed to accurately and adequately serve multi-modal travel demands.

VII.3.B.a.2 The Town shall work with the Mono Local Transportation Commission, Mono County, and Caltrans to promote the efficient movement of goods and people within and between new growth areas and destinations locally and regionally.

IV.1.E.a.2 The Town shall allow residents to work from their homes, in all residential zones, provided that their home-based occupation does not create adverse impacts on adjacent land uses (such as increased traffic, noise, exterior signage, or other nuisances).

VI.2.C.a.2 The Town shall continue to investigate the feasibility of roundabouts throughout the community.

VI.2.C.a.3 The Town shall actively seek grant funding to facilitate the implementation of traffic calming techniques.

VI.2.C.a.4 The Town shall encourage the development of public-private partnerships and pilot projects to facilitate the implementation of traffic calming techniques throughout the community.

The policies and implementation measures contained in the General Plan would promote the decreased reliance on private transportation to reduce vehicle trips within the Town, ensure that traffic control devices and other traffic safety and operational improvements are installed for the safe and efficient movement of all types of traffic and pedestrians, and provide levels of service that conform to the Updated Plan policies. In particular, Implementation Measure II.1.C.a.2 requires that the Town require that new development adequately mitigates its impacts on street capacity through the project review process, conditions of approval and implementation of Development Impact Fees. Implementation of the Updated Plan ~~polices~~policies and/or implementation measures~~, along with the recommended mitigation measure,~~ would reduce impacts regarding roadway capacities to a less than significant level.

Mitigation Measures

~~In addition to the policies and implementation measures stated above, the following mitigation measure is recommended to ensure that impacts regarding capacities along impacted roadway segments are reduced to a less than significant level.~~ The project's impact to roadway capacity would be less than significant. Therefore, no mitigation is required.

~~4.13-1 The Town shall widen Minaret Road from Main Street to Forest Trail to four travel lanes (two in each direction) in order to provide sufficient roadway segment capacity at buildout (2024) of the Updated Plan. If the Town conducts a focused roadway capacity study for this roadway segment prior to construction of not-yet-approved development within a one-mile radius of the roadway segment, which determines that equivalent or better alternative mitigation measures are available then such measures could be implemented instead of the widening. The focused roadway capacity study shall, at a minimum, include typical winter Saturday pedestrian crossing counts, traffic and parking maneuver counts, the time lost for through traffic movements due to pedestrian and parking activity, the existing source of traffic delays along Minaret Road, and an analysis of future growth in pedestrian crossings and parking maneuvers along the roadway segment that can be expected upon build out of the North Village Specific Plan area. The study shall also provide recommended improvements to the roadway segment or land use plans that would allow the roadway to accommodate future projected traffic growth and attain the Town's Level of Service standards.~~

Level of Significance After Mitigation

Impacts related to existing traffic load and capacity of the street system would be less than significant.

Issue 4.13-2: *Would development associated with implementation of the Updated Plan exceed, either individually or cumulatively, a level of service standard established by the Town for designated roads or highways?*

Discussion:

Levels of Service

As stated in the Regulatory Framework section, an LOS D or better is considered acceptable by the Town on a typical winter Saturday peak-hour for signalized intersections and for primary through movements for unsignalized intersections along arterial and collector streets. Based on the threshold LOS criteria established by the Town, future 2024 traffic modeling indicates that nine ~~ten~~ of the 22 ~~21~~ study intersections would exceed LOS D threshold with the buildout of the Updated Plan (Table 4.13-6 on page 4-329). As shown in Table 4.13-6, the Updated Plan would result in the following intersections having service levels that exceed the Town's thresholds:

- Lake Mary Road/Lakeview Road
- Main Street/Center Street
- Main and Mountain Blvd
- Meridian and Sierra Park Road
- ~~Minaret Road/Main Street~~
- ~~Main Street/Forest Trail~~
- ~~Main Street Westbound/Meridian Boulevard~~
- Main Street ~~Eastbound~~/Minaret Road~~Meridian Boulevard~~
- Meridian Boulevard/Majestic Pines Drive
- Minaret Road/Forest Trail
- Minaret Road/Old Mammoth Road
- Azimuth Road/Meridian Boulevard

Traffic Signal Warrants

Similar to the existing conditions analysis, a traffic signal warrant analysis was conducted for year 2024 traffic conditions, based upon the most recent MUTCD. As shown in Table 4.13-7 on page 4-331, at buildout of the Updated Plan, traffic signals are warranted at ~~3~~ten of the 14~~12~~ unsignalized study area intersections.

Table 4.13-6

Unmitigated Winter Saturday P.M. Peak-Hour Intersection LOS Summary

No.	Intersection		Unmitigated Traffic Control	Approach	Existing Condition (2004)[1]	Project (2024)[2]
1	Kelly	Lake Mary	Two-Way Stop Controlled	Northbound	B	~~E~~D
				Westbound	A	A
2	Lakeview	Lake Mary	Two-Way Stop Controlled	Southbound	D	**F**
				Eastbound	A	A
3	Canyon	Lake Mary	Traffic Signal	Total Intersection	A	B
4	Center	Main	Two-Way Stop Controlled	Northbound	F	**F**
				Southbound	C	F
				Eastbound	A	B
				Westbound	B	C
5	Minaret	Main	Traffic Signal	Total Intersection	C	~~F~~E
6	Forest Trail	Main	Two-Way Stop Controlled	Northbound	D	D
				Southbound	F	**F**
				Eastbound	A	~~C~~B
				Westbound	B	B
7	Old Mammoth	Main	Traffic Signal	Total Intersection	C	~~B~~B~~A~~
8	Sierra Park	Main	Two-Way Stop Controlled	Northbound	B	~~C~~B
				Westbound	A	~~B~~A
9	Meridian	Main WB	Two-Way Stop Controlled	Northbound	B	~~F~~B
				Westbound	A	A
10	Meridian	Main EB	Two-Way Stop Controlled	Northbound	B	C~~F~~
				Southbound	B	~~C~~C~~B~~
11	U.S. 395 NB	Main/SR 203	Two-Way Stop Controlled	Northbound	C	~~D~~B
				Eastbound	A	A
12	U.S. 395 SB	Main/SR 203	Two-Way Stop Controlled	Southbound	B	B
13	Majestic Pines	Meridian	Two-Way Stop Controlled	Southbound	B	**F**
				Eastbound	A	A
14	Old Mammoth	Meridian	Traffic Signal	Total Intersection	B	~~C~~D
15[a]	Sierra Park	Meridian	4-Way Stop Controlled	Northbound	A	B~~A~~
				Southbound	A	B~~A~~
				Eastbound	A	~~B~~C~~A~~
				Westbound	A	~~B~~F~~A~~
16	Minaret	Forest Trail	Two-Way Stop Controlled	Northbound	B	C
				Southbound	A	A
				Eastbound	**F**	**F**
				Westbound	F	**F**
17	Minaret	Old Mammoth	Two-Way Stop Controlled	Northbound	B	**F**
				Southbound	C	**F**
				Eastbound	A	A
				Westbound	A	A
18[b]	Minaret	Meridian	Traffic Signal	Total Intersection	C	D
19	U.S. 395 NB	Hot Creek Fish Hatchery	Two-Way Stop Controlled	Northbound	--	A
				Eastbound	B	E
				Westbound	B	C
20	U.S. 395 SB	Hot Creek Fish Hatchery	Two-Way Stop Controlled	Southbound	A	A
				Eastbound	--	C
				Westbound	A	C

Table 4.13-6 (Continued)

Unmitigated Winter Saturday P.M. Peak-Hour Intersection LOS Summary

No.	Intersection		Unmitigated Traffic Control	Approach	Existing Condition (2004)[1]	Project (2024)[2]
21	Azimuth	Meridian	Two-Way Stop Controlled	Northbound	**F**	**F**
				Southbound	E	**F**
				Eastbound	A	A
				Westbound	A	B
22	Mountain	Main	Two-Way Stop Controlled	Northbound	E	**F**
				Southbound	E	**F**
				Eastbound	A	A
				Westbound	B	C

[a] *Analysis conducted for weekday conditions.*
[b] *This intersection could potentially improved with a roundabout.*

Note: Bold text indicates that LOS exceeds threshold. The Town threshold is an LOS D or better on a typical winter Saturday peak-hour for signalized intersections and for primary through movements for unsignalized intersections along arterial and collector streets.

Source: ~~Mammoth Lakes General Plan — Proposed Action Alternatives Analysis, prepared by~~ LSC Transportation Consultants, Inc., ~~August 17, 2005~~ 2006

Policies and Implementation Measures in the Updated Plan

The Updated Plan proposes the adoption of ~~polices~~ policies and implementation measures to reduce potential impacts regarding level of service standards. These policies and measures are described below.

II.l.C.a.2 As part of the project review process, conditions of approval and implementation of the Development Impact Fee schedule, the Town Shall require that new development adequately mitigates its impact on: fire protection, water availability, public safety, transit services, parking availability, street capacity, workforce housing availability, road capacity, and pedestrian connectivity.

VII.1.B.a.l The Town shall plan for, design, and regulate roadways in accordance with the functional classification system described in this element, as shown in the Circulation Plan.

VII.1.B.a.4 At intersections on arterial roads, ensure that traffic control devices and other traffic safety and operational improvements are installed for the safe and efficient movement of all types of traffic and pedestrians, and provide levels of service that

Table 4.13-7

Signal Warrants at Buildout of Updated Plan (Year 2024)

No.	Intersection		Unmitigated Traffic Control	
	North/South	East/West	Control	2024 Project
1	Kelly	Lake Mary	Two-Way Stop Controlled	No
2	Lakeview	Lake Mary	Two-Way Stop Controlled	**Yes**
4	Center	Main	Two-Way Stop Controlled	**Yes**
6	Forest Trail	Main	Two-Way Stop Controlled	~~**Yes**~~No
9	Meridian	Main WB	Two-Way Stop Controlled	**Yes**
10	Meridian	Main ED	Two-Way Stop Controlled	**Yes**
11	US 395 NB	Main/SR 203	Two-Way Stop Controlled	No
13	Majestic Pines	Meridian	Two-Way Stop Controlled	**Yes**
15	Sierra Park	Meridian	All-Way Stop Controlled	**Yes**
16	Minaret	Forest Trail	Two-Way Stop Controlled	**Yes**
17	Minaret	Old Mammoth	Two-Way Stop Controlled	**Yes**
19	US 395 NB	Hot Creek Fish Hatchery	Two-Way Stop Controlled	No
21	Azimuth	Meridian	Two-Way Stop Controlled	**Yes**
53	Mountain	Main	Two-Way Stop Controlled	**Yes**

Bold Text Indicates Peak-Hour Signal Warrant is Met

Source: LSC Transportation Consultants, Inc., ~~2005~~ 2006

conform to these policies. Lighting will be evaluated to ensure it meets safety standards and conforms to adopted Town standards.

VII.1.B.a.6 To increase roadway capacity, the Town shall investigate and give preference to alternatives to the construction of new traffic signals, including modern roundabouts and prohibitions on turn movements.

VII.1.B.a.8 Work with adjacent jurisdictions to share land use and transportation information and transportation modeling results. Coordinate transportation planning with the Mono County Local Transportation Commission, Caltrans, and the US Forest Service to address the impacts of new development; the transportation system components necessary to mitigate those impacts; the capital, operating, and maintenance cost of the components; and the costs covered by established funding sources.

VII.1.B.b.l The Town shall pursue all appropriate federal, state, and local funding sources for street and highway improvements.

VII.1.B.b.2 The Town shall strive to secure financing in a timely manner for all components of the transportation system, to achieve and maintain adopted level of service standards, and to address potential safety problems.

VII.1.B.b.3 The Town shall implement improvements necessary to address the increase (in construction, improvements, and maintenance of existing and new roadways). Mitigation of significant project-related impacts may require improvements beyond those addressed by the Town of Mammoth Lakes Capital Improvement Program and the Town of Mammoth Lakes Air Quality Management Plan, and Particulate Emissions Regulations.

VII.1.B.b.4 Require new development to dedicate right-of-way consistent with adopted road standards. New development, as warranted, shall pay its fair share of roadway, pedestrian, transit, bicycle, and airport improvements.

VII.1.B.c.1 The Town shall require the preparation of a traffic impact analysis report to identify impacts and mitigation measures for projects that may potentially result in significant traffic impacts. Level of service shall be computed according to the methodology presented in the Highway Capacity Manual. Cumulative impacts shall be modeled assuming full build-out of the General Plan.

VII.1.D.a.3 Work with Caltrans to address existing deficiencies on State Route 203, such as frontage road operational problems, driveway issues, snow storage and removal, and poor pedestrian conditions, while improving the visual and pedestrian qualities of the corridor.

VII.2.A.a.2 Transportation studies for major development projects that address potential use of bicycle routes, pedestrian trail, and public transportation to mitigate traffic impacts shall be required.

VII.2.B.a.1 The Town shall require major traffic generators, including the school district and ski resorts, to develop and implement trip reduction measures. In particular, ski area operations should be managed to reduce the overall P.M. peak traffic generation and to disperse these trips between the various mountain portals.

VII.3.B.a.1 The Town shall work with the Mono Local Transportation Commission and Caltrans to review roadway standards and ensure that roadways are developed to accurately and adequately serve multi-modal travel demands.

VI.2.C.a.2 The Town shall continue to investigate the feasibility of roundabouts throughout the community.

As stated in this section, policies and implementation measures contained in the General Plan would require that traffic control devices and other traffic safety and operational improvements be installed for the safe and efficient movement of all types of traffic and pedestrians, and provide levels of service that conform to the Updated Plan policies (VII.1.B.a.4), that the Town implement improvements necessary to address the increase (in construction, improvements, and maintenance of existing and new roadways), which may require mitigation of significant project-related impacts beyond those addressed by the Town of Mammoth Lakes Capital Improvement Program (VII.1.B.b.3), and that the Town require the preparation of a traffic impact analysis report to identify impacts and mitigation measures for projects that may potentially result in significant traffic impacts (VII.1.B.c.1). In particular, Implementation Measure II.1.C.a.2 requires that the Town require that new development adequately mitigates its impacts on street capacity through the project review process, conditions of approval and implementation of Development Impact Fees.

Additionally, specific transportation improvements are recommended below as mitigation measures to achieve acceptable service levels at significantly impacted intersections. If the Updated Plan were adopted, the Master Facility Plan would be amended to include the street improvements below that are provided as mitigation measures to reduce impacts to level of service on the street network. These improvements would be financed through the Town's Capital Improvement Program and/or payment of Development Impact Fees by future development projects. Analysis of traffic impacts on a project-by-project basis, along with the Updated Plan implementation measures and recommended mitigation measures, would reduce impacts to service levels to a less than significant level.

Mitigation Measures

In addition to the implementation measures stated above, the following mitigation measures are required to ensure that impacts to service levels at impacted intersections are reduced to a less than significant level.

4.13-~~2~~1 The Town shall amend the Master Facility Plan to include the mitigation measures necessary to reduce impacts to the level of service on the street system. The Town shall review the Development Impact Fees to ensure that sufficient funds will be available to make the necessary improvements.

4.13-~~3~~2 Lakeview Road/Lake Mary Road: This intersection shall be improved to include separate southbound left and right-turn lanes and a ~~westbound~~ eastbound

acceleration lane along Lake Mary Road (to accommodate two-stage left turns from Lakeview Drive to Lake Mary Road).

4.13-~~4~~3 Main Street/Center Street: This intersection shall be improved to include a traffic signal or roundabout. A traffic signal would be warranted and would operate at LOS C under build out of the Updated Plan at this location. ~~Alternatively, a dual lane roundabout with single-lane northbound and southbound approaches, a 75-foot island diameter, a 32-foot circulating width, and a 139-foot inscribed circle diameter would operate at LOS B.~~ In addition to addressing the LOS deficiency, provision of a signal or a roundabout would greatly improve Main Street pedestrian crossing conditions.

4.13-~~5~~4 Minaret Road/Main Street Intersection: This intersection shall be improved to include protected left-turn phasing on all approaches. ~~and eastbound right-turn overlap signal phasing at the existing signal.~~

~~4.13-6 Main Street/Forest Trail Intersection: There are three primary potential mitigation measures for this LOS deficiency: construct a roundabout, construct a traffic signal, or prohibit left turns out of the southbound minor street approach. While prohibiting left turns at this intersection would inconvenience drivers, constructing a roundabout or traffic signal would actually encourage drivers to use Forest Trail as a cut-through route, as the delay of the southbound approach would be greatly reduced. Prohibiting southbound left-turns, on the other hand, would only slightly inconvenience drivers by requiring them to drive to the Center Street intersection to turn around (which could potentially be aided through the provision of a roundabout at Center Street). However, this inconvenience may work to lessen the exiting Forest Trail cut-through problem, thereby having a beneficial impact to Town-wide circulation. The prohibition of southbound left-turn movements at the intersection would result in a worse approach LOS of D upon build out of the Updated Plan.~~

~~4.13-7 Main Street/Meridian Boulevard: Because Main Street is a divided roadway at its intersection with Meridian Boulevard with a substantial median, the intersection of Main Street and Meridian Boulevard operates as two separate intersections. The northbound approach at the Main Street Eastbound/Meridian Boulevard intersection and the northbound approach at the Main Street Westbound/Meridian Boulevard intersection exceed LOS thresholds in 2024 under the Updated Plan. In the case that a traffic signal is built at both intersections, they shall be coordinated to ensure that queues at the northern intersection would not form back into the southern intersection. Traffic signals would operate at a LOS B. Alternatively, one roundabout could be constructed that combined the two intersections. A dual-lane roundabout with single-lane northbound and southbound approaches, an 85-foot~~

~~island diameter, a 32-foot circulating width, and a 149-foot inscribed circle diameter would operate at LOS A upon build out of the Updated Plan.~~

4.13-~~8~~5 Majestic Pines/Meridian Boulevard Intersection: This intersection shall be improved by either a traffic signal, which would cause the intersection to operate at LOS ~~B~~C or better; or ~~Or,~~ Meridian Boulevard shall be reduced to one lane in each direction in addition to constructing a single-lane roundabout with a 60-foot island diameter and a 20-foot circulating width. This roundabout would operate at LOS A. The installation of a traffic signal would not require any widening of the roadway.

4.13-~~9~~6 Minaret Road/Forest Trail Intersection: This intersection shall be improved by the construction of a roundabout, which would operate a LOS B upon build out of the Updated Plan.

4.13-~~10~~7 Minaret Road/Old Mammoth Road Intersection: Due to the high volume of traffic that is expected on all four approaches upon build out of any of Updated Plan, a roundabout or traffic signal is recommended. If a traffic signal were installed, the following improvements would be required for the Updated Plan, which would result in an intersection LOS D~~.~~:

- Construct a traffic signal with protected left-turn phasing.
- Construct a separate northbound left-turn lane and a northbound through/right shared lane (remove left/through and right-turn lanes).
- Construct separate southbound left, through, and right-turn lanes (remove left/through/right shared).

Alternatively, if a roundabout with a 75-foot island diameter, 20-foot circulating width, and 16-foot entry width were constructed~~.~~; ~~it~~ the intersection would operate at LOS C.

4.13-~~11~~8 Meridian Boulevard/Azimuth Drive: This intersection is forecast to exceed LOS thresholds on the northbound and southbound approaches upon build out of the Updated Plan. This impact shall be mitigated by constructing a traffic signal. ~~or roundabout. If a roundabout with a 60-foot island diameter, 20-foot circulating width, and 15-foot entry lanes were constructed; the intersection would operate at a LOS B or better under all 2024 scenarios. The intersection would operate at LOS D if a traffic signal with split phasing on all approaches were built in addition to a separate northbound left-turn lane.~~

4.13-9 Meridian Boulevard/Sierra Park Road: With growth in nearby land uses, this intersection is forecast to exceed LOS thresholds on the westbound approach with

the existing all-way stop control. This impact shall be mitigated by constructing a traffic signal, which would operate at LOS C.

4.13-10 Main Street/Mountain Boulevard: This intersection is forecast to provide LOS F conditions on the northbound and southbound approaches, with more than four vehicle-hours of delay on each. This impact shall be mitigated by constructing a traffic signal, which would operate at LOS D.

These improvements identified in the mitigation measures above would be financed through the Town's Capital Improvement Program and/or payment of Development Impact Fees by future development projects. The Town collects Development Impact Fees funds from all new projects to fund these improvements. The Town has a traffic-monitoring program to determine the timing of the improvements. Additionally, future development projects will be required to prepare a traffic study. If a project triggers the necessary improvement or requires additional improvements, it would be required to install the improvement or pay a Development Impact Fee sufficient for the Town to construct the necessary improvement as identified in the Circulation Element and policy plans such as the Sidewalk Master Plan, Trail System Master Plan, and the Transit Plan.

Level of Significance After Mitigation

Table 4.13-8 on page 4-337 shows the future 2024 service levels at the study intersections with implementation of the recommended mitigation measures. As shown in Table 4.13-8, the ~~10~~nine impacted intersections would operate at an acceptable service level with the improvements that would result from the incorporation of mitigation. The intersection of U.S. Highway 395 Northbound and Hot Creek Fish Hatchery would operate a LOS E without the mitigation identified in the SSEIR for the Mammoth Yosemite Airport Improvement Project. ~~However, this intersection would not exceed the LOS standard as it is not an arterial or collector street.~~ Incorporation of the Updated Plan policies and implementation measures from the SSEIR for the Mammoth Yosemite Airport Improvement Project, along with the traffic improvement mitigation measures outlined above, would reduce traffic impacts to less than significant levels.

Issue 4.13-3: *Would development associated with implementation of the Updated Plan result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?*

Discussion: The Updated Plan does not propose or require any modifications to the Mammoth Yosemite Airport Master Plan or the Airport Land Use Plan for the Mammoth Yosemite Airport. Thus, air traffic patterns would not be affected by development associated with implementation of the Updated Plan. To ensure that less than significant impacts occur with regard to the air traffic patterns the Updated Plan includes several policies regarding aviation airport planning and facilities.

Table 4.13-8

Mitigated Winter Saturday P.M. Peak-hour Intersection LOS Summary[a]

No.	Intersection		Proposed Mitigation	Existing Condition (2004)	2024 Project
1	Kelly	Lake Mary	None	B	D
2	Lakeview	Lake Mary	Add separate southbound left and right-turn lanes and a eastbound acceleration lane along Lake Mary Road	D	A
3	Canyon	Lake Mary	None	A	B
4	Center	Main	Construct traffic signal (LOS C) or roundabout (LOS B)	A	≥C or better
5	Minaret	Main	Add protected turn phasing to the signalized intersection	C	D
6	Forest Trail	Main	None	D	F[b]
7	Old Mammoth	Main	None	C	B
8	Sierra Park	Main	None	B	B
9	Meridian	Main WB	None	B	B
10	Meridian	Main EB	None	B	C
11	U.S. 395 NB	Main/SR 203	None	C	B
12	U.S. 395 SB	Main/SR 203	None	B	B
13	Majestic Pines	Meridian	Reduce Meridian Blvd. to one lane in each direction with roundabout (A) or traffic signal (~~B~~C)	B	≥C or better
14	Old Mammoth	Meridian	None	B	D
15	Sierra Park	Meridian	Construct a traffic signal~~None~~	A	C
16	Minaret	Forest Trail	Construct roundabout	**F**	B
17	Minaret	Old Mammoth	Construct a roundabout (B) or traffic signal (D)	B	≥D or better
18	Minaret	Meridian	None	C	D
19	U.S. 395 NB	Hot Creek Fish Hatchery	None	B	E
20	U.S. 395 SB	Hot Creek Fish Hatchery	None	A	C
21	Azimuth	Meridian	Construct a traffic signal	**F**	D
22	Mountain	Main	Construct traffic signal	**F**	D

~~Note:~~[a] The Town threshold is an LOS D or better on a typical winter Saturday peak-hour for signalized intersections and for primary through movements for unsignalized intersections along arterial and collector streets. ~~Intersection 19, U.S. 395 NB and Hot Creek Fish Hatchery is not an arterial or collector street.~~ For unsignalized intersections, if the minor street approach at an unsignalized two-way stop-controlled intersection operates at LOS E or F, then mitigation is required. For the purposes of this analysis, a LOS deficiency is assumed to occur at an unsignalized intersection only if an individual minor street movement operates at LOS E or F and total minor approach delay exceeds 4 vehicle-hours for a single lane approach and 5 vehicle-hours for a multi-lane approach.

[b] *Delay on minor approach is less than 4 vehicle hours. Therefore, the impact is less than significant.*

Source: LSC Transportation Consultants, Inc., ~~2005~~ 2006

Policies and Implementation Measures in the Updated Plan

The Updated Plan proposes the adoption of the following ~~polices~~policies and implementation measures to reduce potential impacts regarding air traffic patterns:

VII.3.A.a.1 The Town shall promote the maintenance and improvement of general and commercial aviation facilities in a manner that is compatible with surrounding land uses.

VII.3.A.a.3 Implement airport improvements consistent with the Mammoth Yosemite Airport Master Plan and the Airport Land Use Plan for the Mammoth Yosemite Airport.

VII.3.A.a.4 Seek state and federal funding for Airport improvements.

All development projects within the jurisdiction of the Airport Land Use Plan would undergo environmental and design review on a site-specific basis, per FAA requirements to ensure that facilities and structures would be located in a way that would not have substantial safety affects. In addition, the policies and implementation measures contained in the Updated Plan would ensure that airport improvements are consistent with the Mammoth Yosemite Airport Master Plan and the Airport Land Use Plan for the Mammoth Yosemite Airport (VII.3.A.a.3) and that the Town promote the maintenance and improvement of general and commercial aviation facilities in a manner that is compatible with surrounding land uses (VII.3.A.a.1). Therefore, the Updated Plan's policies and implementation measures, along with project-specific FAA design and site review, would reduce impacts regarding aviation facilities and associated air traffic patterns to a less than significant level

Mitigation Measures

The Updated Plan would not result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks and therefore, no mitigation measures are required.

Level of Significance After Mitigation

Impacts regarding aviation facilities and associated air traffic patterns would be less than significant.

Issue 4.13-4: *Would development associated with implementation of the Updated Plan substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?*

Discussion: The Updated Plan does not specify design features for roads. Subsequent CEQA review would be conducted at such time as specific road improvements are proposed. The information needed to perform an environmental evaluation of design features is not available now and it is not reasonable to assume that unsafe designs would be approved. As future development projects are implemented, site-specific design review per CEQA requirements would be conducted by the Town of Mammoth Lakes, including Mammoth Lakes Fire Protection District~~the Fire Department~~, to ensure that design features or incompatible uses do not substantially increase hazards.

Policies and Implementation Measures in the Updated Plan

The Updated Plan proposes the adoption of the following ~~polices~~policies and implementation measures to reduce potential impacts regarding design features or incompatible uses:

II.1.A.b.1 School facilities shall be located to allow for pedestrian, bicycle, and vehicular access, including the provisions of traffic calming measures, where appropriate, in the vicinity of schools.

VII.1.A.a.1 The Town shall work with the Parks and Recreation Commission to continue implementation of the Mammoth Lakes Trail System Plan and the General Bikeway Plan to establish a comprehensive and safe system of bicycle routes and pedestrian trails for short range commuting, shopping trips, and for recreational use.

VII.1.A.a.3 The Town shall provide a high-quality pedestrian environment (including amenities such as benches, shuttle shelters, street lights, protected roadway crossings, and snow removal along sidewalks) throughout all commercial districts to encourage pedestrian travel as well as economic activity.

VII.1.B.a.l The Town shall plan for, design, and regulate roadways in accordance with the functional classification system described in this element, as shown in the Circulation Plan.

VII.1.B.a.4 At intersections on arterial roads, ensure that traffic control devices and other traffic safety and operational improvements are installed for the safe and efficient movement of all types of traffic and pedestrians, and provide levels of service that conform to these policies. Lighting will be evaluated to ensure it meets safety standards and conforms to adopted Town standards.

II.l.C.a.2 As part of the project review process, conditions of approval and implementation of the Development Impact Fee schedule, the Town Shall require that new development adequately mitigates its impact on: fire protection, water availability, public safety, transit services, parking availability, street capacity, workforce housing availability, road capacity, and pedestrian connectivity.

VII.l.D.a.2 The Town shall, where feasible, separate pedestrian traffic from travel lanes and along the shoulders of arterial roads. Establish travel patterns for the safe movement of pedestrians on these roads and along school routes with sufficient pedestrian activity.

VII.3.B.a.3 The Town shall work with the Mono Local Transportation Commission, Mono County, and Caltrans to promote the development of crosswalks, sidewalks, neck-downs for crosswalks, public sitting areas, pedestrian trails, bike tails, and cross-country ski trails in the new development areas in order to enhance safety, complement the non-motorized vehicle trails, and promote a pedestrian atmosphere locally and regionally.

VI.2.A.a.2 Narrower roads shall be permitted for areas that serve lower density development provided that they meet the requirements of the local public safety agencies.

VI.2.C.a.1 The Town shall continue to work and partner with Caltrans on improving pedestrian safety along Main Street.

VI.2.C.a.5 The Town shall narrow roadways where appropriate to reduce vehicle speeds and reduce total paved areas.

VII.1.B.d.2 The Town should consider the modification of street geometry to address documented traffic speed, neighborhood cut-through, or safety issues. Any modification must be carefully evaluated in light of potential emergency response and snow removal impacts.

While policies and measures in the Updated Plan do not specifically address design features for roads, Policy II.1.C.a.2 requires that as part of the project review process, conditions of approval and implementation of the Development Impact Fee schedule, that new development would adequately mitigate its potential impact on public safety, which includes hazards due to a design feature or incompatible uses. Emergency providers would review any modifications to roadways to ensure that emergency service would not be impacted. Implementation of the Town design review requirements, along with the Updated Plan policies and implementation measures,

would reduce impacts regarding hazards due to a design feature or incompatible uses to a less than significant level.

Mitigation Measures

Implementation of the Updated Plan would not result in impacts regarding hazards due to a design feature or incompatible uses. Therefore, no mitigation measures are required.

Level of Significance After Mitigation

Impacts regarding design features or incompatible uses would be less than significant.

Issue 4.13-5: *Would development associated with implementation of the Updated Plan result in inadequate emergency access?*

Discussion: The Updated Plan would allow intensification of land uses, including at the major resort nodes of North Village, Snow Creek and Juniper Ridge. The North Village site encompasses land at the intersection of Minaret and SR 203, which represent the two emergency evacuation routes. As shown in the tables above, the intersection of Minaret at Main would operate at buildout (on a peak Saturday) at a Level of Service D after application of the recommended mitigation measures. Major catastrophes that could result in mass evacuations include snowstorms, wildfires and earthquakes. If a natural disaster were to occur at a time when roads are blocked or restricted, inadequate emergency access could occur.

Policies and Implementation Measures in the Updated Plan

The Updated Plan proposes the adoption of the following ~~polices~~policies and implementation measures to reduce potential impacts regarding emergency access:

II.3.A.b.6 The Town shall maintain an Emergency Plan for Mammoth Lakes which sets forth the responsibilities, functions, and operations of the Town government and its interrelationship with other agencies and jurisdictions which provide services during an emergency.

II.3.A.b.7 The Town shall develop and maintain an emergency notification and information system to minimize loss of life during a time of emergency.

II.4.C.a.2 The Town shall establish appropriate evacuation routes, and incorporate them into the Emergency Preparedness and Response Plan.

VII.1.B.c.4 To aid the access of emergency vehicles and the evacuation of residents and visitors, secondary access routes should be provided and maintained to all portions of the community, consistent with the Mammoth Lakes Fire Protection District requirements.

The Updated Plan includes ~~polices~~policies and implementation measures to ensure that the Town of Mammoth Lakes Emergency Operations Plan for Mammoth Lakes which was adopted in 2001 and revised in 2004, would be maintained and that appropriate evacuation routes would be incorporated into the Emergency Preparedness and Response Plan. In addition, all development projects would be subject to project-specific environmental and design review, which includes review of the provision of adequate emergency access. The Updated Plan, as with the existing General Plan, allows for future growth of the community. The increase in growth would result in an increase in traffic as well as an increase in the number of persons that may need to be evacuated. The Town encounters potentially restricted access routes during the winter months. In the event that a natural disaster were to occur at a time when access were restricted, evacuation would be more difficult. However, secondary access routes, as required by Measure VVI.1.B.c.4 are provided and maintained. With the various policies and measures regarding emergency access and the Town's Emergency Operations Plan (2001), development associated with implementation of the Updated Plan would result in a less than significant impact with regard to emergency access.

With regard to implementation measures that could result in impacts, Measure VI.2.A.a.2 allows narrower roads in areas that serve lower density development and Measure VII.1.B.d.2 allows the Town to consider the modification of street geometry to address documented traffic speed, neighborhood cut-through, or safety issues. In both cases, the measures require that public safety must be maintained, which would occur through evaluation of the street by agencies providing emergency services. Therefore, no impact would result from the implementation of these measures.

Mitigation Measures

The Updated Plan would result in a less than significant impact with regard to emergency access. Therefore, no mitigation measures are required.

Level of Significance After Mitigation Measures

With the various policies and measures regarding emergency access and the Town's Emergency Operations Plan (2001), development associated with implementation of the Updated Plan would result in a less than significant impact with regard to emergency access.

Issue 4.13-6: *Would development associated with implementation of the Updated Plan result in inadequate parking capacity?*

Discussion: As stated in the Existing Conditions section, many of the commercial areas within the Town currently lack adequate parking supply as determined by the Town's municipal code.[69] Buildout of the Updated Plan as with the existing General Plan, would result in more cars within the Town. Accordingly, with respect to parking, while the Town requires all new development to have adequate, convenient parking, the increased traffic may become a burden on existing commercial and retail centers as more people frequent those businesses, thus creating greater competition of the fixed number of parking spaces.

Policies and Implementation Measures in the Updated Plan

The Updated Plan proposes the adoption of ~~polices~~policies and implementation measures to reduce potential parking impacts. These policies and measures are described below.

II.l.C.a.2 As part of the project review process, conditions of approval and implementation of the Development Impact Fee schedule, the Town Shall require that new development adequately mitigates its impact on: fire protection, water availability, public safety, transit services, parking availability, street capacity, workforce housing availability, road capacity, and pedestrian connectivity.

IV.l.F.c.4 Encourage the use of shared parking facilities, such as through parking districts or other mechanisms, in a manner that maintains and, where feasible, enhances accessibility to recreation, commercial, and residential areas within and adjacent to the community.

IV.1.F.d.3 In cooperation with Village businesses and property owners, undertake a comprehensive review of parking needs in the Village and develop a comprehensive strategy for parking, which may address, but not be limited to, consideration of the development of a Town owned lot, formation of a parking improvement district, developer contributions to parking improvements, and other measures as appropriate.

VII.1.B.c.1 The Town shall require the preparation of a traffic impact analysis report to identify impacts and mitigation measures for projects that may potentially result in significant traffic impacts. Level of service shall be computed according to the

[69] *Mammoth Lakes2005 Parking Study, prepared by LSC Transportation Consultants, Inc., May 20, 2005.*

methodology presented in the Highway Capacity Manual. Cumulative impacts shall be modeled assuming full build-out of the General Plan.

VII.1.F.a.l The Town shall reevaluate the parking requirements presented in Title 17 (Zoning) of the Town Municipal Code to ensure that new development provides adequate and appropriate parking.

VII.1.F.a.2 The Town shall evaluate options for shared parking, covered parking, fee parking, and other parking alternatives to ensure that there is adequate parking available Town-wide.

VII.1.F.a.4 The Town shall encourage the shared use of existing parking facilities for day visitor parking (such as the use of school parking on weekends and in the summer and the use of golf course parking in the winter) and develop tour bus parking facilities served by the community transit system.

VII.1.F.a.5 Parking facilities shall be strategically located to promote visitors parking their vehicles and using alternate modes of transportation.

VII.2.B.a.2 Transit and parking management strategies that encourage visitors to leave their private vehicles at their lodging property throughout the course of their stay shall be developed.

As stated in this section, policies and implementation measures contained in the General Plan would require that as part of the future project review process, conditions of approval and implementation of the Development Impact Fee schedule, that each development adequately mitigate its impact on parking availability (II.l.C.a.2). All development projects would be required to comply with Title 17 (Zoning) of the Town Municipal Code parking standards. In addition, Implementation Measure VII.1.F.a.1 requires that the Town reevaluate the parking requirements in Title 17 to ensure that the requirements result in adequate parking.

The Updated Plan also contains a measure that requires the Town to evaluate options for shared parking, covered parking, fee parking and other parking alternatives (IV.l.F.c.4). These implementation measures as well as compliance with the code requirements would ensure that future development would provide adequate parking. Therefore, compliance with the Town Municipal Code parking requirements and implementation of the Updated Plan policies and implementation~~mitigation~~ measures would ensure that parking impacts are reduced to a less than significant level.

Mitigation Measures

No mitigation measures beyond the policies and/or implementation measures identified in the Updated Plan are required.

Level of Significance After Mitigation

Impacts regarding parking would be less than significant.

Issue 4.13-7: *Would development associated with implementation of the Updated Plan conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?*

Discussion: Implementation of the Updated Plan would create a significant demand for new labor, which would in turn add to the need for public transit options. Currently, public transportation facilities do not meet the needs of a sizeable portion of the Town's labor force. The project contains numerous policies and implementation measures to enhance alternative transportation facilities and programs (pedestrian, bicycle, bus).

Policies and Implementation Measures in the Updated Plan

The Updated Plan proposes the adoption of ~~polices~~policies and implementation measures to reduce potential impacts regarding alternative transportation. These policies and measures are described below.

I.7.B.c.3 The Town shall, in its review of proposed development projects, incorporate such measures which reduce projected total vehicle miles traveled. Examples of such measures include, but are not limited to, circulation system improvements, mass transit facilities, private shuttles, and design and location of facilities to encourage pedestrian circulation.

II.1.B.b.1 Require that new development areas and associated community-wide facilities (open space resources, parks libraries, etc.) be linked and oriented to existing developed areas of the community through road networks, public transit systems, open space systems, bicycle, and pedestrian systems.

II.l.C.a.2 As part of the project review process, conditions of approval and implementation of the Development Impact Fee schedule, the Town Shall require that new development adequately mitigates its impact on: fire protection, water availability, public safety, transit services, parking availability, street capacity, workforce housing availability, road capacity, and pedestrian connectivity.

VI.1.D.a.1 The Town, through development approvals and other Town programs shall support the development of land use patterns and mixed use developments that integrate residential and non-residential land uses, such that residents and visitors may easily walk or bike to shopping, services, and employment and leisure activities.

VI.1.D.a.2 Require that new developments are linked to community-wide facilities (open space resources, parks, libraries, etc.) through road networks, public transit systems, open space systems, bicycle, and pedestrian routes.

VII.1.A.a.1 The Town shall work with the Parks and Recreation Commission to continue implementation of the Mammoth Lakes Trail System Plan and the General Bikeway Plan to establish a comprehensive and safe system of bicycle routes and pedestrian trails for short range commuting, shopping trips, and for recreational use.

VII.1.A.a.2 A paved trail or sidewalk connecting the North Village area with commercial properties along Main Street is a high priority.

VII.1.A.a.3 The Town shall provide a high-quality pedestrian environment (including amenities such as benches, shuttle shelters, street lights, protected roadway crossings, and snow removal along sidewalks) throughout all commercial districts to encourage pedestrian travel as well as economic activity.

VII.1.A.a.4 New bikeways shall be linked with other bikeways and parks to provide safe continuous routes.

VII.1.A.a.5 The Town shall pursue all available sources of funding for the development and improvement of trails for non-motorized transportation.

VII.1.A.a.6 The Town, through the development approval process, shall require developers to finance and install pedestrian walkways, and multi-use trails in new development, consistent with adopted plans and policies, or as appropriate and necessary to address circulation needs.

VII.1.A.a.7 Pedestrian overpasses are encouraged and incentivized.

VII.1.A.a.8 An interconnected pedestrian network shall link Meridian Boulevard, Main Street, Minaret Road, and Old Mammoth Road as per the Sidewalk Master Plan.

VII.1.B.a.4 At intersections on arterial roads, ensure that traffic control devices and other traffic safety and operational improvements are installed for the safe and efficient

movement of all types of traffic and pedestrians, and provide levels of service that conform to these policies. Lighting will be evaluated to ensure it meets safety standards and conforms to adopted Town standards.

VII.1.B.b.4 Require new development to dedicate right-of-way consistent with adopted road standards. New development, as warranted, shall pay its fair share of roadway, pedestrian, transit, bicycle, and airport improvements.

VII.1.D.a.3 Work with Caltrans to address existing deficiencies on State Route 203, such as frontage road operational problems, driveway issues, snow storage and removal, and poor pedestrian conditions, while improving the visual and pedestrian qualities of the corridor.

VII.1.F.a.6 The use of alternative transportation modes as a means of reducing parking demand shall be encouraged.

VII.1.F.a.8 Promote the use of shuttle transit services from development projects to major destinations in order to reduce parking demand.

VII.1.F.a.9 The Zoning Code shall be revised to include bicycle parking standards in the Zoning Code. End of trip facilities such as bike lockers shall be encouraged.

VII.2.A.a.2 Transportation studies for major development projects that address potential use of bicycle routes, pedestrian trail, and public transportation to mitigate traffic impacts shall be required.

VII.2.A.a.3 Transient products shall be required to pay an annual Transit and Transportation Fee to the Town to be utilized for the provision of expanded transit services.

VII.2.A.a.4 The Town shall work with other responsible agencies and organizations, including the Mono County Local Transportation Commission, Mono County, the US Forest Service, and the Mammoth Mountain Ski Area to ensure that all of the regions workforce, residents, and visitors have adequate transit opportunities.

VII.2.B.a.2 Transit and parking management strategies that encourage visitors to leave their private vehicles at their lodging property throughout the course of their stay shall be developed.

VII.2.B.a.3 Pursue available sources of funding for capital and operating costs of transit services. Stable local sources of operation funding, in particular, are recognized as essential for the long-term success of the public transit program.

VII.2.B.a.4 Consider the transit needs of seniors, disabled, low-income, and transit-dependent persons in making decisions regarding transit service, and in compliance with the Americans with Disabilities Act.

VII.2.B.b.1 The Town shall encourage the clustering of land use density near established transit stops and the provision of convenient pedestrian connections to transit stops.

VII.2.B.b.2 The development of an inter-modal transit center and secondary facilities to provide convenient transfers between different modes of transport, an attractive place to wait for public transit services, and a centralized location at which to obtain information on alternative modes of transportation.

VII.2.B.b.3 Require new development to provide sheltered public transit stops with turnouts where appropriate. Consider development of turnouts in existing developed areas when roadway improvements are made, or as deemed necessary for traffic flow and public safety.

VII.2.C.a.2 The Town shall actively pursue funding mechanisms to expand and improve commuter transit opportunities within the region.

VII.3.A.a.5 Encourage the provision and use of transit and shuttle services connecting the Town with the Airport, rather than the use of rental cars.

VII.3.B.a.3 The Town shall work with the Mono Local Transportation Commission, Mono County, and Caltrans to promote the development of crosswalks, sidewalks, neck-downs for crosswalks, public sitting areas, pedestrian trails, bike tails, and cross-country ski trails in the new development areas in order to enhance safety, complement the non-motorized vehicle trails, and promote a pedestrian atmosphere locally and regionally.

VI.2.C.a.1 The Town shall continue to work and partner with Caltrans on improving pedestrian safety along Main Street.

VI.3.B.a.2 The Town shall provide mixed-use pedestrian scale zoning and development standards for the Old Mammoth Commercial Corridor. Encourage government, arts, entertainment, recreation, business facilities, and residential uses to be mixed

in multi-story buildings with sidewalk orientation and off-site parking to facilitate the development of a major social and economic activity in the community.

VII.2.A.a.l Consider the need for future transit facility right-of-way in reviewing and approving plans for development and roadway construction or improvements. Incorporate features to encourage transit and reserve right- of-way for future transit access in plans for new growth areas. Transit right-of-way may either be exclusive or shared with other vehicles.

As stated in this section, policies and implementation measures contained in the General Plan would expand the existing trail, sidewalk and bicycle network, which support the use of alternative modes of transportation. Additionally, public transit facilities and options would be expanded to reduce visitors and residents reliance on private automobiles. Implementation of the Updated Plan's policies and implementation measures would ensure that impacts and/or conflicts to adopted policies, plans, or programs supporting alternative are reduced to a less than significant level.

Mitigation Measures

The Updated Plan would not result in development that would conflict with adopted policies, plans, or programs supporting alternative transportation. Therefore, no mitigation measures are required.

Level of Significance After Mitigation

Impacts regarding alternative transportation would be less than significant.

4.14 CULTURAL RESOURCES

This section assesses potential impacts on cultural and paleontological resources that could occur with development projected under the Updated Plan. Cultural resources can consist of buildings, structures, objects, archaeological sites, districts, landscapes, places, traditional cultural properties, manuscripts, and other resources deemed to be historically significant or significant from an architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural standpoint at the local, state, or national level. A cultural resource may be: the location of a prehistoric or historic occupation or activity; a locale which has been, and often continues to be of religious, mythological, cultural, economic, and/or social importance to an identifiable ethnic group; associated with events that have made a significant contribution to history or cultural heritage; associated with the lives of important persons; embody the distinctive characteristics of a type, period, region, or method of construction; represent the work of an important creative individual; possess high artistic values; or yield information important in prehistory or history.

Paleontological resources (fossils) are the remains and/or traces of prehistoric animal and plant life exclusive of human remains or artifacts. Fossil remains such as bones, teeth, shells, leaves are found in the geologic deposits (rock formations) within which they were originally buried. Fossil remains are important as they provide indicators of the earth's chronology and history. They represent a limited, nonrenewable, and sensitive scientific and educational resource.

The analysis is based on:

Burton, J.F. 1992. Further Investigations of the Snowcreek Archaeology Site, Mammoth Lakes, California. Trans-Sierran Archaeological Research to Trans-Sierran Archaeology No. 21. July 1992.

Furnis, C.L., 2001. An archaeological Reconnaissance Report for the Lake Mary Road Bike Route, Mammoth Lakes, Mono County, California, Final Report. December 18, 2001.

4.14.1 EXISTING CONDITIONS AND SETTING

The Town lies at the base of the Sierra Nevada range, and at the western edge of the Long Valley Caldera. To the north and east of the Town lie the resurgent domes of the Long Valley Caldera, which provide the Casa Diablo obsidian source. Mammoth Pass, an ethnographically-used trade route over the Sierra Nevada, is located to the west of Mammoth Creek about 0.5 miles south of the Town. The Mammoth Pass is a likely aboriginal trade route.

Numerous EIRs have studied the potential locations of cultural sites and the potential occurrence of prehistoric and historic resources within the Planning Area. The following information is taken from Furnis 2001[67] and Burton 1992.[68]

The first site typology specifically for the Mono Basin-Long Valley region was developed by Emma Lou Davis in 1964. In 1977, Bettinger conducted a systematic stratified random sample of the Long Valley Known Geothermal Resource Area. His survey encompassed lands administered by the Inyo National Forest east of the Planning Area. Through his work, Bettinger was able to develop a model to predict site density and site taxonomy based on the presence of nine types of cultural material, such as projectile points and groundstone. In addition, Bettinger discussed subsistence and settlement patterns and apparent changes through time. Most apparent from survey data from Long Valley is the ubiquity of archaeological sites near the Casa Diablo obsidian quarries. Numerous sites have been recorded in the vicinity of Mammoth Lakes during several surveys. While most of these sites can be characterized as ethnic scatters, many also contain bedrock milling features or midden. The importance of the nearby Casa Diablo obsidian source is evident in excavation data. Most excavation work has focused on sites that are predominately stoneworking locations with only minor evidence of subsistence activities.

Sites with evidence of occupation or subsistence, such as hunting and plant collecting, are more rare, but a variety of subsistence, residence, and exchange activities have been revealed through excavations at other sites in the Mammoth Lakes area. Rockshelters have been excavated at Hot Creek, Mammoth Creek Cave, Little Hot Creek, Little Antelope Valley, and Whisky Creek. Subsistence activities are represented at hunting camps such as those at Doe Ridge, and at temporary camps where both obsidian reduction and subsistence activities occurred, such as Triple, the Minaret Road Site, and those in the Royal Gold and Sherwin Ski project areas. A variety of activities occurred at large sites with middens, such as the Chance

[67] *Burton, J.F. 1992. Further Investigations of the Snowcreek Archaeology Site, Mammoth Lakes, California. Trans-Sierran Archaeological Research to Trans-Sierran Archaeology No. 21. July 1992.*

[68] *Furnis, C.L., 2001. An archaeological Reconnaissance Report for the Lake Mary Road Bike Route, Mammoth Lakes, Mono County, California, Final Report. December 18, 2001.*

Well Site, the Snowcreek Site, the Hot Creek Hatchery Site, the Mammoth Junction Site, and at multi-purpose sites without middens. Although most sites excavated in Long Valley postdate 3500 B.C., some work has been located at an early site, the Komodo Site dated 11,000 BC northeast of Mammoth Lakes.[69]

There are four known historic sites within the Planning Area (Hayden Cabin/Museum, Mill City, Mammoth City, and Mammoth Consolidated Mine). These sites are all located outside the UGB. Any proposal that could result in substantial adverse changes to any of these sites including demolition, destruction, relocation, or alteration of the buildings on these sites or their immediate surroundings would require preparation of an EIR pursuant to CEQA before any alteration could proceed.

4.14.1.1 Prehistoric Overview

The following chronology, based on time-sensitive projectile points, has been proposed by Bettinger for the Inyo-Mono region.[70]

- Mohave complex (pre-5500 B.P.) – indicated by Mohave, Silver Lake, and Great Basin Transverse projectile point assemblages.
- Little Lake Period (5500 to 3200 B.P.) – indicated by Little Lake and Pinto series projectile points and Humboldt Concave-base bifaces.
- Newberry Period (3200 B.P. to A.D. 600) – indicated by Elko series projectile points.
- Haiwee Period (A.D. 600 to 1300) – indicated by Eastgate and Rose Spring series ("Rosegate") projectile points and Humboldt Basal-notched bifaces.
- Marana Period (A.D. 1300 to historic) – indicated by Cottonwood and Desert Side-notched projectile points and Owens Valley Brown Ware ceramics.

Based on chronologies developed from projectile point types and from obsidian hydration readings for them, the earliest human occupation of the Long Valley and Mono Basin areas is believed to have occurred at least 7500 B.P. A very few Great Basin Concave-base series and numerous Great Basin Stemmed series projectile points have been recorded within these two areas. They define the Early Holocene or Mojave Phase in the region. During this Pre-Archaic period, stone tools and the locations of these tools suggest that people primarily survived by hunting large game, including now-extinct species of megafauna and small game, and utilized lacustrine and marsh plants for food. The stone artifact assemblages are characterized by

[69] *Nancy Walter, comment on previously circulated EIR, 2005.*

[70] *There are also Clovis sites according to Nancy Walter, comment made on previously circulated EIR, 2005.*

crescents, large bifaces used as knives, choppers, steep-edged scrappers, perforators, gravers, and multiple-function flaked tools, in addition to the large projectile points that typically are edge-ground. Such implements usually are found on the surface, individually or scattered over large areas as an assemblage, and are often situated on gravel bars and other high places close to early Holocene marshes associated with shallow lakes, streams, and rivers. In the Mammoth area, the known Pre-Archaic sites are associated with the Mono Basin, which held a larger Mono Lake in earlier times than at present, with the southern Owens Lake shore, and with other locations.

Following the Pre-Archaic is the Archaic period, sparsely represented by sites in the Mammoth area, and dating from around 7500 B.P. to contact with whites, at around 1830. The Archaic period represents a different time with different human adaptations to the local environment and climate. The Early Archaic in the area is known as the Little Lake Phase, dating from ca. 7500 to 3150 B.P., although identified sites from Long Valley and Owens Valley conform to Clyde Phase assemblages that date between 5500 and 3500 B.P. Between 7500 and 5500 B.P. the period is not as well defined for the whole Western Great Basin. Pinto and Little Lake projectile points define the Little Lake Phase during which the early Holocene's wetter and cooler climate was warming and becoming drier. As a result, plant and animal communities were changing in response to the shrinking water sources. Most pluvial lakes, marshes, and megafauna disappeared during the early Archaic, so the few residential sites found in Long and Owens valleys for this period are often located in valley bottoms close to rivers with temporary locations and field camps in higher terrain, within desert scrub zones. Hunting of big game continued and more intensive use of plants, especially of seeds, is indicated by dart-sized projectile points (Pinto and Little Lake) and by ground stone food processing tools (manos and metates).

The Middle Archaic is represented by the Newberry Phase (3150 to1350 B.P.), characterized by Elko series and Humboldt series dart points. Large game hunting, intensive seed gathering, and processing activities continued to dominate, based on archaeological remains from Mammoth Creek Cave and from Hot Creek Shelters. Middle Archaic sites in higher areas, such as the Casa Diablo and Long Valley Caldera, are located near by climate trends changed, bringing more cool and wet conditions than in the Early Archaic.

The Late Archaic in the region is subdivided into the Haiwee Phase (1350 to 650 B.P.) and the Marana Phase (650 B.P. to EuroAmerican contact). Rosegate projectile points, marking the transition to bows and arrows, are typical of the Haiwee Phase, while small Desert Side-notched and Cottonwood projectiles (arrow) points, as well as brownware pottery define the Marana. As the climate again oscillated to a warmer and drier regime, the area also experienced significant human population increase. The result, as evidenced by the archaeological record, is greater diversity of plant and animal resources exploited, broadening of ecozones utilized, and changes in several technologies including use of small projectile points (for small game) and abandonment of large dart points (for big game), introduction of pottery and of steatite disc

beads, a decrease in bifaced production by increase in simple flake tools, and an increase in types and numbers of grinding stones for processing plant foods. It was during the Late Archaic that flat slab schist milling stones, milling slicks, and bedrock mortars apparently first appeared. The Marana Phase sites are thought to represent Owens Valley Paiute pre-contact sites, as the Owens Valley Paiute were the occupants of the region at the time of contact.

Information compiled from the various excavations and surveys provides a glimpse of lifeways during these periods. The pre-Newberry occupation of Long Valley may have been sporadic. In the Newberry period, obsidian quarrying and biface production, apparently for trade, appears to have become intensive. During the Haiwee and Marana periods, biface production diminished and there is evidence of increasing direct subsistence activity. Long Valley has lacked evidence of the shifts in direct subsistence that appears to have occurred in Owens Valley, to the south. For example, occupation sites in Long Valley are usually associated with riparian settings and were used throughout the Medithermal. However, there is some evidence that piñon exploration did not begin on any intensive scale in Long Valley until the Haiwee period (after A.D. 600), and there may have been a partial abandonment or reduction in the use of upland and desert scrub areas after ca. A.D. 1000.

Dramatic environmental change in the Long Valley area could have been caused by recurrent volcanic eruptions. Obsidian tool manufacture and export trade over the Sierra Nevada may have been interrupted in the Late Archaic because of volcanic eruptions that occurred between A.D. 50 and 1450 in the Mono Lake and Long Valley Caldera highlands, in the same area that the obsidian was being quarried. Twenty eruptions at Mono Craters, within the last 10,000 years, have been dated through either radiocarbon or obsidian hydration analysis. Data partially generated from excavations hypothesizes that recurrent eruptions in the Inyo-Mono volcanic chain may have altered the region's plant, animal, and water resources drastically enough to curtail human use of the area for at least short periods of time.

4.14.1.2 Ethnographic Overview

Traditionally, groups of Owens Valley Paiute have occupied an area from Mammoth Lakes to approximately 60 miles to the east and 100 miles to the south. A ten to 15 mile-wide band of land immediately north-northeast of Mammoth was jointly used by Owens Valley Paiute and Northern Paiute groups from Mono Lake. This territory includes all of Owens Valley, Round Valley, Long Valley, Fish Lake Valley, and Deep Springs Valley. While both Paiute groups speak Western Numic languages, the Northern Paiute speak Northern Paiute and the Owens Valley Paiute speak Owens Valley Paiute.[71] Other neighboring groups, on the west side of the Sierra Nevada (the Monache) and south of Mammoth on both flanks of the mountains

[71] *Nancy Walter, comment made on previously circulated EIR, 2005.*

(Monache and Owens Valley Paiute) speak other dialects of Mono and share many cultural bonds with each other.

The Owens Valley Paiute occupied the Owens Valley on a year-round basis with many semi-sedentary settlements located on major rivers and streams along the valley's west side. Closer to Mammoth, in Long Valley and in Mammoth Basin, the pre-contact and historic use of the area by the Owens Valley groups has been only vaguely documented. However, according to Wally Woolfenden, ethnographic notes of F.S. Hules and F.J. Essene from the 1930s and oral interviews of local people from the 1970s clearly document the year-round occupation of Long Valley by the Long Valley Paiute, a subgroup of the Owens Valley Paiute, during the 1800s and 1900s. Jeff Burton cites the work of Emma Lou Davis, Matthew Hall, E.W. Gifford, and Helen Doyle in suggesting that Long Valley included an indigenous population of Northern Paiute in historic times, and provided resources and refuge on an occasional basis to Northern Paiute from Mono Lake, to Monache and Miwok from the west side of the Sierra, and to surrounding Mono-speaking groups of Paiute from Benton, Round Valley, and Owens Valley.

In contrast to the Owens Valley Paiutes, the Long Valley Paiute (a subgroup of the Owens Valley Paiute)are said to have been highly mobile in historic times, constantly moving in search of food resources, often utilizing resources beyond Long Valley. This movement included frequent trips over the Sierra crest, through Mammoth Pass, in order to collect acorns and to fish and hunt in the San Joaquin River drainage, and area within North Fork Mono Territory. Such trips sometimes occurred in winter, at which time moccasins and snowshoes were worn for snow travel.

In Mammoth itself, Mammoth Mountain is reported by Julian Steward as being a scared place, as it stands on the border between the Monache (western Mono) and the Owens Valley Paiute (eastern Mono), and is considered to be the place of origin in all Mono-speakers' traditional myths. The actual locations of human origin there are marked by particular geographic features. Elsewhere in Mammoth Basin, ethnographic use by Long Valley Paiute and others is assumed to be seasonal rather than year round.

A number of food resources were available in Long Valley. Creeks in springtime contained Owens sucker, Tui chub, and specked dace. Antelope, deer, rabbits, and other small game could be hunted, while some edible plant roots and leaves could be harvested in spring. Summer foods might include grass seeds. In autumn, piñon nuts from the large region would be gathered, as well as harvesting and processing of Pandora moth larvae, known as ~~Piagt~~Piagi, that were collected from Jeffery pine trees and elderberries. Long Valley Paiute men routinely traveled through Mammoth Pass to fish and hunt along the San Joaquin River.

Extensive trading with their neighbors was done by Owens Valley Paiute groups in order to acquire additional foods as well as ornaments, money, and other commodities. Owens Valley

Paiute traded salt, piñon pine nuts, seeds, obsidian, sinew-backed bows, rabbit skin blankets, deerskins, moccasins, mountain sheepskin, fox skin leggings, balls of tobacco, baskets, basketry water bottles waterproofed with pitch, wooden hot rock lifters, and red and white pigments, in exchange for shell money (e.g., disc beads, tubular clam beads, and more recently, glass beads), acorns and acorn meal, finely-constructed Yokuts baskets, cane for arrows, manzanita berries, squaw berries, and elderberries from the Monache. The Mono Paiute traded salt, piñon pine nuts, piagi, brine fly larvae, rabbit skin blankets, baskets, pumice stones, and red and white pigments to the Sierra Miwok, in exchange for shell money, acorns, baskets, arrows, a fungus used in paints, manzanita berries, elderberries, and squaw berries.

From prehistoric through historic times, Mammoth Pass has played a large part in the social and economic interactions of the Long Valley Paiute, of their precursors, and of the western Sierra Nevada peoples. In the process, it enabled indigenous peoples to widely distribute products well beyond their home territories.

Ethnographic information on the inhabitants of Long Valley is limited. Long Valley is near the intersection of several ethnic groups: the Mono Lake Paiute lived to the north, the Owens Valley Paiute to the south, Benton and Round Valley Paiute to the east, Monache to the west, and Southern Sierra Miwok to the northwest. The Paiute and Monache are Numic speakers, of the Uto-Aztecan language family, while the Miwok are a branch of the Utian language family.

Long Valley was used for seasonal resource exploitation by at least several of these groups. For example, Sterud cites unpublished material collected by Emma Lou Davis that the Mammoth Junction Site was used by Mono Lake Paiute in ethnographic times. Hall cites evidence that the Northern Paiute generally regarded their borders as fluid, which may have precluded exclusive use of Long Valley by a single group due to friendly relations with the Paiute. Small groups of Monache or ~~Miwol~~Miwok from the west slope of the Sierra Nevada might spend extended visits on the east side and inter-group marriage did occur.

Long Valley does appear to have been occupied year round by an indigenous population. Steward mentions two or three Northern Paiute who claimed to have come from a village on Hot Creek, Farwihumadu (fish creek place). Doyle reported a large fandango at Hot Creek in the 1880s, which was attended by local Paiute as well as Washo, Shoshone, and Indians from Tulare. Hall discusses other evidence for permanent occupation of Long Valley and comments that in all likelihood there were probably some Paiute who spent the better part of their lives in and around Long Valley. In fact, Frank Essene's unpublished ethnographic work conducted in the 1930s documented year-round residence, with one Paiute informant mentioning a camp at the Thompson Ranch (now Alpers' Owens River Ranch).

Information is also available about the sociopolitical organization of some of the groups that may have frequented Long Valley. The Mono Lake Paiute were organized around the nuclear family, with perhaps one or two additional relatives completing the household. Most subsistence activities were performed by these independent small groups; families would come together in the winter, but composition of these larger extended families was fluid, varying from year to year depending on resources. While an individual might be designated a group leader for individual events, leadership was ascribed, based upon talent, and temporary.

In Owens Valley, on the other hand, the population was more sedentary, with year-round occupation in permanent villages and short-term visits to temporary camps for resource procurement. Leadership was hereditary, and headmen were responsible for organizing communal work projects and festivals that may have served to redistribute resource surpluses as well as to fulfill other social functions. As for the other groups using Long Valley, the Monache and the Southern Sierra Miwok groups were probably similar in their social organization to the Owens Valley Paiute, with at least some hereditary rulers and semi-permanent villages. Some researchers have postulated that any indigenous Long Valley groups that may have existed would have followed a pattern closer to that of the Mono Lake Paiute (and other Great Basin groups) than that of Owens Valley Paiute, due to similarities in environmental constraints. However, Long Valley residents may have been closely tied to the Owens Valley Paiute through kinship and trade.

Long Valley offered a variety of food resources during snow-free months. In the spring, Tui chub, speckled dace, and Owens sucker may have been dished from creeks, while roots, wild onions and greens along creeks and meadows might have replenished dwindling winter stores. Small game, deer, and antelope could have been hunted nearby. In the summer, grass seeds may have been collected from meadows and drier upland areas. Fall subsistence activities of both the Mono Lake and Owens Valley Paiute revolved around the collection of piñon. Piagi or pieaggie were another food resource available every two years in the Jeffery pine forests. The larva of the Pandora moth, Piagi, were collected as they descended the Jeffery pine trees during mid to late summer.

Much of the trade and travel likely occurred during the summer months, when the high Sierran passes were free of deep snow. Inter- and intra-regional trade may have had extensive ramifications for subsistence and settlement systems of the Owens Valley and Long Valley areas. It is proposed that an elaborate redistributive exchange system might account for the relatively complex sociopolitical organization of the Owens Valley Paiute.

4.14.1.3 Historic Overview

EuroAmerican contact with Owens Valley Paiute is first thought to have occurred when the English fur trapper Peter Ogden Skene wandered into Owens Valley thinking he had reached

the Great Salt Lake en-route to the Colorado River in 1829 to1830. Four years later, the explorer Joseph Walker crossed the Sierra Nevada at Walker Pass, then proceeded north through Owens Valley, then over to Benton Hot Springs, and east into present day Nevada. In the 1840s and 1850s, various emigrant guides and U.S. military personnel passed through the region, but few said it was an inviting place to settle. Their reports of the eastern Sierra front probably saved the Owens Valley Paiute from earlier intrusion by white settlers, which began in earnest in the early 1860s.

Ranching began in Owens Valley in 1861 as a way of supplying food to the early mining camps in Inyo and Mono counties. European-American settlement soon supplanted most Paiute settlements, with conflict and concomitant forced removal of most Owens Valley Paiute to Fort Tejon, California, by the United States troops.

It was not until the late 1870s that permanent settlement took place within the project area at Mammoth Lakes, though a few individuals had combed the area in search of the Lost Cement Mine in the summer of 1861. A gold mining claim, the Alpha, was staked on the slope of Mineral Hill (now called Red Mountain) in June 1877, initiating the formation of the Lake Mining District. Soon other claims followed and in 1878 most of these were purchased by a group of San Francisco investors who formed the Mammoth Mining Company. The company headquarters, mill, and a small settlement were established approximately 0.5 mile north of the mines at Mill City. In the late 1870s, four camps were founded near the mining activity. These were Mineral Park, located about one mile north of Mineral Hill in a meadow, Mill City, located about 0.5 mile north of Mineral Hill, the largest camp, Mammoth City, located at the foot of Mineral Hill, and finally, Pine City, located west of the mines and approximately 1,500 feet north of Lake Mary.

A sawmill built at Mineral Park provided most of the industry for the camp, though a brewery, saloons, stores, hotel, stable, boardinghouse, and toll house represented other commercial endeavors, in addition to some 12 or so cabin residences. Mammoth City reportedly had 400 or 500 residents in 1880, while the smaller Pine City (also called Lake City) boasted a population of 17 persons in the same year, which included one engineer, one grocer, one toll road operator, one laborer, two miners, three blacksmiths, and four housewives. An unknown number of Paiute were said to have participated in mining and settlement at the Mammoth area in the 1870s and 1880s. There are accounts of Paiute men selling fish that they had caught in the San Joaquin River to the white miners, suggesting participation in the economy of the mining camps in various ways.

Though surrounded by lakes, the mining camps and the mill were situated so that they required water to be transported to them by means of ditches and flumes. In 1878, one covered flume was constructed from the north end of Twin Lakes to Mill City, while a second flume and diversion works were erected bringing water for domestic use to Pine City and to Mammoth

City, farther up the road. Presumably, the ditches continued in use until the mining camps were abandoned, mostly by the early 1880s.

In order to move people, draught animals, food, equipment, and supplies in and out of the area, roads were needed; however, roads did not exist in the area prior to 1877. There were established Paiute trails over the Sierra, to the east, north, and south along the valleys; however, these could not support wagons and stagecoaches. Fortunately, mining towns established in the 1860s already had links to the outside world. Roads were soon constructed to Benton (east) and to Bodie (north), each town already had connections with Carson City, and indirectly with Reno, and the transcontinental railroad. Jim Sherwin constructed a toll road south from Mammoth City to Round Valley in the late 1870s that connected to the road he had already built from Bishop ~~Creed~~ Creek to Round Valley in the early 1870s, providing the Lake District with access to railroads and markets and larger population centers through the Mojave Desert.

Forging links to the west was another matter. This required a route directly over the crest of the Sierra Nevada, traversing elevations of over 9,000 feet through Mammoth Pass. The result was the Fresno Flats Road which became a toll trail west of Lake Mary. J.S. French located and developed the 54-mile long trail and led saddle trains over the mountains to Fresno Flats (now Oakhurst) and back twice a week. This service and trail enabled miners and other goods from the San Joaquin Valley of California to directly travel to Mammoth City and the other camps. Beef cattle were moved over this trail, providing fresh meat for the Mammoth mountain-dwellers. According to Adele Reed, the Fresno Flats Trail was still in use in the 1930s, serving prospectors, sheepherders, USFS personnel, and Native Americans. In later years, more roads were constructed and older ones were improved so as to provide access for early touring automobiles coming to the area for summer recreation.

The Lake Mining District boom was short-lived. By 1880, the Mammoth Mining Company had folded, taking the surrounding mining camps with it for the most part. A few people lingered on after this. Other mines a few miles south of Pine City operated through the 1880s, while renewed attempts at working the Mammoth Mine on Red Mountain took place in the 1890s. In the early 1900s, new people came to the area, establishing a few hotels, sawmill, stores, and barns. Around the turn-of-the-century, Charles Wildasinn and his family built the Wildasinn Hotel, log cabin, sawmill, and store in the meadow near the current Town, creating the first resort at Mammoth. It was well-established by at least 1906. In 1918, Mammoth Camp was established next door by Charles Summers who built a hotel and boardinghouse. In the early 1920s, more summer residents came to the area to camp and fish. Small cabins were built, as well as a post office. Most of Mammoth Camp was destroyed in a 1927 fire.

In Olive Barker's reminiscences of the 1917 to 1920 period, she mentions Indians camped at Casa Diablo Hot Springs, just a few miles east of Mammoth Lakes. They were people from the west side of the Sierra Nevada who had come over the Fresno Flats Trail to take in the hot

waters and to gather basket-making plant materials, as well as seeds, pine nuts, and Pandora moth larvae ~~piagt~~piagi.[72] Olive and her husband later employed a local Paiute woman from Whisky Creek to do housework. Traditional practices, including travel and sharing of resource areas, seem to have continued into the 20th Century with adaptations to the new conditions and white settlement in the area.

The construction of Lake Mary Road in 1920 opened up the Lakes Basin to automobile traffic. From then on, this region experienced increasingly intense development and seasonal recreational use. After 1920, several resorts and campgrounds were established around the lakes and hundreds of small family cabins were built. One such cabin and accompanying studio was constructed by Beatrice and Stephen Willard. Mr. Willard was a well-known artist and master photographer for the region and beyond. In 1925, the first rented tent houses were erected at Lake Mary, followed in a few years by the Crystal Trap Lodge, situated at the south end of Lake Mary. In 1923, Wildyrie resort was developed at Lake Mary, and around this same time, the Tammarack Lodge housed fishermen at Twin Lakes. Support and related services followed, including packers, guides, ice-harvesting, dairies, gas stations, restaurants, bakeries, and more. SR 203 was constructed into Mammoth from U. S. Highway 395, making the area more easily accessible to summer tourists. Winter skiing became a new major attraction at Mammoth in the 1940s, bringing enthusiasts and additional, specialized developments to the area from that time forward to the present.

4.14.2 REGULATORY FRAMEWORK

4.14.2.1 Federal Laws and Regulations

There are several federal statutes that address cultural resources which are discussed below.

Antiquities Act of 1906 (16 USC 431-433)

The Antiquities Act of 1906 indicates that if any person appropriates, excavates, injures, or destroys any historic or prehistoric ruin or monument, or any object of antiquity, situated on lands owned or controlled by the United States Government, without the permission of the Secretary of the Department of the Government having jurisdiction over the lands on which said antiquities are situated, shall be fined or imprisoned.

[72] *Clarification provided by Nancy Walter on previously circulated EIR, 2005.*

Although there is no specific mention of natural or paleontological resources in the Act itself, or in the Act's uniform rules and regulations (Title 43 Part 3, Code of Federal Regulations [43 CFR 3]), "objects of antiquity" has been interpreted to include fossils by the National Park Service (NPS), the Bureau of Land Management (BLM), the U.S. Forest Service (USFS), and other Federal agencies. Permits to collect fossils on lands administered by Federal agencies are authorized under this Act.

Statute 23 USC 305 amends the Antiquities Act of 1906 and allows funding for mitigation of paleontological resources recovered pursuant to Federal aid highway projects, provided that "excavated objects and information are to be used for public purposes without private gain to any individual or organization" (Federal Register [FR] 46(19): 9570; [Also see FHWA policy section, below]).

National Environmental Policy Act of 1969 (42 USC 4321)

The National Environmental Policy Act (NEPA) directs federal agencies to use all practicable means to "Preserve important historic, cultural, and natural aspects of our national heritage…" (Section 101(b) (4)). Regulations for implementing the procedural provisions of NEPA are found in 40 CFR 1500 1508. If the presence of a significant environmental resource is identified during the scoping process, Federal agencies and their agents must take the resource into consideration when evaluating project effects. Consideration of paleontological, pre-historical or historical resources may be required under NEPA when a project is proposed for development on federal land, land under federal jurisdiction, or has federal bank funding.

National Historic Preservation Act of 1996, as amended (16 USC 470(a))

The National Historic Preservation Act (NHPA) establishes as federal policy the protection of historic properties or places and their values in cooperation with other nations and with state and local governments. It establishes a program of grant-in-aid to state governments for historic preservation activities. Subsequent amendments designated the State Historic Preservation Officer (SHPO) or the Tribal Historic Preservation Officer (THPO) as the individual responsible for administering programs in the states or reservations. The Act also created the Advisory Council on Historic Preservation. Federal agencies are required to consider the effects of their undertakings on historic resources and to give the SHPO/THPO and, if necessary, the Advisory Council a reasonable opportunity to comment on those undertakings.

The NHPA regulation with the most impact on agency planning and operations is 36 CFR Part 800, Protection of Historic Properties. This regulation, governing compliance with Section 106, must be followed in planning any agency activity and in the ongoing management of agency

resources. Other applicable NHPA regulations are 36 CFR 60, National Register of Historic Places; and 36 CFR 65, National Historic Landmarks.

Section 101 prescribes how state, local, and Indian tribal governments participate in the national historic preservation program; establishes how the National Register of Historic Places is maintained and expanded; and directs the Department of the Interior to promulgate various standards and guidelines. Section 106 requires federal agencies to identify historic properties their actions could affect. Section 110 requires federal agencies to designate qualified federal preservation officers to document historic properties that must be damaged or destroyed; give preference to the use of historic properties for mission purposes; and to establish and implement a historic preservation program. Section 111 requires federal agencies to establish and implement alternatives for historic properties. Section 304 allows federal agencies, in consultation with the Secretary of the Interior, to withhold disclosure to the public information relating to the location or character of historic resources.

The NHPA comes into play when a federal agency is involved and requires special consideration of sites eligible for listing on the NRHP. The criteria for listing on the National Register are contained in 36 CFR Section 60.6. The quality of significance in American history, architecture, archaeology, and culture is present in district sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and the following:

1. That are associated with events that have made a significant contribution to the broad patterns of our history; or

2. That are associated with the lives of persons significant in our past; or

3. That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or

4. That have yielded, or may be likely to yield, information important in prehistory or history.

4.14.2.2 State Laws and Regulations

The following state laws and regulations are applicable to development projects.

California Native American Historical, Cultural and Sacred Sites Act

State law establishes protections for Native American Historical, Cultural and Sacred Sites. (Public Resources Code Sections 5097.9 - 5097.991). Under this law, no public agency or private party is permitted to cause severe or irreparable damage to any Native American sanctified cemetery, place of worship, religious or ceremonial site, or sacred shrine located on public property, except on a clear and convincing showing that the public interest and necessity so require. Cities and counties are exempt from this prohibition with respect to property under city or county ownership.

In addition, when human remains are found during excavation or construction of a site, whether the work is on public or private property, the landowner is required to notify the County Coroner and no further excavation or disturbance of the site or nearby area is permitted until the County Coroner determines that no investigation of the cause of death is required (Health & Safety Code Section 7050.5). If the remains are determined to be Native American, the coroner is required to notify the California Native American Heritage Commission (CNAHC) of the discovery. The CNAHC notifies the most likely descendants of the discovery and those descendants have 24 hours to inspect and make recommendations to the landowner as to the appropriate means for removal and nondestruction of the remains and artifacts found with the remains. If an agreement cannot be reached between the parties on these issues, and the Commission is unable to mediate a resolution to the disagreement, the landowner is required to reinter the human remains and items associated with Native American burials with appropriate dignity on the property in a location not subject to further subsurface disturbance. Landowners can enter into prospective agreements with one or more Native American groups, which provide guidance as to the treatment and disposition of Native American human remains that are encountered during development. Actions taken in accordance with the Commission's protocol or with an agreement between the Native American Group and the developer regarding the disposition of Native American human remains are exempt from CEQA and from other laws regarding the disturbance of human remains (Public Resources Code Section 5097.98 (c)).

The Native American Historic Resource Protection Act (Public Resources Code Section 5097.993 - 5097.994) prohibits the unlawful and malicious excavation, removal, destruction, injury or defacement of a National American historic, cultural, or sacred site, that is listed or may be eligible for listing in the California Register of Historic Resources, if the act was committed with the intent to vandalize, deface, destroy, steal, convert, possess, collect or sell a Native American historic, cultural or sacred artifact or site and the act was committed on public land or on private land by someone other than the landowner. Exemptions to this prohibition exist for

actions taken for proper removal in accordance with the Native American Heritage Commission's established protocols, in accordance with authorized agreements entered into between landowners and Native American Groups, and for actions taken in accordance with CEQA.

California Environmental Quality Act

Archaeological resources require impact analysis under CEQA (Public Resources Code Sections 21000 et seq.). As defined in Section 21083.2 of the Public Resources Code a "unique" archaeological resource is an archaeological artifact, object, or site, about which it can be clearly demonstrated that without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

- Contains information needed to answer important scientific research questions and there is a demonstrable public interest in that information.
- Has a special and particular quality such as being the oldest of its type or the best available example of its type.
- Is directly associated with a scientifically recognized important prehistoric or historic event or person.

In addition, CEQA Section 15064.5 broadens the approach under CEQA by using the term "historical resource" instead of "unique archaeological resource." Under CEQA, a "project that may cause a substantial adverse change in the significance of a historical resource is a project that may have a significant effect on the environment."[73] This statutory standard involves a two-part inquiry. The first involves a determination of whether the project involves a historical resource. If so, then the second part involves determining whether the project may involve a "substantial adverse change in the significance" of the historical resource. To address these issues, guidelines that implement the 1992 statutory amendments relating to historical resources were adopted in final form on October 26, 1998, with the addition of CEQA Guidelines Section 15064.5. The new CEQA Guidelines specify that for purposes of CEQA compliance, the term "historical resources" shall include the following:[74]

- A resource listed in, or determined to be eligible by the State Historical Resources Commission, for listing in the California Register of Historical Resources.
- A resource included in a local register of historical resources, as defined in section 5020.1(k) of the Public Resources Code or identified as significant in a historical resource survey meeting the requirements in section 5024.1(g) of the Public

[73] *California Public Resources Code Section 21084.1—Added in 1992 by AB 2881.*

[74] *State CEQA Guidelines, 14 CCR Section 15064.5(a).*

Resources Code, shall be presumed to be historically or culturally significant. Public agencies must treat any such resource as significant unless the preponderance of evidence demonstrates that it is not historically or culturally significant.

- Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered to be a historical resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record. Generally, a resource shall be considered by the lead agency to be "historically significant" if the resource meets the criteria for listing on the California Register of Historical Resources.
- The fact that a resource is not listed in, or determined to be eligible for listing in the California Register of Historical Resources, not included in a local register of historical resources (pursuant to section 5020.1(k) of the Public Resources Code), or identified in a historical resources survey (meeting the criteria in section 5024.1(g) of the Public Resources Code) does not preclude a lead agency from determining that the resource may be a historical resource as defined in Public Resources Code sections 5020.1(j) or 5024.1.

If a lead agency determines that an archaeological site is a historical resource, the provisions of §21084.1 of the Public Resources Code and §15064.5 and §15126.4 of the CEQA Guidelines apply. If an archaeological site does not meet the criteria for a historical resource contained in the Guidelines but does meet the definition of a unique archaeological resource in §21083.2 of the Public Resources Code, then the site is to be treated in accordance with the provisions of Public Resources Code §21083.2. The Guidelines note that if an archaeological resource is neither a unique archaeological nor a historical resource, the effects of the project on those resources shall not be considered a significant effect on the environment. (CEQA Guidelines §15064.5(c)(4)).

4.14.3 THRESHOLDS OF SIGNIFICANCE

Based upon Appendix G in the CEQA Guidelines, the Project would be considered to have a significant impact on cultural resources, if the project would:

- Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5;
- Cause a substantial adverse change in the significance of an archaeological resource as defined in Section 15064.5;
- Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature; or

- Disturb any human remains, including those interred outside of formal cemeteries.

4.14.4 IMPACTS AND MITIGATION

Issue 4.~~13~~14-1: *Would the Project cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?*

Discussion: Implementation of the Updated Plan would allow for new development as well as redevelopment of sites within the UGB. There are no known historic resources within the UGB. However, new development or redevelopment could result in the demolition or alteration of physical characteristics of an unknown historical resource that has historical significance that justifies its inclusion in, or eligibility for inclusion in, the California Register of Historical Resource. Therefore, the Updated Plan could result in the discovery of historical resources and potential impacts to historic resources.

Policies and Implementation Measure in the Updated Plan

The Updated Plan proposes the adoption of the following policy and implementation measures to reduce potential impacts associated with cultural resources:

L.U.3.a.1 The Town shall develop and maintain a cultural resources database that includes data regarding historic and archaeological resources within the Planning Area as that information is developed through project reviews or other archaeological/historical surveys. The database shall be used to ensure that protection and preservation of historic and archeological resources within the Planning Area.

IV.2.B.a.l The Town shall continue to support the efforts to facilitate and enhance understanding and appreciation of the cultural, natural, and historical resources of the region.

The proposed implementation measure expresses support for the preservation of historical resources in the region. However, in order to ensure the preservation of historic resources, the following mitigation measures are provided.

Mitigation Measures

4.14-1 A qualified historic archaeologist approved by the Town shall perform the following tasks prior to development approvals on any part of the Town:

- Subsequent to a preliminary Town review, if evidence suggests the potential for historic resources, a field survey conducted using methodology that meets or exceeds state and federal guidelines for historical resources within portions of the project area not previously surveyed for cultural resources shall be conducted.

- Subsequent to a preliminary Town review, if evidence suggests the potential for historic resources, the Town Archives shall be contacted for information on historical property records. A qualified cultural resources professional shall be contracted to review the records search data collected by PCR Services Corporation on behalf of the Town of Mammoth Lakes as part of the Draft General Plan Update process.

- Subsequent to a preliminary Town review, if evidence suggests the potential for sacred land resources, the Native American Heritage Commission shall be contacted for information regarding sacred lands.

- Inventory all historical resources within the project area, including archaeological and historic resources older than 50 years, using appropriate State record forms and following guidelines in the California Office of Historic Preservation's handbook "Instructions for Recording Historical Resources". The archaeologist will then submit two (2) copies of the completed forms to the Town for the assignment of trinomials.

- Evaluate the significance and integrity of all historical resources within the project area, using criteria established in the CEQA Guidelines for important archaeological resources and/or 36 CFR 60.4 for eligibility for listing on the National Register of Historic Places.

- Propose mitigation measures and recommend conditions of approval to eliminate adverse project effects on significant, important, and unique historical resources, following appropriate CEQA and/or National Historic Preservation Act's Section 106 guidelines.

- Prepare a technical resources management report, documenting the inventory, evaluation, and proposed mitigation of resources within the project area, following guidelines for Archaeological Resource Management Reports prepared by the California Office of Historic Preservation, Preservation Planning Bulletin 4(a), December 1989. Submit one copy of the completed report, with original illustrations, to the Town for permanent archiving.

4.14-2 If cultural materials or archaeological remains are encountered during the course of grading or construction, the developer shall cease any ground disturbing activities near the find. A qualified archeologist approved by the Town will be retained to evaluate significance of the resources and

recommend appropriate treatment measures. Treatment measures may include avoidance, preservation, removal, data recovery, protection, or other measures developed in consultation with the Town and the developer. In addition, the Town shall:

- Enact interim measures to protect undesignated sites from demolition or significant modification without an opportunity for the Town to establish its historic value.
- Require, where appropriate, the incorporation of historic sites and buildings within new developments, using their special qualities as a theme or focal point.
- Encourage the use of the State Historic Building Code on buildings of historic significance that can allow modification without imposing some of the potentially detrimental provisions of the current building codes.
- Educate the public about the area's archaeological heritage.

4.14-3 Prior to the approval of any projects that propose to demolish or significantly alter a potentially significant historic resource as defined pursuant to applicable state and federal laws, the applicant shall complete an historic survey report using methodology that meets or exceeds state and federal guidelines to determine potential historic significance. The determination of resource significance shall be made in accordance with CEQA Guidelines Section 15064.5. Where appropriate for a standing historic structure that will not be preserved in place, conservation can include documentation to Historic American Building Survey (HABS) standards and/or relocation.

Level of Significance After Mitigation

With incorporation of mitigation measures, the Updated Plan would not cause a substantial adverse change in the significance of a historical resource as defined in §15064.5.

Issue 4.~~13~~14-2: *Would the Project cause a substantial adverse change in the significance of an archaeological resource as defined in §15064.5?*

Discussion: Implementation of the Updated Plan would allow for new development as well as redevelopment of sites within the UGB. New development or redevelopment could impact an archaeological site(s) during grading and excavation activities. Due to the primarily developed and disturbed condition of the lands within the UGB, where development would occur, the potential number and distribution of such sites or resources is anticipated to be limited.

Nevertheless, future development within the Town could result in the discovery of cultural sites and potential impacts to prehistoric and historic resources.

Policies and Implementation Measures in the Updated Plan

The Updated Plan proposes the adoption of the following policy and implementation measures to reduce potential impacts associated with cultural resources:

L.U.3.a.1 The Town shall develop and maintain a cultural resources database that includes data regarding historic and archaeological resources within the Planning Area as that information is developed through project reviews or other archaeological/historical surveys. The database shall be used to ensure that protection and preservation of historic and archeological resources within the Planning Area.

IV.2.B.a.l The Town shall continue to support the efforts to facilitate and enhance understanding and appreciation of the cultural, natural, and historical resources of the region.

Mitigation Measures

4.14-4 A qualified archaeologist shall perform the following tasks prior to development activities on any part of the Town:

- Subsequent to a preliminary ~~City~~Town review, if evidence suggests the potential for prehistoric resources, a field survey for prehistoric resources within portions of the project area not previously surveyed for cultural resources shall be conducted.
- Subsequent to a preliminary ~~City~~Town review, if evidence suggests the potential for sacred land resources, the Native American Heritage Commission for information regarding sacred lands shall be consulted.
- Inventory all prehistoric resources using appropriate State record forms and submit two (2) copies of the completed forms to the Town.
- Evaluate the significance and integrity of all prehistoric resources within the project area, using criteria established in the CEQA Guidelines for important archaeological resources.
- If human remains are encountered on the project site, the Mono County Coroner's Office shall be contacted within 24 hours of the find, and all

work should be halted until a clearance is given by that office and any other involved agencies. If the Coroner determines that the remains may be Native American, contact the Native American Heritage Commission for notification to the most likely descendants of the descendent and follow the required protocols specified in Public Resources Code Section 5097.98.

- All resources and data collected within the project area should be permanently curated at an appropriate repository within the Town or County.

4.14-5 If cultural materials or archaeological remains are encountered during the course of grading or construction, the developer shall cease any ground disturbing activities near the find. A qualified archeologist will be retained to evaluate significance of the resources and recommend appropriate treatment measures. Treatment measures may include avoidance, preservation, removal, data recovery, protection, or other measures developed in consultation with the Town and the developer. With the assistance of the archaeologist, the Town shall:

- Consider establishing provisions to require incorporation of archaeological sites within new developments, using their special qualities as a theme or focal point.

- Educate the public about the area's archaeological heritage.

- Propose mitigation measures and recommend conditional of approval to eliminate adverse project effects on significant, important, and unique prehistoric resources, following appropriate CEQA guidelines.

- Prepare a technical resources management report, documenting the inventory, evaluation, and proposed mitigation of resources within the project area. Submit one copy of the completed report, with original illustrations, to the Town for permanent archiving.

4.14-6 If during grading and excavation an archaeological resource is found, construction shall be temporarily diverted, redirected or halted as appropriate. Any discovery of such resources shall be treated in accordance with federal, state, and local regulations, including those outlined in the CEQA Guidelines Section 15064.5 (e) and as appropriate, the Native American Historical, Cultural and Sacred Sites Act. For archaeological remains, conservation of a resource for which preservation in place is not feasible, relocation and if that is not feasible, documentation shall be required.

Level of Significance After Mitigation

With incorporation of mitigation measures, the Updated Plan would not cause a substantial adverse change in the significance of an archaeological resource as defined in §15064.5.

Issue 4.~~13~~14-3: *Would the Project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.*

As indicated above, implementation of the Updated Plan would allow for new development as well as redevelopment of sites within the UGB. There are no known unique paleontological resources or sites, and no known unique geologic features in the developable portions of the community. The soils within the UGB are glacial till and relatively recent volcanic materials; no paleontological resources would be expected. Therefore, the Updated Plan would not result in an impact to paleontological resources.

Policies and Implementation Measures in the Updated Plan

The Updated Plan proposes the adoption of the following policy and implementation measures to reduce potential impacts associated with cultural resources:

IV.2.B.a.l The Town shall continue to support the efforts to facilitate and enhance understanding and appreciation of the cultural, natural, and historical resources of the region.

Mitigation Measures

Implementation of the Updated Plan would result in a less than significant impact with regard to paleontologial resources. Therefore, no mitigation measure would be required.

Level of Significance

Impacts to paleontological resources would be less than significant.

Issue 4.13-4: *Would the Project disturb any human remains, including those interred outside of formal cemeteries?*

Discussion: Implementation of the Updated Plan would allow for new development as well as redevelopment of sites within the UGB. New development or redevelopment could result in the discovery of human remains during grading and excavation activities. However, due

to the primarily developed and disturbed condition of the lands within the UGB where development would occur, the potential location of such sites or resources would be minimal. Nevertheless, future development within the Town could result in the discovery of human remains and potential impacts to these resources.

Policies and Implementation Measures in the Updated Plan

The Updated Plan proposes the adoption of the following policy and implementation measures to reduce potential impacts associated with cultural resources:

L.U.3.a.1 The Town shall develop and maintain a cultural resources database that includes data regarding historic and archaeological resources within the Planning Area as that information is developed through project reviews or other archaeological/historical surveys. The database shall be used to ensure that protection and preservation of historic and archeological resources within the Planning Area.

IV.2.B.a.l The Town shall continue to support the efforts to facilitate and enhance understanding and appreciation of the cultural, natural, and historical resources of the region.

Mitigation Measures

4.14-7 Should the existence of, or the probable likelihood, of Native American or other human remains be found during development of a site, the landowner shall contact the County Coroner and no further excavation or disturbance of the site or nearby area shall be permitted until the County Coroner determines that no investigation of the cause of death is required. If the remains are determined to be Native American, the Coroner shall, as required by Public Resources Code Section 5097.98, notify the Native American Heritage Commission, which shall contact the most likely descendants and those descendants shall have 24 hours to inspect and make a recommendation to the landowner as to the appropriate means for removal and nondestruction of the remains and artifacts found with the remains. If an agreement cannot be reached between the landowner and the descendants, the Native American Heritage Commission shall mediate the disagreement, and if resolution is not reached, the landowner shall reinter the remains and items associated with Native American burials with appropriate dignity on the property in a location not subject to further subsurface disturbance. The applicant may develop a prospective agreement for treating or disposing of, with appropriate dignity, the human remains and any items associated with Native American burials

with the appropriate Native Americans as identified by the Native American Heritage Commission.

Level of Significance After Mitigation

With incorporation of the mitigation measure, impacts to human remains would be less than significant.

5.0 CUMULATIVE ANALYSIS

Section 15355 of the CEQA Guidelines defines the term cumulative impacts as 'two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts.' Individually, the impacts of a project may be relatively minor, but when considered along with impacts of other closely related or nearby projects, including past, present, and reasonably foreseeable projects, the effects could be cumulatively significant.

This section contains an analysis of cumulative effects for each applicable resource category. The significance criteria are the same as they were for analyzing the individual effects of the Project.

PAST, PRESENT, AND REASONABLY FORESEEABLE PROJECTS

A list and description of cumulative projects was compiled by consulting with the Town, Inyo County, Mono County, and the Inyo National Forest staff. The projects included in the cumulative effects analysis are located within the Planning Area or the larger cumulative effects area for Biological Resources and Transportation and Circulation. Implementation of the Updated Plan and these related projects together have the potential to result in a significant impact to the environmental issue areas addressed in this EIR. Table 5-1 on page 5-2 provides a description of the related projects. The locations of the related projects are shown in Figure 5-1 on page 5-45 ~~45~~ 3.

5.1 IMPACTS

Aesthetics, Light and Glare

For Aesthetics, Light and Glare the cumulative effects area is the Planning Area. The majority of the related projects within the planning area are geothermal projects. Given the topography of the area, the related projects would not result in a cumulatively significant aesthetics or light and glare impact.

Table 5-1

Related Projects

Name	Location	Size	Description
Related Projects Within the Planning Area			
Sierra Business Park	3 miles south of intersection of SR 203 and opposite the Mammoth Yosemite Airport	36.7 acres	37 light industrial lots; continued operation of concrete batch plant
Casa Diablo Geothermal Development Projects	Near the intersection of U.S. Highway 395 and SR 203	15 acres	Existing plant consisting of 3 binary geothermal power plants and related wellfields run by MPLP
Upper Basalt Geothermal Exploration Project	West of U.S. Highway 395 and north of SR 203	< 10 acres	Exploration drilling project consisting of 5 small diameter holes and 4 large diameter wells constructed by MPLP
Basalt Canyon Slim Hole and Geothermal Well Exploration Projects	West of U.S. Highway 395 and north of SR 203	3.3 acres	2 exploration drilling projects consisting of 5 small diameter holes and 2 large diameter wells constructed by MPLP
Basalt Canyon Geothermal Project	Basalt Canyon to Casa Diablo	3.2 acres	Construction of geothermal pipeline that would connect wells in the Basalt Canyon Geothermal Well Exploration Project to the Casa Diablo Geothermal Development Project.
Rhyolite Plateau Geothermal Exploration Project		15 acres	2 exploration drilling projects consisting of 11 small diameter holes and 11 large diameter wells constructed by MPLP
Mammoth Rehab Fuelbreaks Project	Mammoth Creek Road between SR 203 and Mammoth Creek Park; Sherwin Creek Road from Sierra Meadows Ranch to Sherwin Creek Campground; Sherwin Creek Road to the motocross track; and the route between Sherwin Creek Road and Kerry Meadow (south of Snowcreek).	895 acres	Inyo NF is proposing to mow a system of fuelbreaks 300 feet wide, 150 feet on either side of the roads.
Addition Related Projects for Biological Resources and Transportation and Circulation			
Lake Ridge Ranch Estates	Crowley Lake, 12 miles south of Mammoth Lakes	79.5 acres	114 single-family residential lots
C & L Specific Plan	East of Lower Rock Creek in the community of Sierra Paradise	53.4 acres	53 single-family residential lots

Table 5-1 (Continued)

Related Projects

Name	Location	Size	Description
Crowley Lake Estates Specific Plan	Crowley Lake, 12 miles south of Mammoth Lakes	9 acres	5 single-family residential lots; one commercial lot; one multi-family residential lot
Rimrock Ranch Specific Plan	Wheeler Crest, 25 miles south of Mammoth Lakes	180 acres	35 single-family residential lots
Benton Crossing Landfill Expansion	4.7 miles east of the intersection of U.S. Highway 395 and Benton Crossing Road in Long Valley	50 acres	Expand property boundaries and increasing disposal capacity
Pine Creek Communities Specific Plan	10 miles northwest of Bishop, CA	280 acres	189 single-family residential lots; closure of a 47-space mobile home project
Rodeo Grounds Specific Plan	Southwest of June and Gull Lakes off US 158	90 acres	499 multi-family and single family, condo resort hotel, 30,000 commercial.

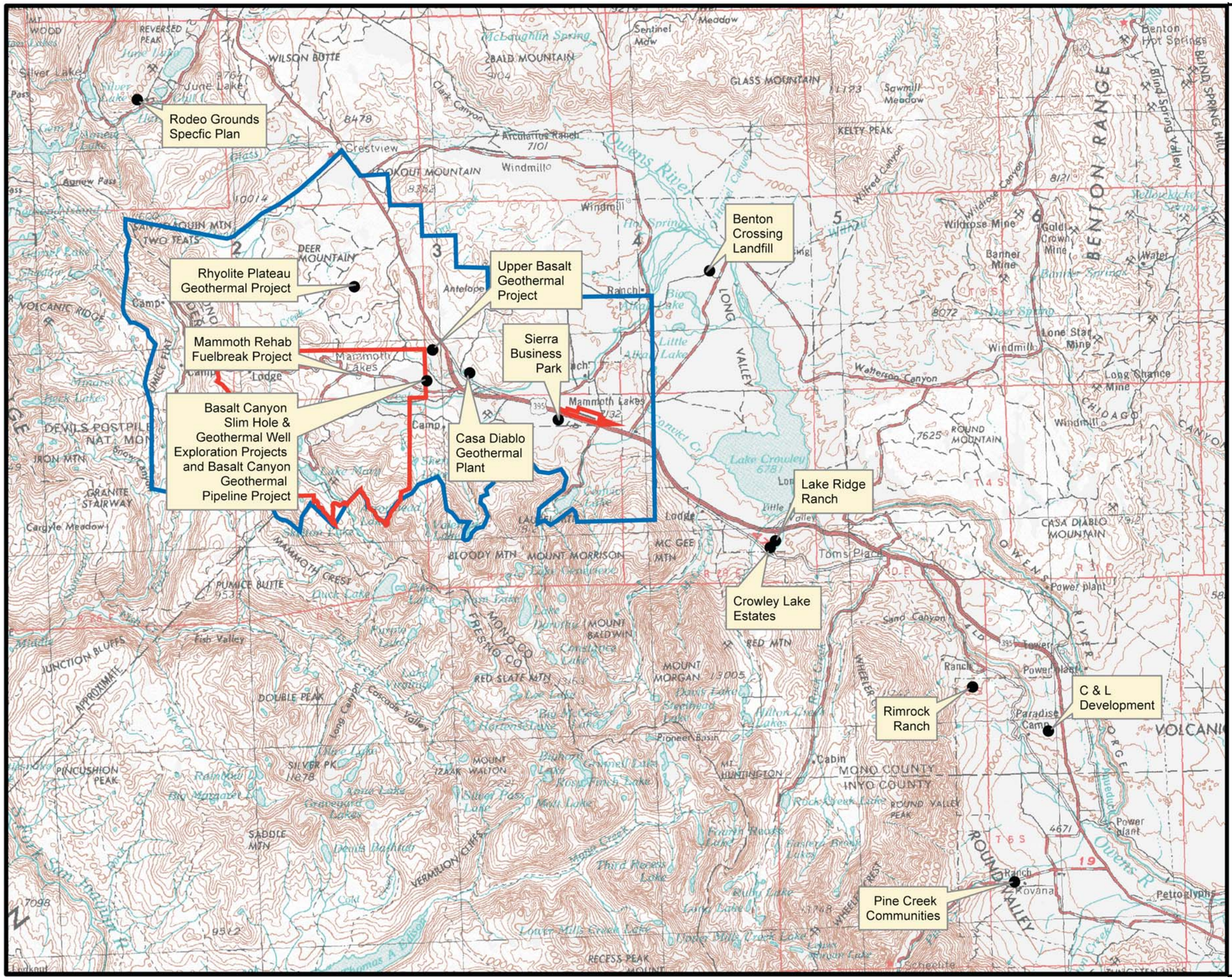
Source: Town of Mammoth Lakes, 2005

Air Quality

~~With implementation of measures and mitigation measures, the Updated Plan and related projects would not be expected to cause an exceedance of the federal PM_{10} standard. Nonetheless, the Mammoth Lakes portion of the GBVAB is designated as nonattainment for O_3 (State standard only) and a nonattainment area for PM_{10} (State and federal standards). In addition, the State 24 hour PM_{10} and 1 hour O_3 standard continue to be exceeded. Therefore, the increase in pollutant emissions associated with implementation of the Updated Plan and related projects would be considered cumulatively considerable and significant and unavoidable. The O_3 impact is primarily the result of pollution generated in the San Joaquin Valley, transported by air currents and winds over the Sierra Nevadas into the Planning Area during limited periods of the year and is not a condition substantially generated by Town activities. In fact, exceedances of the O_3 standard would likely occur without any contribution of emissions of O_3 precursors (nitrogen oxides and hydrocarbons) from Town activity. In addition this significant and unavoidable impact would also occur under the existing General Plan.~~

~~Table 5-2 on page 5-5 presents the modeled PM_{10} emissions from the Updated Plan relative to current conditions (Year 2004) and the existing Plan (2024). The Updated Plan would result in a three percent increase in PM_{10} emissions in comparison to the Existing General Plan and a 44 percent increase in PM_{10} emissions in comparison to the Existing Conditions (2004). However, implementation measures and mitigation measures provided under Issue 4.2-2~~

Town of Mammoth Lakes



Base Map: Mariposa 1 x 2 degree sheet
Source: Town of Mammoth Lakes

Figure 5-1 Location of Related Projects

~~**Table 5-2**~~

~~**Comparison of Modeled PM_{10} Emissions**~~

	~~Existing Conditions (2004)~~	~~Existing Plan[1] (2024)~~	~~Updated Plan[1] (2024)~~
~~Wood burning emissions (kg/day)~~	~~941~~	~~551~~	~~551~~
~~Vehicle-related emissions (kg/day)~~	~~1,843~~	~~3,377~~	~~3,455~~
~~Total emissions (kg/day)~~	~~2,784~~	~~3,888~~	~~4,007~~

~~[1] *Includes burn ban for EPA-approved stoves.*~~

~~*Source: Enviroscientists, Inc., 2005.*~~

~~would ensure that the Updated Plan would meet the federal standards. Nonetheless, a 44 percent increase in PM_{10} emissions in comparison to the Existing Conditions combined with the fact that the State 24-hour PM_{10} standard has been violated every year that adequate records have been maintained would thus be considered cumulatively considerable.~~

The 14 identified related projects listed in Table 5-1 include various development projects encompassing residential, corporate, and industrial uses. Of these 14 identified projects, seven are located within the Town of Mammoth Lakes Planning Area, and seven are outside the Planning Area. All of the related projects are located in Mono County except for the Pine Creek Communities, which is located in Inyo County. All of the related projects are located within the Great Basin Valley Air Basin (GBVAB). The GBVAB is considered non-attainment for state ozone and PM_{10} standards, and in attainment of all federal standards, except PM_{10} in the Town of Mammoth Lakes.

The construction and implementation of these related projects could result in increased air pollutant emissions from direct and indirect sources, which may cause a cumulative impact to air quality. However, the Town has no control over the timing and sequencing of the related projects, and as such, any quantitative analysis that assumes multiple, concurrent construction projects would be entirely speculative, which is discouraged by CEQA.

Construction would contribute additional emissions of criteria pollutants and TACs from activities such as fuel burning in on- and off-road equipment, painting, and asphalt application, and fugitive sources of dust from earth disturbing activities. Construction of the related projects outside the Planning Area would contribute emissions of criteria pollutants to the air basin, but are unlikely to contribute to an increase in the ambient concentrations of the Town due to their locations relative to Town. The distance from Town to these projects range from two miles to 25 miles. In addition, all of the related projects outside of the Planning Area with the exception of the Rodeo Grounds development are at lower elevations and are located downwind of the Town during the prevailing winter time winds from the north and west. Construction of the Rodeo

Grounds development is unlikely to contribute to ambient particulate concentrations due to the existing topography in the region. The Town of Mammoth Lakes and the Rodeo Grounds development are separated by San Joaquin Mountain, June Mountain, and White Wing Mountain. Therefore, construction activities are unlikely to contribute cumulatively to local PM_{10} concentrations. Construction of the related projects within the Planning Area may contribute to local ambient concentrations of particulate matter, but these would be considered temporary in nature, with heavy earthmoving occurring primarily in the summer months when ambient concentrations of PM_{10} are considerably less than winter time levels, and unlikely to contribute to or cause exceedances of the federal PM_{10} standard. Emissions of VOCs and NOx emitted during construction are unlikely to contribute to ground level ozone concentrations in the GVBAB, due to the CARB's determination that the transport of ozone from the San Joaquin Valley is "overwhelming".

The operation of these related projects would cause increases in emissions from stationary sources (industrial processes, boilers, heaters, electrical power production, consumer goods, chemical usage, surface coatings, maintenance activities, etc.) and mobile sources (vehicle trips related to commuting from work and school, shopping, and recreational activities, earthmoving at the landfill, etc.) within the GVBAB. Stationary sources with the potential to impact air quality are regulated by the GBUAPCD and subject to emissions standards designed to minimize impacts to ambient air pollutant levels. As discussed in the Traffic cumulative analysis, the additional burden of most of these developments on traffic in the Town was addressed in the traffic model used to estimate VMT under build-out conditions. This estimated cumulative VMT was used to calculate the increase in emission of criteria and precursor pollutants, presented in Table 4.2-3. Therefore, the impact from implementation of the related projects is accounted for in the analyses contained in this EIR.

Impacts resulting from the allowed build-out under the Draft General Plan Update are considered significant and unavoidable with respect to State PM_{10} and O_3 standards; therefore impacts are considered cumulatively significant for those State standards. Future emissions of PM_{10} would be managed and mitigated so as to ensure that ambient levels in the Town of Mammoth Lakes remain below the federal PM_{10} standard, and project-related impacts are considered less than significant. Since the related projects are unlikely to contribute to or cause exceedances of the federal PM_{10} standard, the cumulative impact with respect to the federal standard is considered less than significant.

Biological Resources

For Biological Resources the cumulative effects area is bounded by the June Lakes area and Benton Hot Springs to the north, and the Tungsten Hills and the Pincushion Peak area to the south (Figure 5-1). The cumulative effects area for Biological Resources is larger geographically

than other issue areas to take into account all of the projects along the migration corridors for the Round Valley and Casa Diablo deer herds.

Vegetation

Implementation of the project would not be expected to significantly reduce or modify the existing vegetation community types because of the limited extent of development when compared to the regional setting. However, the removal of mature plant communities, either by development or human-caused fire, creates the potential for the introduction of noxious weeds, nonnative, or undesirable plants. This cumulative impact is considered potentially significant. The Updated Plan includes numerous policies and implementation measures that would serve to protect biological resources, including vegetation. For example, Implementation Measure I.2.A.a.4 provides the Town with authority to require a tree survey, including preservation and a replacement plan, prior to issuance of a grading permit for discretionary actions. Implementation Measure I.1.B.f.1 requires that site design make every feasible effort to preserve large specimen trees and pursue aggressive replanting with native trees. Measure I.1.B.d.5 requires a biological assessment for development projects. Such an assessment would identify any sensitive species. The measure also requires the protection or replacement of any identified species to mitigate any potential impacts. Therefore, the policies and implementation measures in the Updated Plan would reduce cumulative impacts to vegetation within the Planning Area to less than significant.

Wildlife

In general, the cumulative impacts to wildlife resources would be the direct impact of loss of habitat as a result of surface disturbance and the indirect results of increased population (e.g., vehicle mortality, noise, recreational use, human-caused fires, domestic pets). Increased human intrusion may displace wildlife species from critical or high quality habitats, travel corridors, nest sites, or areas immediately adjacent to project areas and roads. Implementation of the related projects in addition to the Updated Plan would not be expected to significantly increase habitat fragmentation due to their dispersed nature and the large amount of public land within the cumulative effects area.

Future proposed projects on federal lands (e.g., mines and geothermal) and on private lands (e.g., residential and commercial) would be subject to agency approval. The development that would occur as a result of the Updated Plan would be limited to within the UGB. However, the Updated Plan includes policies and implementation measures to protect wildlife within the Planning Area. Measures to protect wildlife include Measure I.1.B.d.4, which requires a biological assessment for development projects. In addition, Measure I.1.B.d.2 requires that preservation and conservation strategies be prepared to protect biological resources when discretionary development is proposed on lands with such resources. Also, as discussed in Section 4.3, Biological Resources, there are approved recovery and management plans for

several species in the region. Finally, many of the development projects would require environmental analysis, which would include the identification and mitigation of any potential significant impacts to wildlife resources on an individual and cumulative basis. Nonetheless, as described below, there is the potential for increased recreational use of the public lands which could have unidentified, but significant impacts on wildlife. Therefore, the Updated Plan in conjunction with the related projects may result in a significant impact on wildlife that is not fully mitigated by the measures in the plan.

Special Status Species

This discussion focuses on species that are either migratory, federally listed, petitioned for federal listing, or in the case of mule deer, a species of special concern to CDFG. Each of the following species was determined to potentially be adversely affected by the cumulative impacts of the projects within the cumulative effects area for Biological Resources: Sierra Nevada bighorn sheep, mule deer, sage-grouse, and Owens tui chub. The nature and significance of the impacts are discussed in the following sections.

Sierra Nevada Bighorn Sheep

The only sheep population within the cumulative effects area is the Wheeler Crest population, located approximately 15 miles southeast of the Town. The Rimrock Ranch, Pine Creek Communities, C & L Development, Crowley Lake Estates, and Lake Ridge Ranch development projects are located within five miles of the Wheeler Crest population.

The Project and the residential development projects proposed within the cumulative effects area would result in an increase in visitor use throughout the east slope of the Sierra Nevada Range. Indirect effects on Sierra Nevada bighorn sheep could include disturbance to sheep and avoidance of preferred use areas due to an increase in the number of tourists backpacking into the high elevations of the Sierra Nevada Range where the bighorn sheep occur. However, current Inyo National Forest Management Direction controls the number of overnight visitors entering the John Muir Wilderness portion of the Wheeler Crest. Therefore, a significant increase in visitation to the bighorn sheep range is not anticipated.

Protection measures contained in the Draft Recovery Plan for the Sierra Nevada Bighorn Sheep would lessen cumulative impacts on bighorn sheep. A large portion of the area used by the Wheeler Crest population is within the John Muir Wilderness Area. The USFS strictly controls the number of back-country permits that are issued for wilderness area travel. Furthermore, the USFS does not permit entry into some bighorn sheep use areas in the Sierra Nevada Range between July 1st and December 15th to reduce potential disturbance to sheep. The USFS addresses potential adverse effects to the Sierra Nevada bighorn sheep through its policies, regulations, and land use plans. Actions taken by the USFS would be in accordance

with the recovery objectives, recommended recovery actions, and downlisting criteria that are established in the interagency Draft Recovery Plan (USFWS 2003).

As indicated in Section 4.3, Biological Resources, the Updated Plan would not result in impacts to the bighorn sheep as the Wheeler Crest population is located on public lands managed by the Inyo National Forest, including a portion of the John Muir Wilderness. The General Plan of the Town does not propose any development in or adjacent to the bighorn sheep habitat and overnight access to that habitat is restricted by existing Inyo National Forest policy. Therefore, the potential cumulative impact to bighorn sheep is considered as less than significant.

Mule Deer

Cumulatively, the projects have the potential to partially obstruct or disrupt major deer migration corridors and holding areas. Incremental loss of habitat along the migration corridors would result from development, reduction of hiding cover, and increased harassment of deer by dogs, vehicles, noise, lighting, and human presence. Interference with established migratory corridors would be a potentially significant cumulative effect.

The migration corridors and holding areas for the Round Valley and Casa Diablo deer herds are described in Section 4.3, Biological Resources. The following projects are within the migration corridors or holding areas for the Round Valley Herd:

- Pine Creek Communities;
- C & L Development;
- Rimrock Ranch;
- Crowley Lake Estates;
- Lake Ridge Ranch;
- Casa Diablo Geothermal Plant;
- Basalt Canyon Slim Hole and Geothermal Well Exploration projects;
- Basalt Canyon Geothermal Pipeline Project; and
- Sierra Business Park.

With the exception of the proposed Hot Creek Development at the Mammoth Yosemite Airport, development associated with the project is located outside the deer migration corridors. However, human activities associated with the Project may influence deer use of adjacent corridors and holding areas. The CEQA and NEPA documents prepared for most of the cumulative projects concluded that those projects would not impact deer habitat or migratory corridor use. However, the Rimrock Ranch and the Pine Creek Communities projects would, as proposed, have significant impacts on the Round Valley Herd (CDFG Letter May 11, 2001; Inyo County Board of Supervisors 2004).

Depending on the scope and intensity of habitat alterations and disturbance factors in migration corridors, deer may continue use of existing trails, select alternate trails, or abandon use of the migration corridors. The proposed development within the cumulative effects area would not substantially disrupt deer movements between summer and winter ranges. The majority of the land within the cumulative effects area is under the jurisdiction of two federal agencies, the BLM and the USFS, and the LADWP. Cumulative development potential based upon the areas of the proposed development projects within the Round Valley herd winter and migration ranges is approximately ten square miles out of over 100 square miles of habitat.

The human population increase associated with the projects within the cumulative effects area would be expected to result in an increase in deer fatalities from vehicular traffic. The California Department of Transportation reported that an average of 17 deer were killed annually on U.S. Highway 395 from mile post zero to 26.5 for the period of 1990 and 2000 (Town 2001d).

A significant impact to mule deer has been established as a result for impacts associated with Rimrock Ranch and Pine Creek Communities projects, both of which are located near established deer migration corridors. As discussed in Section 4.3, the project area is removed from any migration corridor and would not directly impact the movement of deer herds. However, indirect impacts including an increased incidence of deer kills on U.S. Highway 395 would, in the cumulative context of other regional developments, be significant and unavoidable.

Sage-Grouse

The Long Valley sage-grouse population is within the South Mono Population Management Unit. Projects in the vicinity of known sage-grouse occurrences include the Sierra Business Park, MPLP geothermal projects, Lake Ridge Ranch, Rimrock Ranch, Benton Crossing Landfill, and the Mammoth Yosemite Airport component of the Project. The existing and potential risks for the South Mono Population Management Unit, which have been identified by the Bi-State Local Planning Group (2004) and which could be expected to result in cumulative impacts from the aforementioned projects include the following: recreation, poaching, fences and transmission lines, urbanization/changing land use, geothermal development, cheatgrass/invasive exotic plants, and road kill hazards. Due to the vulnerability of the isolated Long Valley populations, these cumulative impacts are potentially significant.

Sage-grouse populations in the South Mono Population Management Unit would be affected from an increase in recreational activities associated with the projects year round, but especially during the breeding and nesting seasons. Some critical sage-grouse habitats in the South Mono Population Management Unit are accessible for public recreation year round. This impact potentially affects sage-grouse habitat quality and quantity as well as the population (Bi-State Local Planning Group 2004).

Transmission lines provide perches for predatory birds which attack the sage-grouse. Several existing transmission lines impact sage-grouse habitat. A transmission line from Little Antelope area to the Glass Mountains goes through a lek area, brooding, nesting, and wintering habitats. A transmission line also passes through a sage-grouse use area on the south side of U.S. Highway 395. A local transmission line on Benton Crossing Road is potentially impacting sage-grouse in the area. Future geothermal development near the Town may expand transmission line corridors. Raptor perch inhibitors are being used on some transmission line poles within the Population Management Unit.

Several planning mechanisms are in place to mitigate impacts to sage-grouse. Approximately 97 percent of the South Mono Population Management Unit is publicly owned (Bi-State Local Planning Group 2004). The USFS and BLM administer most of these lands and have management plans for sage-grouse that guide actions on federal land. In addition, the CDFG is in the process of preparing a 'Species Conservation Plan for Greater Sage-Grouse in Mono County'. The Town, Mono County, USFS, USGS, BLM, LADWP, and NDOW are partners in the conservation planning effort. Finally, the Greater Sage-Grouse Conservation Plan for the Bi-State Plan Area of Nevada and Eastern California by the Bi-State Local Planning Group in conjunction with the Nevada Governor's Conservation Team (2004) identifies potential impacts and monitoring needs, and proposes mitigation measures for any impacts identified during monitoring that apply to sage-grouse populations within the cumulative effects area. These planning documents and management programs are designed to prevent substantial adverse effects to the sage-grouse. However, as a result of increased use of the sage grouse habitat for recreation by town residents, the potential for significant cumulative impacts would remain.

Owens Tui Chub

The projects within the cumulative effects area that are in the watershed above Hot Creek headsprings include the Sierra Business Park, the Casa Diablo Geothermal Plant, the Upper Basalt Geothermal Project, the Basalt Canyon Slim Hole and Geothermal Well Exploration Projects, the Basalt Canyon Geothermal Pipeline Project, the Mammoth Rehab Fuelbreak Project, and the Project. Activities that decrease available water at the Hot Creek headsprings or cause a significant change in the physical or chemical properties of the water within the designated critical habitat for the Owens tui chub would result in a significant cumulative impact.

Reduction in flows at the Hot Creek headsprings is thought to be attributable to reductions in the non-thermal contributions of water (USFWS 2001). Groundwater extraction upgradient of the Hot Creek headsprings may result in reduced flows. Several hydrogeologic evaluations have been conducted (Schimdt and Associates 1993; 1994; 1995; 1996; 1997; 1998; 1999; Wildermuth 1996; 2003). The results of the monitoring indicate that MCWD pumping did

not influence the Hot Creek headsprings. The USGS reviewed the monitoring data and believes that it is inconclusive and that additional information would be required in order to draw a definitive conclusion on the interaction between groundwater pumping and surface water resources (Farrar 1995; 1996; 1997). Although some uncertainty may exist, available information and expert opinion support the conclusion that there is no connection between the MCWD groundwater pumping and flow discharges at the Hot Creek headsprings.

Individual project proponents would be subject to state and federal regulations to protect surface and groundwater quality. Runoff prevention and drainage systems would be designed to protect surface and groundwater quality and reduce the entry of contaminants into the local aquifers and possibly the source waters for Hot Creek headsprings. Therefore, the cumulative effects of the projects listed above would not have a significant impact on the Owens tui chub or conflict with the provisions of the Owens Basin Wetland and Aquatic Species Recovery Plan (USFWS 1998).

Geology, Soils and Mineral Resources

The geographic area for the cumulative analysis associated with geology, soils and mineral resources would be the Planning Area. However, grading and excavation impacts, including the potential for unstable soils, erosion, and landslides to occur, as well as geologic hazards are typically confined to a very localized area. In addition, all projects would be required to comply with applicable state and local regulations regarding development associated with geotechnical hazards. The related projects in combination with the project would not result in cumulatively significant geology, soils, or mineral resources impacts.

Public Safety and Hazards

For Public Safety and Hazards the cumulative effects area is the Planning Area. The majority of the related projects within the planning area are geothermal projects. Development and the exposure of people to public safety and hazards issues would occur within the UGB. The distance between the related projects and the area in which people reside is substantial and therefore, the related projects would not significantly impact Town residents. The area outside of the UGB is generally not developed. However, the project would result in an increase in the use of lands within the Planning Area due to an increase in outdoor recreation. This increased outdoor recreational use arising from the project, in combination with the related projects, could result in cumulatively significant public safety and hazards impact associated with wildland fires.

Hydrology and Water Quality

For hydrology and water quality the cumulative effects area is the Mammoth Hydrologic Basin. The majority of the related projects within the planning area are geothermal projects that, while in the same watershed as the town, do not share the same water supply as the town (geothermal brine is non-potable and comes from different aquifers). Therefore, cumulative impacts to water supply are less than significant. All projects would be required to comply with applicable federal, state and local regulations regarding runoff and erosion control, hydrology, and water quality. The project would result in a less than significant impact to hydrology and water quality due to policies and implementation measures in the Updated Plan as well as applicable regulations at the federal, state and local levels. Therefore, the project would not contribute to a cumulatively significant impact with regard to hydrology and water quality.

Land Use Planning

For Land Use and Planning the cumulative effects area is the Planning Area. The majority of the related projects within the planning area are geothermal projects. The developed area within the Planning Area is limited to the UGB. Given that the related projects are outside the UGB and the Municipal Boundary, the project in conjunction with the related projects would not have a significant land use and planning impact.

Noise

All of the identified related projects have been considered for the purposes of assessing cumulative noise impacts. The potential for noise impacts to occur are specific to the location of each related project as well as the cumulative traffic on the surrounding roadway network. Due to the rapid attenuation characteristics of ground-borne vibration, there is no potential for a cumulative construction- or operational-period impact with respect to ground-borne vibration.

Of the related projects that have been identified within the study area, the Town has no control over the timing or sequencing of the related projects, and as such, any quantitative analysis that assumes multiple, concurrent construction projects would be entirely speculative. Construction-period noise for the Updated Plan and each related project (that has not yet been built) would be localized. In addition, it is likely that each of the related projects would have to comply with the applicable noise ordinance, as well as mitigation measures that may be prescribed pursuant to CEQA provisions that require significant impacts to be reduced to the extent feasible.

Regarding potential cumulative operational impacts, on-site uses (primarily geothermal projects) would be located at sufficient distances such that distance and topography such that

there is no potential for cumulative stationary source noise impacts. In addition, each of the related projects would have to comply with the applicable noise ordinance. No increase in traffic related noise levels within the Town are anticipated from the related projects. However, traffic from development associated with the Updated Plan combined with related project traffic could incrementally increase noise levels along ~~Interstate~~Highway 395 within the Planning Area and result in a cumulative significant noise impact.

Traffic

For Transportation and Circulation the cumulative effects area is bounded by the June Lake area and Benton Hot Springs to the north, and the Tungsten Hills and the Pincushion Peak area to the south. The related projects are listed in Table 5-1 and shown in Figure 5-1.

Traffic volumes within the cumulative effects areas would continue to increase with the buildout of the project and the related projects. The traffic study prepared for the Updated Plan (see Appendix F) considered impacts from the Sierra Business Park in the traffic modeling described in Section 4.13. Buildout of the housing projects listed in Table 5-1 would provide an additional 396 single family residences and one multi-family unit. The traffic impacts from the additional development would be partly mitigated by the loss of 47 mobile home spaces. Cumulative traffic effects of the Rodeo Ground Specific Plan were not analyzed in detail because the actual project has yet to be finalized, firm unit projections are not available, as well as the relatively long physical and travel distance from this area to the Town and the general lack of economic connectively between the two areas. Other projects listed in Table 5-1 are not considered to generate a substantial amount of additional traffic. The primary cumulative traffic impacts would be to U.S. Highway 395 which serves as the major traffic route in the area (Figure 5-1). At buildout of the project, U.S. Highway 395 south of Hot Creek Hatchery Road would operate at just 33 percent of capacity (2,700 vehicles per hour peak direction) on a peak winter Saturday afternoon. Therefore, cumulative impact from the project and the residential developments described in Table 5-1 would not be significant because the traffic generated by the development of the additional residential units would be an insignificant portion of the remaining capacity of U.S. Highway 395. The additional traffic burden of these developments on traffic in the Town was addressed in the traffic model as day-use skier and employee model input data.

The Benton Crossing Landfill would receive some portion of the trash generated by the new development within the cumulative effects area. The traffic impacts of transporting garbage from developments to the Landfill would vary depending on type of garbage service provided to the developments. The additional traffic to the Benton Crossing Landfill is not expected to be significant because of the relatively small number of additional residences.

Public Services and Utilities

The related projects within the Planning Area would not increase the demand for public services and utilities within the Planning Area. The related projects within the Planning Area would not result in an increase in population. Therefore, the project in combination with the related projects would not result in a cumulative impact to public services and utilities.

Recreation

The related projects within the Planning Area would not result in an increase in population as the projects would result in the development of non-residential floor area. In addition, employment for the projects would likely be people already residing in the area. As discussed in the Recreation Section of this document, the project would result in a significant impact on recreation due to the increase in population and the fact that additional park land would be necessary but is as of yet undefined. However, if any workers for the related projects were to reside within the UGB, the analysis for the project addresses the increase in demand that would occur. Therefore, the project in combination with the related projects would result in a less than significant impact with regard to recreation.

Population, Housing, and Employment

Section 4.9 provides an analysis of the potential impacts to population, housing, and employment associated with the implementation of the Updated Plan. The Updated Plan would not result in significant population, housing, or employment impacts. The related projects that are geothermal in nature within the Planning Area would not increase or impact population, housing and employment. Additional development associated with the Sierra Business Park would increase employment and impact population growth. The Sierra Business Park Specific Plan and Draft EIR (Bauer Planning and Environmental Services, Inc. 2000), estimated the total employment to be between 820 and 2,293 employees based on a maximum floor space of 573,250 square feet and light industrial, office, or retail uses. Some of the Sierra Business Park is already developed. The Sierra Business Park would likely provide job opportunities for residents in the region. Any housing demand that would occur as a result of town growth could be accommodated by the land use designations and policies proposed under the Updated Plan.

Cultural Resources

The geographic area for impacts to cultural resources is the Planning Area. With incorporation of mitigation measures, the project would result in less than significant impact with regard to cultural resources. While related projects within the Planning Area would have the potential to impact cultural resources, applicable federal and state regulations would provide

protection to cultural resources if they were discovered. Therefore, the project in combination with the related projects would result in a less than significant cumulative impact with regard to cultural resources.

6.0 OTHER CEQA CONSIDERATIONS
A. IRREVERSIBLE ENVIRONMENTAL CHANGES

Section 15126.2(c) of the CEQA Guidelines requires that significant irreversible environmental changes that would be caused by implementation of a proposed project be evaluated to ensure that such changes are justified. Irreversible changes include the use of nonrenewable resources during the construction and operation of a project to such a degree that the use of the resource thereafter becomes unlikely. A significant environmental change can result from a primary and secondary impact (such as a highway improvement that provides access to a previously inaccessible area) that generally commits future generations to similar uses. Finally, irreversible environmental change can also result from environmental accidents associated with the project.

Implementation of the Updated Plan would result in a commitment of limited, slowly renewable, and nonrenewable resources, as these resources would be used in construction projects. The Updated Plan provides for development and redevelopment of lands within the UGB. Such limited, slowly renewable, and nonrenewable resources would include certain types of lumber and other forest products, the raw materials in steel, metals such as copper and lead, aggregate materials used in concrete and asphalt such as sand and stone, water, petrochemical construction materials such as plastic, and petroleum based construction materials. In addition, fossil fuels used in construction vehicles would also be consumed.

The Updated Plan would involve the ongoing consumption of limited, nonrenewable, and slowly renewable resources such as natural gas and electricity, petroleum based fuels, fossil fuels, and water. Energy resources would be used in the retail spaces for heating and cooling of areas, transporting people and goods to, from, and within the spaces, heating and refrigeration for food storage and preparation, heating and cooling of water, and lighting. Title 24 of the California Administrative Code would require conservation practices that would limit the amount of energy consumed by the project. Nevertheless, the use of such resources would continue to represent a long-term commitment of essentially nonrenewable resources.

The Updated Plan would commit particular locations to specific land uses as the Updated Plan would provide guidance for the buildout of the community. Development under the Updated Plan would result in the permanent conversion of vacant areas within the UGB to developed uses. In addition, the Updated Plan would result in an intensification of development and strengthened orientation to resort and recreational uses compared with existing conditions, which would change the character of Mammoth Lakes. However, a similar change would result

from implementation of the existing General Plan. Potential environmental impacts associated with these changes are analyzed in Chapter 4.0 of the Revised Draft PEIR.

In terms of other issues provided in the CEQA Guidelines for consideration, the Updated Plan would not provide for infrastructure improvement, i.e., roadways, which would provide access to a previously inaccessible area. In addition, the Updated Plan would not result in an environmental accident that could result in significant and irreversible environmental change. The Update Plan does not provide for an increase in the use of hazardous materials. Any uses within the Town that use hazardous materials would be required to comply with all applicable federal, state and local regulations as discussed in Section 4.5, Public Safety and Hazards, of this EIR.

The commitment of the limited, slowly renewable, and nonrenewable resources required for the construction and operation of the Updated Plan would limit the availability of these resources for future generations or for other uses during the life of the program. However, continued use of such resources is consistent with regional and local growth and anticipated change in the area. No other significant irreversible changes would occur as a result of program implementation.

6.0 OTHER CEQA CONSIDERATIONS
B. GROWTH-INDUCING IMPACTS

Section 15126.2(d) of the CEQA Guidelines requires that an EIR analyze growth-inducing impacts of a project. Projects which foster economic or population growth or the construction of additional housing, either directly or indirectly, in the area surrounding a project site are potentially growth-inducing. Also, the removal of obstacles to growth as well as the development of facilities that encourage and facilitate growth are potentially growth-inducing. As stated in the CEQA Guidelines, it is not to be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment.

The Updated Plan can be expected to relate to growth in two very broad ways. First, it defines a capacity for growth within the jurisdiction of the Town of Mammoth Lakes, and secondly, it has the potential to indirectly cause growth outside of the town's jurisdiction. With regard to the first growth relationship, the Project would provide capacity for growth within the Town from 9,871 existing housing units of all sorts and in existing peak people at one time count (PAOT) of 34,264 to comparable values upon buildout in 2024 of 16,710 housing units and 60,700 PAOT. The potential growth is for 6,839 housing units and 26,436 PAOT over the next 19 years. While these growth increments and the changes to be expected therefrom are appreciable, the impacts associated with it have been thoroughly analyzed and discussed in Chapter 4 of this Revised Draft PEIR.

Moreover, the Updated Plan would neither induce nor foster, that is, cause, this growth to occur. It is interesting to note that while the existing General Plan provided growth capacity in 1987 for 17,396 housing units of all sorts and 61,376 PAOT, both somewhat greater than proposed in the Updated Plan, nowhere close to that growth has actually occurred. This is because the General Plan does not actually cause or induce growth, but is instead dependent on demand for recreational and related opportunities which has its principal origins in other parts of California and the West. As these regions grow, and southern California, as the dominant source of this demand, will be under tremendous growth pressure for the next 20 years, demand on the recreational potential in and around the Town of Mammoth Lakes would also continue to grow. The importance of the recreational segment to overall growth capacity within the Town is evidenced by the fact that 70% of total existing housing units of all sorts is for transient occupancy, and that 73% and 72% of existing General Plan and Updated Plan capacity, respectively, is as well. In addition, the project maintains the urban growth boundary in its current location and does not propose to extend the road network. Therefore, the project would not enable development to occur outside of the already developed areas of town.

The intent of the Project is to serve as a blueprint for the physical development of the community and a foundation for optimizing land use decisions based on community goals and policies related to land use, transportation, population growth and distribution, development, open space, resource preservation and utilization, infrastructure, and other related physical, social, and economic factors. To the extent that demand cannot be absorbed where it is focused in the Town of Mammoth Lakes under either the Updated Plan or any reduced intensity scenario, efforts can be reasonably expected elsewhere to absorb it. This may occur in the form of efforts to expand existing destination resorts or proposals to create new ones, either of which would likely have environmental consequences of their own. What is clear is that the Town of Mammoth Lakes cannot stem the demand being generated in other regions, but can only determine how much and how well to accommodate it, on the one hand, and how much of that demand to deflect to other recreational locales on the other.

With regard to the second type of growth relationship, the Updated Plan does have the potential to affect growth in outlying communities beyond the Town's jurisdiction since the employment base in Mammoth Lakes is expected to increase at a faster rate than population and local employees are drawn from a much larger geography than the town, itself. As a result, housing demand indirectly related to growth within the Town of Mammoth Lakes is likely to impact nearby county communities such as Lake Crowley, June Lake, and Lee Vining as well as more distant locations, particularly in and around Bishop, and even points south. All of these communities have experienced spin-off growth over the past decade, an unknown fraction of which can be indirectly attributed to growth in the Town of Mammoth Lakes.

As the Town of Mammoth Lakes continues to grow, it is anticipated that it would continue to export some amount of employee housing demand as well as opportunities for goods and service providers to outlying communities in the Mono Basin and upper Owens Valley. Unfortunately, the amounts of such exported housing and business demand cannot be estimated without undue speculation. While incremental urbanization effects such as those attributable to the conversion of open spaces, traffic generation with associated air and noise pollution, need for public services and utilities, etc., can be imagined, the magnitude of such an increment or its geographic distribution cannot be accurately identified. It is possible that such growth would comply with the expectations of the respective host communities. However, because it cannot be argued with certainty that this would be the case, for purposes of conservative documentation in this Revised Draft PEIR, it is concluded that the Updated Plan has the potential to induce significant growth-inducing impacts in one or more outlying communities and that those communities would not be able to satisfactorily mitigate such effects.

6.0 OTHER CEQA CONSIDERATIONS
C. EFFECTS FOUND NOT TO BE SIGNIFICANT

Pursuant to Section 15128 of the State CEQA Guidelines, an EIR must contain a statement briefly indicating the reasons that various possible significant effects of a project were determined not to be significant and were, therefore, not discussed in detail in the EIR. This section discusses those issue areas that were determined not to require further analysis in the EIR through the Initial Study process. This section explains how a less than significant determination was derived for the issue area in question.

Agricultural Resources

Based on information provided by the Town as well as comments received on the NOPs, there is no evidence that the Updated Plan would cause significant environmental effects on agricultural resources. There are no prime or unique farmlands or other agricultural operations within the UGB or the Municipal Boundary. All new disturbance under the project would occur within the UGB or on adjacent lands that may be acquired from the USFS through land exchanges. In addition, the project would not lead to a conflict with existing zoning for agricultural uses or a Willamson Act contract nor would it result in conversion of farmland to non-agricultural uses for the same reasons. Therefore, the project would not impact agricultural resources. Note that the USFS has issued grazing leasehold permits to a number of cattle and sheep operations, several of which enter into the Planning Area. Issues pertaining to these allotments are addressed in the Land Use Section of this Revised Draft PEIR.

Hazards and Noise Relative to Private Airstrips

There are no private airstrips within the Planning Area. Therefore, no safety hazards or noise impacts for people residing or working in an area within the vicinity of a private airstrip would occur.

Hazards Relative to Cortese List

No sites within the Planning Area have been included on a list of hazardous material sites compiled pursuant to Government Code Section 65962.5. Accordingly, no development associated with implementation of the Updated Plan would be subject to existing hazards from such a site.

1. SIGNIFICANT UNAVOIDABLE IMPACTS

Section 15126.2(b) of the CEQA Guidelines requires that an EIR describe significant environmental impacts that cannot be avoided, including those effects that can be mitigated but not reduced to a less than significant level. Following is a summary of the impacts that were concluded to be significant and unavoidable. These impacts are also described in detail in Chapter 4 of this EIR.

Aesthetics

Due to the permanent change in visual character of newly developed areas of the Town, it is concluded that impacts to the Town's visual character and quality are significant and unavoidable. In addition, due to the increase in night lighting that would occur from development associated with the Updated Plan, the project would result in a significant impact with regard to night lighting and a reduction in the quality of star-gazing for residents and visitors that would result.

Air Quality

With the incorporation of implementation measures in the Updated Plan as well as a mitigation measure in Section 4.2, development associated with the Updated Plan would not be expected to exceed the federal air quality standards. However, the State 24 hour PM_{10} and 1 hour O_3 standard would continue to be exceeded. The O_3 impact is primarily the result of pollution generated in the San Joaquin Valley, transported by air currents and winds over the Sierra Nevadas into the Planning Area during limited periods of the year and is not a condition substantially generated by Town activities. Mitigation measure 4.2-1 would decrease the long-term impacts to air quality from wood burning and road dust, but attainment of the State standard for PM_{10} and 1 hour standard for O_3 are not expected. Therefore, the Updated Plan would result in a significant and unavoidable air quality impact and sensitive receptors would be exposed to substantial pollutant concentrations associated with implementation of the Updated Plan. The project would also contribute to a cumulative air quality impact.

Biological Resources

Development associated with implementation of the Updated Plan would involve the redevelopment of land or the development of vacant lands within the Urban Growth Boundary. With implementation measures contained in the Updated Plan, impacts attributable to land and/or infrastructure development within the UGB to species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFG or the USFWS would be reduced to a less than significant level. However, the Updated Plan has potential for indirect impact upon resources beyond the UGB and even the Planning Area. Such potential is associated with incidental contact or intrusion impacts produced by growing resident and visitor recreational activities in areas surrounding the UGB, particularly during non-winter months. While excessive use of these areas is not indicated at present, the project does provide for a considerable growth increment. While the peak people at one time data (PAOT) is dominated by wintertime visitation, increases in non-winter months must also be expected. In the absence of data clearly establishing otherwise, it is conservatively concluded that such increased wilderness and open lands usage as may be indirectly caused by the Updated Plan could have significant impact upon one or more of the special status wildlife or plants species. As such, impacts related to candidate, sensitive, or special status species would be potentially significant and unavoidable from contact intrusion due to Plan induced increases in recreational visitation to wilderness and open lands areas. In addition, the project would contribute to a cumulatively significant impact due to an increase in population that would occur from the related projects in combination with the project.

Public Safety and Hazards

The Updated Plan could result in significant impacts with regard to wildfires. Assuming all agencies manage fuel sources properly, the risk of exposure to wildland fires would be reduced but not eliminated. The Town is currently implementing all possible measures to reduce the risk of exposure from wildland fires, such as collecting Development Impact Fees on behalf of the Mammoth Lakes Fire Protection District to fund the districts development schedule. Based on the Updated Plan and development schedule the Town estimates collecting over three million dollars which will be used to fund the expansion of Fire Station One, and possible for the purchase of new equipment and/or the development of Fire Station Three. However, given that the Town does not have control over the entire area and additional feasible mitigation measures have not been identified to reduce the risk, the project as well as cumulative impact with regard to wildland fires is considered to be potentially significant and unavoidable.

Noise

Implementation of the measures provided in the Updated Plan along with measures provided in the Noise Element would ensure that existing and proposed sensitive uses would not exceed applicable noise standards. However, a significant unavoidable impact would occur because the noise generated by traffic from implementation of the Updated Plan would exceed current ambient levels by up to 6 dBA.[75] As an example, Forest Trail east of Minaret would increase from 48 dB L_{dn} to 54 dB L_{dn}. An L_{dn} of 54 dB is well within the generally acceptable outside noise level provided in the Noise Element of 60 dB L_{dn}, but an increase of 6 dBA would be readily noticeable and, thus, considered a substantial change in noise levels. Therefore, the permanent increase in ambient noise levels in the UGB above existing levels that would result from development associated with the Updated Plan would be significant and unavoidable.

With regard to cumulative impacts, each of the related projects would have to comply with the applicable noise ordinance. No increase in traffic related noise levels within the Town are anticipated from the related projects. However, traffic from development associated with the Updated Plan combined with related project traffic could incrementally increase noise levels along Interstate 395 within the Planning Area and result in a cumulatively significant noise impact.

Public Services and Utilities

Development associated with the Updated Plan would result in an increase of population and a corresponding demand for library services. The existing library facility is at capacity and inadequate to address the proposed population growth. While a parcel of land has been purchased to accommodate a new library and it is anticipated that construction of the new library could begin as early as spring of 2006, the library would be a County facility and ultimate control over the development of additional libraries are under the County's control. Although development of the new library, as well as the Updated Plan's policies and implementation measures, would reduce impacts to library services and facilities to a less than significant level, the impacts to library services cannot be mitigated by the Town to a less than significant level.

Permanent and transient population increases in the Town as a result of the project would also increase the demand for hospital and health services. Implementation measures contained in the Updated Plan would assist in reducing potential impacts to hospital and health services to a less than significant level. However, the Updated Plan is an approximately 20-year plan and the Southern Mono Health Care District does not have funded improvements for the expansion of

[75] *Community responses to changes in noise levels fluctuate, but a change in noise level from 3 to 5 dBA may be noticed by some individuals who are extremely sensitive to changes in noise, while a 5 dBA increase is readily noticeable.*

facilities over a 20-year timeframe. Since the Town does not have ultimate control over the provision of health care services, impacts to hospital and health services is significant and unavoidable.

Recreation

Development associated with the Updated Plan would result in an increase of population and a corresponding demand for recreational facilities as well as an increased demand on existing facilities. Based on the performance objective for parks of 5 acres per 1000 permanent and seasonal residents, the Updated Plan would require an additional 22 acres of park and recreation facilities at buildout. The Town would need to construct or expand facilities in order to maintain the stated performance objective. The Town of Mammoth Lakes anticipates adoption of a revised Parks and Recreation Element in 2006. While the current park demand is met and parks are maintained, the demand for parks based on the adopted performance objective would increase as population increases. The Updated Plan contains policies and/or implementation measures and the Town collects development impact fees to reduce potential impacts to parks. However, based on the increased demand, and the uncertainty of the location of additional park lands, impacts to recreation are considered significant and unavoidable. In addition, the Updated Plan would redesignate Mammoth Creek Parks to IP. While the facilities at Mammoth Creek Park would remain with the redesignation, the redesignation would provide the potential loss of that park. If the park were redeveloped, the loss of the park would be significant and unavoidable.

6.0 OTHER CEQA CONSIDERATIONS
E. POTENTIAL SECONDARY EFFECTS

Section 15126.4(a)(1)(D) of the CEQA Guidelines requires that, "If a mitigation measure would cause one or more significant effects in addition to those that would be caused by the project as proposed, the effects of the mitigation measure shall be discussed but in less detail than the significant effects of the project as proposed." With regard to this section of the CEQA Guidelines, the potential impacts that could result with the implementation of each mitigation measure proposed for the project was reviewed. The following provides a discussion of the potential secondary impacts that could occur as a result of the implementation of the measures by environmental issue area.

Aesthetics

Mitigation Measures 4.1-1 ~~and~~to 4.1-~~2~~4 would not result~~ing~~ in any environmental impacts. Measure 4.1-1 would ensure that the Town maintains an easement along Mammoth Creek to protect scenic resources. Measure 4.1-2 requires that the Town provide Design Review Guidelines to ensure that development in the vicinity of Main Street and the Old Mammoth Road intersection presents an attractive face to the road. The standards would address issues such as building height and massing, tree preservation, and lighting to ensure that public and private development in proximity to SR203, which is eligible for designation as a scenic highway, do not detract from scenic resources. Mitigation Measure 4.1-3 requires that the Town through its environmental review process ensure that development at the Mammoth Yosemite Airport is consistent with the State scenic highway regulations for U.S. Highway 395. Mitigation Measure 4.1-4 requires the Town to review and revise the Town's Lighting Ordinance to protect views of the night sky. No secondary effects would result from the implementation of these measures.

Air Quality

Mitigation Measures 4.2-1 and 4.2-1, which are the same, would require that the Town evaluate PM_{10} levels on an annual basis and requires that VMT be limited to a level that shows compliance with the federal standard. This measure would serve to ensure that air quality impacts do not exceed federal standards. No secondary effects would result from the implementation of this measure.

Biological Resources

Mitigation Measure 4.3-1 would require that developers of residential properties include a disclosure statement indicating that the area is habitat for mountain lions. This measure would not involve activities that would result in secondary effects to the environment.

Geology, Soils and Mineral Resources

Mitigation Measures 4.4-1 and 4.4-2 regard geothermal exploration and investigation. Measure 4.4-1 requires that the Town work with MPLP to ensure that geothermal exploration does not conflict with land uses in the Town. Measure 4.4-2 provides for the continued investigation regarding the feasibility and opportunities for the use of geothermal energy. These measures would not involve activities that would result in secondary effects to the environment.

Public Utilities

Mitigation Measure 4.11-1 requires that the Town work with MCWD to ensure that land use approvals are phased in tandem with development of necessary water supply. The measure also states that the Town shall not approve new development that would result in a water demand that exceeds the capacity. Implementation of this measure would ensure that land use and water supply are integrated. As such, this measure would not result in secondary effects.

Transportation and Circulation

~~Mitigation Measure 4.13-1 requires that Minaret Road from Main Street to Forest Trail be widened to four travel lanes (two in each direction) in order to provide sufficient roadway segment capacity at buildout (2024) of the Updated Plan. The widening would require the removal of on-street parking. There are approximately 20 parking spaces that would be impacted. However, these spaces are short term, loading spaces and do not provide long term parking. In addition, as individual projects are developed in the area, each project would provide its own parking. Therefore, this mitigation, if it were to be implemented, would not result in secondary effects.~~

Mitigation Measure 4.13-~~2~~21 requires that the Master Facility Plan be updated to reflect the measures identified in the traffic study completed for the Updated Plan. No secondary effects would result from such an amendment.

The traffic study identified potential significant impacts at ~~10~~nine study intersections. Mitigation measures, which would reduce the impact to a level of less than significant, are provided for each of the impacts. Mitigation Measure 4.13-~~5~~4 would require a change in the

phasing of a traffic signal. The remaining measures present options, such as a traffic signal, roundabout, or signal phasing at ~~nine~~impacted intersections. These measures would be implemented over time depending on the location and level of development that occurs within the UGB. Given that the EIR is a program level EIR, additional environmental analysis would be required for any improvements covered in the measures. As the improvements are designed and implemented, appropriate construction practices intended to minimize impacts would be required. For example, the implementation of best management practices with regard to erosion, the watering of construction sites, the use of properly operating equipment, and the use of noise reduction devices would minimize environmental impacts. In addition, traffic flow during construction of the improvements would be considered.

Cultural Resources

Mitigation Measures regarding cultural resources (Mitigation Measures 4.14-1 through 4.14-7) all provide protection for cultural resources. The measures provide steps that need to be taken in the event that a cultural resource is discovered during construction of a project. These measures would not involve activities that would result in secondary effects to the environment.

7.0 ALTERNATIVES TO THE PROJECT

7.1 INTRODUCTION

Under CEQA, the identification and analysis of alternatives to a project is a fundamental aspect of the environmental review process. CEQA Section 21002.1(a) establishes the need to address alternatives in an EIR by stating that in addition to determining a project's significant environmental impacts and indicating potential means of mitigating or avoiding those impacts, "the purpose of an environmental impact report is . . . to identify alternatives to the project."

Direction regarding the definition of project alternatives is provided in the CEQA Guidelines as follows:

> *"An EIR shall describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives."*

CEQA Guidelines emphasize that the selection of project alternatives be based primarily on the ability to reduce impacts relative to the proposed Program, "even if these alternatives would impede to some degree the attainment of the project objectives, or would be more costly." The Guidelines further direct that the range of alternatives be guided by a "rule of reason," such that only those alternatives necessary to permit a reasoned choice are addressed.

In selecting project alternatives for analysis, potential alternatives must pass a test of feasibility. CEQA Guidelines Section 15126.6(f)(1) states that:

> *"Among the factors that may be taken into account when addressing the feasibility of alternatives are site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries, and whether the proponent can reasonably acquire, control or otherwise have access to the alternative site . . . ."*

Beyond these factors, CEQA Guidelines require the analysis of a "no project" alternative and an evaluation of alternative location(s) for the project, if feasible. Based on the alternatives analysis, an environmentally superior alternative is to be designated. If the environmentally superior alternative is the No Project Alternative, then the EIR shall identify an environmentally superior alternative among the other alternatives.

For each of the alternatives, the analysis includes the following:

- A description of the alternative;
- A discussion of the impacts of the alternative and evaluation of the significance of those impacts; and
- An evaluation of the alternative relative to the proposed project, specifically addressing project objectives, feasibility, the elimination or reduction of impacts, and comparative merits.

The following alternatives were selected:

- No Project Alternative;
- Workforce/Affordable Housing Alternative; and
- Reduced Development Alternative.

Under the No Project Alternative, the Updated Plan would not be adopted. Therefore, future development would occur under the existing (1987) General Plan. The Workforce/Affordable Housing Alternative would expand affordable and workforce housing development. The Reduced Development Alternative preserves more open space than the project and emphasizes a reduction in the overall development, whereby anticipated population would be approximately 15 percent less than the project.

7.2 ALTERNATIVES CONSIDERED BUT REJECTED

In accordance with CEQA Guidelines Section 15126.6(c), an EIR should identify any alternatives that were considered for analysis but rejected as infeasible and briefly explain the reasons for their rejection. According to the CEQA Guidelines, among the factors that may be used to eliminate alternatives from detailed consideration are the alternative's failure to meet most of the basic project objectives (outlined above), the alternative's infeasibility, or the alternative's inability to avoid significant environmental impacts. Alternatives that have been considered and rejected as infeasible include:

The Advocates for Mammoth proposed an alternative to be evaluated in the ~~P~~EIR in its comment letter in September. The proposal was for an Updated General Plan with Land Use Designations, objectives, goals, polices and implementation measures which result in a projected PAOT of 45,000. This proposed alternative was considered but finally rejected for full evaluation in this ~~P~~EIR for several reasons.

First, the projected PAOT for existing developments in the Town combined with development projects that have been approved and have vested rights (including developments

under construction or vested with a Development Agreement) is 42,500. In order to limit PAOT at 45,000, additional density of development (except for an increment of units that would yield approximately 2,500 persons, which number is estimated to be 720 units) would need to be severely reduced across nearly all other properties in the Town, including large areas of the Town previously designated for development. These areas include the Bell Parcel, the College area, the Commercial District, the North Village properties that are not subject to a Development Agreement, and both High Density Residential Designations. These areas constitute a relatively large portion of total acreage of the Town and the Town's ability to severely down-zone all or most of the property in these areas, would be contrary to established economic expectations of the property owners and would be subject to significant statutory and constitutional limitations and restrictions. Second, under this alternative, the Town is not likely to achieve the objectives of adopted Specific and Master Plans for some of those areas or achieve the existing and proposed Vision Statements which form the guiding principles of the Updated General Plan. The ability of the Town to meet its stated goal of stabilizing and strengthening its economy by providing new development types and amenities to encourage mid-week visitation would also be severely compromised as those development opportunities would not be available.

Third, this alternative would make it infeasible for the Town to meet either its fair share of the regional housing needs as identified in the Regional Housing Needs Allocation from the Department of Housing and Community Development or its projected workforce housing need, due to a lack of suitable sites.

7.3 ALTERNATIVE 1: NO PROJECT ALTERNATIVE

7.3.1 Description

In accordance with the CEQA Guidelines, "the no project analysis shall discuss the existing conditions, as well as what would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services."[76] The Guidelines continue to state that "in certain instances, the no project alternative means 'no build' wherein the existing environmental setting is maintained."[77]

As stated earlier, under the No Project Alternative, the Updated Plan would not be adopted. Therefore, development would occur under the existing (1987) General Plan, as amended. With the exception of state-mandated affordable housing density bonuses, the No Project Alternative would retain the existing General Plan in its current form, including all of its

[76] *State of California, CEQA Guidelines § 15126.6(e)(2), amended December 1, 2003.*

[77] *State of California, CEQA Guidelines § 15126.6(e)(3)(B), amended December 1, 2003.*

land use designations, policies and plans for the future development of Mammoth Lakes. Table 7-1 on page 7-5 provides a comparison between the existing conditions, development buildout under the 1987 General Plan as amended, development buildout under the proposed project, and the incremental changes in units and square footage of development and population between the 1987 General Plan and the project.

In terms of land uses and land use pattern, Figure 7-1 on page 7-6 shows the locations of the various land uses under the No Project Alternative. The land use pattern and distribution of land uses in the No Project Alternative would be similar to the land use pattern under the project. The UGB in the No Project Alternative and the project would remain the same. Table 7-2 on page 7-7 provides a comparison of the acres within each land use designation for the No Project Alternative and the project.

The No Project Alternative has fewer land use designations compared with the project. In other words, the categories of land uses would be more general under the No Project Alternative. In the existing General Plan the Gateway district is designated Specific Plan while under the project the Gateway district would be subject to specific designations. Moreover, the existing General Plan has no land use designation for Industrial (I) activities, nor does it incorporate a designation for National Forest Service parcels (NF), both of which are provided in the project.

As can be seen in Table 7-1, the No Project Alternative would result in a total of 17,396 residential (non-transient and transient) units compared with 16,710~~17,020~~ units under the project. The No Project Alternative would result in 686 units more than the project. The No Project Alternative would result in 85,000 square feet less of commercial/office floor area and 154,233 square feet less of industrial floor area compared with the project.

Table 7-3 on page 7-8 provides a comparison of the land use categories under the No Project Alternative and the project. The following provides a description of the land use categories under the No Project Alternative:

Residential. The LDR category applies to single-family residential development of three to five dwelling units per gross acre. This density range is typical of residential subdivisions in Mammoth Slopes and Mammoth Knolls. The Special Conservation Planning (SCP) designation is an overlay on portions of the LDR designation, which are zoned as rural residential (RR), within the Old Mammoth area near Mammoth Creek and the Bluffs. Areas are designated as SCP due to sensitive environmental features including streams, riparian vegetation, and visual sensitivity.

Table 7-1

Incremental Development for Buildout of the Proposed Project Compared with the Existing General Plan

Land Use	January 2004 Existing Development	1987 General Plan Build Out	Project Build Out	Incremental Change Between 1987 General Plan and Project
Single Family Non-transient	2,087 units/409 acres	2,400 units/576 acres	2,380 units/576 acres	-20 units/0 acres
Single Family Transient	0 acres	97 units/24 acres	97 units/24 acres	0 units/0 acres
Mobile Home	136 units/15 acres	144 units/16 acres	144 units/16 acres	0 units/0 acres
Multi-Unit Non-Transient	827 units/60 acres	2,077 units/99 acres	2,091 units/119 acres	14 units/20 acres
Multi-Unit Transient	6,821 units/402 acres	12,678 units/559 acres	11,998 units/559 acres	-680 units/0 acres
Industrial	296,941 sq. ft./36 acres	339,314 sq. ft./44 acres	493,547 sq. ft./64 acres	154,233 sq. ft./20 acres
Commercial/Office Uses	1,262,618 sq. ft./58 acres	1,280,002 sq. ft./84.5 acres	1,365,002 sq. ft./84.5 acres	85,000 sq. ft./0 acres
Total Units	~~10,06 3~~9,871	17,396	~~17,020~~ 16,710	
Population (persons)	34,265	61,376	60,680	

Source: Town of Mammoth Lakes, 2005

The HDR designation is intended for multi-family development at a maximum density of six to 12 dwelling units per acre. These densities would accommodate attached homes, two- to four-plexes, and condominium and apartment buildings. There are two districts within the HDR designation: one allows for visitor accommodations and the other prohibits transient (nightly visitor) rentals.

Residential – Project (Updated Plan). The Updated Plan retains the same residential designations as the current General Plan but provides two LDR and two HDR designations rather than one. The Low Density Residential 1 (LDR-1) allows single-family detached residential development at a maximum of two units per gross acre. The Low Density Residential 2 (LDR-2) allows single-family detached residential development of up to four units per gross acre. The High-Density Residential 1 (HDR-1) allows development of resident-oriented multi-unit housing at a density of 10 units per acre. The High-Density Residential 2 (HDR-2) allows visitor-oriented multi-unit development at 10 units per acre. The provision of more categories for residential uses enables the Town to provide greater specificity and to more accurately identify the desired uses within each designated area.

Town of Mammoth Lakes

Explanation

- Commercial
- High Density Residential
- Institutional Public
- Low Density Residential
- Resort
- Rural Residential
- Specific Plan
- Urban Growth Boundary
- National Forest Lands
- National Forest Lands Outside the Municipal Boundary

PARCELS

1. Bell-Shape Parcel
2. Mammoth Creek Park
3. Water District
4. Foundation Parcel

N

0 250 500 1,000 Meters

Base Maps: Old Mammoth, Mammoth Mountain, Crystal Crag & Bloody Mountain
Source: Town of Mammoth Lakes

Figure 7-1 No Project Alternative
(Existing Land Use Designations)

Table 7-2

Comparison of Project and Alternatives With Regard to Acres within each Land Use Designation

Land Use Designation	Project	No Project Alternative	Workforce/ Affordable Housing Alternative	Reduced Development Alternative
C1	42	130	44	44
C2	87		85	85
HDR1	132	375	120	104
HDR2	260		272	277
I	67		67	31
IP	333	209	333	153
LDR1	210	596	210	205
LDR2	391		391	391
OS	343		343	575
R	580	602	580	580
Rights-of-way	393	392	393	392
SP	54	271	54	54
Total Acres	**2,892**	**2,575**	**2,891**	**2,890**

Notes: The total acreage within the UGB is approximately 2,890 acres. The UGB is the same under the project and the three alternatives. The acreage numbers in the No Project Alternative do not equal 2,890 since open space areas are not currently designated as such and therefore, were not included in the GIS database. In addition, rights of way were not included within the land use acreages.

Source: Town of Mammoth Lakes, 2005

Commercial, Industrial and Resort Uses

Commercial. The Commercial (C) designation allows for retail, lodging, and general commercial activities including offices. It includes two types of commercial areas: resident oriented retail/service commercial areas and specialized visitor oriented commercial areas. Maximum density for lodging is 40 guest rooms per acre and an increase to a maximum of 80 guest rooms per acre with 100 percent understructure parking.

Commercial – Project (Updated Plan). The Updated Plan retains the same commercial and resort designations but provides two C designations rather than one. This enables the Town to provide greater specificity and to more accurately identify the desired uses in commercial areas. The Commercial 1 (C-1) designation allows for small-scale commercial services for residents and visitors as well as visitor lodging. The designation would be located along Main Street between North Village and Mono Street. The C-1 designation is intended to create a transition between the intensive retail commercial at the eastern end of Main Street and the resort

Table 7-3

Comparison of Existing Land Use Designations with Land Use Designations for Proposed Project and Alternatives

Designation Type	Proposed Project	No Project Alternative	Workforce/Affordable Housing Alternative	Reduced Development Alternative
Residential	**LDR-1** Low-Density Residential (2 units/acre)	**LDR** Low-Density Residential (3-5 units/acre)	**LDR-1** Low-Density Residential (2 units/acre)	**LDR-1** Low-Density Residential (2 units/acre)
	LDR-2 Low-Density Residential (4 units/acre)	**SCP** Special Conservation Planning (2 units/acre)	**LDR-2** Low-Density Residential (4 units/acre)	**LDR-2** Low-Density Residential (4 units/acre)
	HDR-1 High-Density Residential (10 units/acre)	**HDR** High-Density Residential (6-12 units/acre)	**HDR-1** High-Density Residential (12 units/acre)	**HDR-1** High-Density Residential (10 units/acre)
	HDR-2 High-Density Residential (10 units/acre)		**HDR-2** High-Density Residential (12 units/acre)	**HDR-2** High-Density Residential (10 units/acre)
Resort	**R** Resort	**R** Resort	**R** Resort	**R** Resort
Commercial	**C-1** Commercial (20 units/acre)	**C** Commercial (40 guest rooms/acre, 12 units/acre)	**C-1** Commercial (12 units/acre)	**C-1** Commercial (10 units/acre)
	C-2 Commercial (20 units/acre)		**C-2** Commercial (12 units/acre)	**C-2** Commercial (10 units/acre)
Specific Plan, Institutional/Public	**NVSP, IP** North Village Specific Plan, Institutional/Public	**SP, IP** Specific Plan Institutional/Public	**NVSP, IP** North Village Specific Plan, Institutional/Public	**NVSP, IP** North Village Specific Plan, Institutional/Public
Open Space	**OS** Open Space	**OS** Open Space	**OS** Open Space	**OS** Open Space
Industrial	**I** Industrial	**N/A**	**I** Industrial	**I** Industrial
Airport	**A** Airport	**N/A**	**A** Airport	**A** Airport
National Forest	**NF** National Forest	**N/A**	**NF** National Forest	**NF** National Forest

Source: Town of Mammoth Lakes, 2005

commercial of North Village. Density of 20 units[78] per acre is permitted, which may be increased up to double for development that provides additional community benefits.

The Commercial 2 (C-2) designation would allow areas for commercial services and sales of goods. The C-2 designation is intended to promote pedestrian uses, reduce vehicular conflicts, and improve the visual appearance of street frontages. Multi-unit housing is encouraged as an accessory use. Density of 20 units per acre is permitted and may be increased up to double for development that provides additional community benefits.

Industrial. Under this alternative the SP designation is applied to two districts within the Town: the Gateway District and the North Village. The Gateway District designates sites for schools, industrial uses, 100 single-family lots, a hospital, and related uses. There is no specific Industrial designation.

Industrial – Project (Updated Plan). The Updated Plan provides an Industrial (I) designation, which would accommodate industrial uses needed to support a resort community. Uses allowed by right would be those conducted entirely within and enclosed structure and may include light manufacturing, storage and maintenance uses. Other permitted uses may include heavy equipment storage and maintenance, batch plants, automobile repair and service, and similar uses. Additional land under adjacent to the Water District would be designated Industrial.

Resort. The Resort (R) designation includes mixed visitor oriented uses including lodging, visitor oriented commercial, and recreation uses. Maximum densities are eight units per acre.

Resort – Project Updated Plan. The Resort (R) designation includes mixed visitor oriented uses including lodging, visitor oriented commercial, and recreation uses. Maximum densities are eight units per acre for visitor lodging and six units per acre for all other uses.

Open Space, Institutional/Public Facilities, and Specific Plan Area

Open Space. Under this alternative the OS designation is applied to lands that have significant recreational or environmental values including lands administered by the USFS and permits development of facilities that support the environmental and recreational objectives of the community. This alternative specifically assumes development of Sherwin Ski Area or other

[78] *Studio and one-bedroom equal to 1/2 dwelling unit of density.*

increase in Alpine skiing of 8,000 skiers at one time in addition to the Mammoth Mountain capacity.

Open Space – Project (Updated Plan). This designation would apply to lands that have significant recreational or environmental values. The OS designation permits development of facilities that support the environmental and recreational objectives of the community. This zone may include environmentally sensitive areas such as wetlands, floodplains, and streams and may include recreation facilities such as parks, athletic fields, golf courses, and community gathering spaces.

Institutional/Public. Under this alternative, the IP designation allows for public facilities and institutional uses and is applied to lands that are anticipated to be used for schools, hospitals, governmental offices and facilities, museums, and related uses. The IP designation also includes the Mammoth Yosemite Airport. Support facilities, which may be permitted at the Airport, include automobile rental, transient lodging, retail uses and a 100 space RV park. The Airport zone is also designated for 250 visitor accommodation units and approximately 30,000 square feet of commercial development.

Institutional Public – Project Updated Plan. This designation allows for public facilities and institutional uses. It is applied to lands that are anticipated to be used for schools, hospitals, governmental offices and facilities, museums, and related uses. As these uses are among the largest employers within the town, affordable or student housing (as defined by the Town) shall be permitted on IP lands located south of Meridian Boulevard and east of Old Mammoth Road. For housing uses, HDR-1 uses and development standards are applicable. A maximum density of up to four units per gross acre is permitted; however, densities may be clustered. Policies encouraging adequate pedestrian and transit facilities are included to promote alternatives to private vehicle access to places of employment, study, shopping and recreation

Specific Plan. Under this alternative the SP designation is applied to two districts within the Town: the Gateway District and the North Village. The Gateway District designates sites for schools, industrial uses, 100 single-family lots, a hospital, and related uses.

The North Village Specific Plan provides for a mix of visitor-oriented commercial and visitor lodging uses. Density in the North Village Specific Plan is calculated in terms of rooms. Commercial development is converted from the residential density at a rate of 450 square feet per room. The maximum density under the North Village Specific Plan is 3,020 rooms and 135,000 square feet of commercial. Density is not uniform but allocated by districts as specified in the North Village Specific Plan.

Specific Plan (North Village) – Project (Updated Plan). The North Village Specific Plan (NVSP) provides for a mix of visitor-oriented commercial and visitor lodging uses. Density

in the North Village Specific Plan is calculated in terms of rooms. Commercial development is converted from the residential density at a rate of 450 square feet per room. The maximum density under the North Village Specific Plan is 3,020 rooms and 135,000 square feet of commercial. Limited density transfers are permitted within the Specific Plan area. Density is not uniform throughout the NVSP, but allocated by districts as specified in the NVSP. Total density within the NVSP area may be increased pursuant to density bonus and density transfer policies or provision of a high level of community amenities and services. The maximum density with increases is 3,800 rooms and 220,000 square feet of commercial. Any increased density must be in projects located within 500 yards of the gondola terminal.

7.3.2 Impact Analysis

7.3.2.1 Aesthetics

Under the No Project Alternative as with the project, growth would occur within the UGB. Intensity of development would be similar under the No Project Alternative compared with the project. As with the project, continued development and redevelopment of land would permanently replace some existing views and scenic vistas with structures. Under the No Project Alternative, less emphasis is provided in the General Plan on aesthetics compared with the project. However, as with the project, all major development projects would undergo environmental and design review on a site-specific basis, per CEQA, the Town's Municipal Code and all applicable regulatory requirements, to ensure that facilities and structures would be sited in a way that would not have substantial adverse effects to scenic vistas and to avoid the loss of scenic resources (such as trees and rock outcrops). In addition, the changes in light and glare would be similar with the No Project Alternative and the project. As with the project, the Town's regulations regarding lighting would reduce impacts. However, as with the project, this Alternative would result in significant and unavoidable lighting impacts to the night sky due to the increase in development compared with existing conditions. With regard to visual character and quality, as with the project, the No Project Alternative would result in a change in the visual character and quality of the community through the development of vacant lands and the redevelopment of other lands. The types and intensity of developments under the No Project Alternative would be similar to the types of development that would occur under the project. As with the project, due to the permanent change in visual character of newly developed areas of the Town, impacts to the Town's visual character and quality are significant and unavoidable.

7.3.2.2 Air Quality

Implementation of the No Project Alternative would result in a similar level of development to that of the Updated Plan. As with the project, the primary sources of emissions would be from mobile sources (tailpipe and roadway dust) and stationary sources, such as wood and pellet burning and consumption of fossil fuels. Due to particulate control measures

(Municipal Code Chapter 8.30), which limit Town-wide VMT, require lower-emitting stones, and establish "No Burn" days, air quality impacts ~~would not~~ are not expected to exceed federal standards or conflict with implementation of the AQMP. Nonetheless, the State 24-hour PM_{10} and 1-hour O_3 standard would continue to be exceeded, in which pollutant emissions from implementation of the No Project Alternative or the project would continue to contribute to these exceedances of State standards. As with the project, implementation of the No Project Alternative would be considered cumulatively considerable and sensitive receptors could be exposed to substantial pollutant concentrations (PM_{10} and O_3). However, as with the project, the O_3 impact under the No Project Alternative wold be primarily the result of pollution transport from the San Joaquin Valley and is not a condition substantially generated by Town activities. Nonetheless, this air quality impact would be significant and unavoidable.

7.3.2.3 Biological Resources

Compared to the Updated Plan, implementation of the No Project Alternative would result in a similar level of development to that of the Updated Plan. As with the project, impacts to biological resources would increase incrementally with intensified development and human activity. With the level of development expected, direct impacts to candidate, sensitive, or special species, as well as impacts to riparian habitats or other natural communities, would still be less than significant, given federal regulations and Town codes and plans in place to protect such species and habitats. However, as with the project, in the absence of data clearly establishing otherwise, it is conservatively concluded that increased wilderness and open lands usage as may be indirectly caused by the No Project Alternative could have a significant and unavoidable impact upon one or more of the special status wildlife or plants species discussed in Section 4.3 of this EIR.

In addition, federally protected wetlands are regulated by the U.S. Army Corps of Engineers under Section 404 of the CWA, and CDFG recognizes wetlands for their value as high quality habitat for both plants and animals. Both agencies have policies of "no net loss" of wetlands, and additionally, the Town has adopted Federal Emergency Management Agency (FEMA) requirements for setbacks within the floodplain, which would apply to the Mammoth Creek corridor. As with the project, the No Project Alternative would result in less than significant impacts to federally protected wetlands.

Implementation of the No Project Alternative could create barriers to wildlife movement with increased population and human activity. However, given the level of development expected at buildout, this increase would be similar to that of the project. In addition, given existing levels of urbanization within the UGB, the likelihood of disturbing a previously existing wildlife corridor is low. Furthermore, the Town has adopted Municipal Codes to ensure protection and preservation of trees and other biological resources. Therefore, as with the project, impacts ~~to biological resources and tree preservation~~ regarding migratory corridors and

consistency with local policies or ordinances protecting biological resources would be less than significant. In addition, similar to the project, the No Project Alternative would not conflict with the provisions of a habitat conservation plan.

7.3.2.4 Geology

Compared to the Updated Plan, implementation of the No Project Alternative would result in a similar level of development to that of the Updated Plan. The existing General Plan contains goals and policies that address geotechnical hazards similar to the Updated Plan. Under the Updated Plan and this Alternative, future development would be required to comply with the California Building Code as well as Section 12.08.080 of the Town Municipal Code, which requires engineered plans and a soils report to be submitted with an application for a grading permit. Future development under both the Updated Plan and this Alternative would also require detailed recommendations regarding specific techniques and designs to reduce, eliminate or avoid geotechnical hazards and site plan review by the Town to determine conformance with specific recommended geotechnical procedures. Implementation of this Alternative would not result in additional impacts related to development in areas of ground surface rupture due to faulting, seismic shaking, seismically-induced ground deformation, including liquefaction, landslides and slope instability, volcanic eruption, erosion, or expansive soils, when compared to the Updated Plan. Therefore, the No Project Alternative would have similar geology impacts as the Updated Plan.

7.3.2.5 Public Safety and Hazards

Compared to the Updated Plan, implementation of the No Project Alternative would result in a similar level of development to that of the Updated Plan. Under both this Alternative and the Updated Plan, no new impacts would be created regarding wildfires, avalanches, aircraft patterns and airport compatibility, and conflict with the Town's Emergency Operations Plan (EOP). As with the project, given that implementation of measures to reduce the potential impact of wildfires are not under the control of the Town, this potential impact would be significant and unavoidable under the No Project Alternative.

All future development would be required to comply with all applicable regulatory requirements FAA regulations and the requirements of the Mammoth/June Lake Airport Land Use Plan, which would result in less than significant impact regarding compatibility with airport operations. No changes to aircraft patterns would occur under this Alternative or the No Project Alternative. Development under the Updated Plan and this Alternative would not impair implementation or physically interfere with the EOP, because no circulation changes would occur which conflict with the procedures set forth in the plan.

Development in areas with slope gradients of between 30 and 45 degrees could expose people or property to hazards such as avalanches under the Updated Plan or the No Project Alternative. However, areas in the Town where avalanche potential has been identified have been overlaid with a Snow Deposition Design (SDD) Zone to minimize health and safety hazards. Any development within this zone would be permitted by use permit only and requires an Avalanche Risk Assessment certified by a recognized expert in the field of avalanche occurrence. Furthermore, no critical or permanently occupied facilities would be located within a high avalanche hazard area. Thus, impacts regarding avalanches would be less than significant under both the No Project Alternative and the Updated Plan.

With regard to hazardous materials, the use of hazardous materials is generally associated with non-residential uses. The No Project would result in less non-residential development compared with the project. However, as with the project, under the No Project Alternative any use, storage or handling of hazardous materials would be conducted in compliance with applicable federal, state, and local regulations. Therefore, impacts under the No Project Alternative with regard to hazardous materials would be similar to the project and would be less than significant.

7.3.2.6 Hydrology and Water Quality

The No Project Alternative would result in a similar level of development as with the project. Development within the Town under both the No Project Alternative and the project would increase impermeable surface area, resulting in an increase of storm and irrigation water runoff. However, with the development of either the Updated Plan or the No Project Alternative, compliance with federal, state and local water quality and waste discharge requirements, including the NPDES Program and implementation of Best Management Practices (BMPs), would be required for the construction and post-construction phases of development. Under both development scenarios, remediation of undetected contamination and BMPs to reduce the potential pollutants of concern would be implemented. BMPs would also reduce and/or eliminate erosion potential, would be incorporated into development projects. All future development would be subject to the requirements of the Mammoth Lakes Storm Drainage Master Plan (SDMP), which includes guidelines for erosion control and identifies storm drainage facility improvements designed to accommodate development for the Mammoth Lakes area. Additionally, FEMA design standards and guidelines would apply to all development within flood prone areas. Thus, similar impacts would occur regarding flooding.

Overall, future development within the Town under the No Project Alternative, as with the project, would result in less than significant impacts associated with water quality and hydrology. Thus, under the No Project Alternative, impacts to hydrology and water quality would be similar to those of the Updated Plan.

7.3.2.7 Land Use and Planning

The Updated Plan is a comprehensive update of the Town's General Plan, which is the No Project Alternative. Under the No Project Alternative, the Land Use Element would continue to provide outdated information that does not reflect the current conditions in the Town. However, the omission of these clarifications from the existing General Plan would not result in any additional impacts when compared to the Updated Plan. The Updated Plan provides additional categories of land uses. For example, the High Density Residential (HDR) and Low Density Residential (LDR) designations have been divided into HDR 1 and 2 and LDR 1 and 2 in order to provide additional categories and a greater level of detail in the land use designations. The same concept is proposed for the Commercial designation, where a Commercial 1 and 2 are proposed. The overall land use pattern under the No Project Alternative is similar to the land use pattern that exists on the ground and is similar to the project. As with the project, the No Project Alternative would not physically divide an established community nor would the No Project Alternative create incompatible land uses or affect the community character of an established community. The No Project Alternative would not conflict with any applicable plans, policies, or regulations. Land use and planning impacts would be similar under the No Project Alternative compared with the project.

7.3.2.8 Noise

Implementation of the No Project Alternative would result in a similar level of development and associated VMT to that of the Updated Plan. As with the project, impacts related to the exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies would be less than significant. Implementation of the measures provided in the Updated Plan along with measures provided in the Noise Element would ensure that existing and proposed sensitive uses would not exceed applicable noise standards. However, similar to the project, there may nonetheless be a significant unavoidable impact because the noise generated by traffic from implementation of the No Project Alternative would exceed current ambient levels by up to 6 dBA.[79] As an example, Forest Trail east of Minaret would increase from 48 dB L_{dn} to 54 dB L_{dn}. An Ldn of 54 dB is well within the generally acceptable outside noise level provided in the Noise Element of 60 dB L_{dn}, but an increase of 6 dBA would be readily noticeable and, thus, considered a substantial change in noise levels. Therefore, as with the project, the No Project Alternative would result in significant and unavoidable impact with regard to the increase in noise levels from traffic.

[79] *Community responses to changes in noise levels fluctuate, but a change in noise level from 3 to 5 dBA may be noticed by some individuals who are extremely sensitive to changes in noise, while a 5 dBA increase is readily noticeable.*

7.3.2.9 Population, Housing and Employment

The No Project Alternative would result in a greater number of residential units and less employment (non-residential floor area) compared with the project. The No Project Alternative would result in a slightly higher population at one time at buildout compared with the project. The No Project Alternative would result in a total population of 61,376 PAOT compared with ~~60,680~~ approximately 60,700 under the project, for an increase of approximately 700 people. The No Project Alternative would allow for up to 17,396 dwelling units while the project would allow up to an estimated 16,710 dwelling units.

In terms of non-residential uses, the No Project Alternative would result in approximately 85,000 square feet less of commercial/office square footage and 154,233 square feet less of industrial floor area compared with the project.

As with the project, the No Project Alternative would not provide for the extension or expansion of roadways into the area and would not result in an increase in the capacity of existing infrastructure so as to provide for an increase in population. Similar to the project, the No Project Alternative would accommodate a relatively substantial increment in population growth. However, as with the project, the No Project Alternative would neither directly nor indirectly induce that growth or cause it to occur. Rather, as with the project the Alternative would shape the location, form, and behavior of the growth increment should external demand be sufficient.

7.3.2.10 Public Services

As indicated above, the projected population under the No Project Alternative would be 61,376 PAOT compared to ~~60,680~~ approximately 60,700 PAOT under the project. The No Project Alternative would allow for up to 17,396 dwelling units and the Updated Plan would allow up to an estimated 16,710 dwelling units. The No Project Alternative would have less non-residential square footage. Although there would be less population under the Updated Plan, there would be more commercial and industrial uses under the Updated Plan. As with the project, the demand for police and fire protection, schools, libraries, roadway maintenance and snow removal, and health services associated with the No Project Alternative would increase incrementally with increased population growth. However, as with the Updated Plan project-specific environmental review and payment of the development impact fee would reduce impacts to services to a less than significant level, with the exception of libraries and health services. As with the project, impacts to libraries and health services would remain significant and unavoidable.

7.3.2.11 Public Utilities

The No Project Alternative would result in a population of approximately 61,400 ~~61,376~~ PAOT, which is slightly greater than the population at one time under the project (~~60,680~~ approximately 60,700 PAOT). With regard to water supply, the MCWD prepared a water supply assessment for the project and provided an analysis for the alternatives under consideration. Based on the information provided by MCWD, as shown in Table 7-4 on page 7-18, the No Project Alternative would result in ~~a deficiency of 440 and 482 acre-feet of water per year in the two dry and three dry years scenarios, respectively. The deficiency that would result under the No Project Alternative would be greater than that which would occur under the project.~~ larger deficiencies during single dry year and multiple dry year scenarios than would the proposed General Plan Update. Therefore, similar to the project, the No Project Alternative would result in a significant impact with regard to water supply. The project would include a mitigation measure to ensure that adequate water supply would be available prior to future development. However, no such measure currently exists. Therefore, since the No Project Alternative would result in a greater population buildout and since no mechanism is in place to ensure water supply availability prior to development, the No Project would result in a significant and unavoidable impact with regard to water supply.

The population increase and structural development associated with the Updated Plan and the No Project Alternative would increase the quantity of wastewater generated and associated requirements for collection, treatment and disposal. The existing treatment facility has a capacity for 4.9 mgd. Sufficient capacity exists to accommodate the buildout projected under the project. The No Project Alternative would have an increase of approximately 700 people at one time but would have approximately 239,200 square feet more non-residential development than the project. The capacity of the wastewater treatment would be sufficient to accommodate the projected growth under the No Project Alternative.[80] Therefore, as with the project, the No Project Alternative would result in a less than significant impact with regard to wastewater.

With regard to solid waste, adequate capacity exists to accommodate growth projected under the project. The difference in the quantity of solid waste generated by the No Project Alternative would not significantly impact capacity. In addition, the Town is expanding its recycling capabilities to achieve the state mandated 50 percent diversion rate, which will reduce the amount of solid waste disposed of at local landfills.

[80] *Letter from Gary Sisson, MCWD, dated April 26, 2005 in response to the previous Draft EIR on the 2005 General Plan Update.*

Table 7-4

Comparison of Water Supply and Demand between the No Project Alternative and the Project for Normal, Single Dry Year and Multiple Dry Years

Current Supply & Demand	Normal Year	Single Dry Year	Multiple Dry Years			
			Year 1	Year 2	Year 3	Year 4
Supply Total	6,760	3,410	5,190	4,908	4,508	4,492
Demand Total Including Project	4,898	4,898	4,898	4,898	4,898	4,898
Surplus or (Deficiency)	1,862	(1,488)	292	10	(390)	(406)
Supply Total	6,760	3,410	5,190	4,908	4,508	4,492
Demand Total Including No Project Alternative	4,974	4,974	4,974	4,974	4,974	4,974
Surplus or (Deficiency)	1,786	(1,564)	216	(66)	(466)	(482)

Source: MCWD, 2005

7.3.2.12 Recreation

The No Project Alternative would increase demands for, as well as demands upon, recreational facilities and areas, necessitating construction of additional facilities in order to

maintain adequate service levels and to prevent overuse and the resultant physical deterioration of existing facilities. With regard to Mammoth Creek Park, under the No Project Alternative the park would retain its current designation and would not be redesignated to IP. Therefore, the impact with regard to the potential loss of a park that would occur under the project would not occur under the No Project Alternative. The No Project Alternative would result in a slightly greater resident population in the Town. Based on the ratio of 5 acres per 1,000 persons, this Alternative would require a similar amount of park land as the project (approximately 75 acres). As with the project, the increase in demand on existing facilities as well as the unknown locations for additional park acreage, the impacts to recreation would be significant and unavoidable.

7.3.2.13 Transportation and Circulation

As with the project, buildout of the No Project Alternative would result in increased traffic levels beyond existing conditions. Under the Updated Plan, buildout of the Town would result in nine~~10~~ deficient intersections, based on the Town's LOS criteria. Comparatively, the No Project Alternative would result in the following 11 deficient intersections:~~.~~

- Lake Mary Road/Lakeview Road
- Main Street/Center Street

- Minaret Road/Main Street
- Main Street/Forest Trail
- Main Street Westbound/Meridian Boulevard
- Main Street Eastbound/Meridian Boulevard
- Meridian Boulevard/Majestic Pines Drive
- Minaret Road/Forest Trail
- Minaret Road/Old Mammoth Road
- Lake Mary Road/Kelly Road
- US 395 Northbound/SR 203

However, under either scenario, traffic improvements would be implemented to achieve acceptable service levels at the deficient intersections.

In addition, the Town of Mammoth Lakes in 2005 adopted an updated Development Impact Fee Schedule based on an Updated Master Facility Plan and Capital Improvement Program. The Master Facility Plan contains all required facility improvements to mitigate build-out traffic of the existing General Plan. These improvements include all circulation system improvements for streets, signals (roundabouts), bridges, transit and trails that would be necessary under the existing General Plan (the No Project Alternative). With regard to Development Impact Fees (DIFs), currently the Town collects between $1,805 and $3,578 per residential unit, and between $2.90 and $3.71 per square feet for commercial/office and industrial uses to fund street and traffic improvements. In addition, the Town collects between $9,279 and $15,465 per residential unit, and between $15.47 and $2.90 per square foot for commercial/office and industrial uses to fund transit and trail enhancements. As with the project, with the incorporation of mitigation, the No Project Alternative would result in less than significant impacts with regard to transportation and circulation.

7.3.2.14 Cultural Resources

Compared to the Updated Plan, implementation of the No Project Alternative would result in a similar level of development to that of the Updated Plan. Cultural resources could be impacted as a result of future development under the No Project Alternative. While there is a regulatory framework in place to provide protection for cultural resources, the Updated Plan would include a policy and implementation measure that does not currently exist in the General Plan to ensure the protection of cultural resources. In addition, the Updated Plan would include mitigation measures provided in Section 4.14 of the ~~Revised Draft P~~Final Program EIR. Therefore, cultural resources would not be protected to the same extent under the No Project Alternative compared with the project.

7.3.3 Conclusion and Relationship of the Alternative to Project Objectives

A comparative summary of the environmental impacts associated with the No Project Alternative with the environmental impacts anticipated under the proposed project is provided in Table 7-7 on page 7-48. This Alternative would result in a new environmental impact with regard to water supply that would not occur under the project.

As discussed above, the intensity of development and the increase in PAOT under the No Project Alternative would be slightly greater than under the project. The No Project Alternative would result in similar impacts to the Updated Plan in the areas of aesthetics; air quality; biological resources; geology, soils, and mineral resources; public safety and hazards; hydrology and water quality; land use and planning; noise; population, housing and employment; public services; public utilities (wastewater and solid waste); recreation; and transportation and circulation. With regard to transportation and circulation, while the No Project Alternative would result in an impact at 11 intersections compared with nine ~~10~~ intersections under the project, mitigation measures have been identified and incorporated into the Master Facility Plan. With regard to water supply, the assessment provided by MCWD indicated that as with the project, the No Project Alternative would result in an impact with regard to water capacity. The project would include a mitigation measure to ensure that adequate water supply would be available prior to future development. However, no such measure currently exists. Therefore, since the No Project Alternative would result in a greater population buildout and since no mechanism is in place to ensure water supply availability prior to development, the No Project would result in a significant and unavoidable impact with regard to water supply.

The No Project Alternative would meet most of the basic objectives of the project but not to the same extent as the project. The No Project Alternative would protect the unique environmental setting of the Town. However, the No Project Alternative would not provide the articulation of the importance of the environmental setting balanced with the Town's economic relationship with visitors so as to maintain a high quality of life. The No Project Alternative would retain and enhance the Town's small-town community character by providing a stable economy, high quality educational facilities and programs, a broad range of community services, and a participatory Town government. The No Project Alternative would also enhance Mammoth Lakes as a year-round resort with diverse opportunities for outdoor recreation and tourism. However, the No Project Alternative would not result in the same level of standards and design that would result under the project. The No Project Alternative would not provide as clear guidance and articulation of the desired quality of development. In other words, the Updated Plan places more emphasis on aesthetics than does the existing General Plan. Future development may not be comparable in quality under the No Project Alternative compared with the project since the Updated Plan places a greater emphasis on aesthetics than currently exists in the General Plan. The No Project Alternative has fewer land use designations compared with the project. In other words, the categories of land uses would be more general under the No Project

Alternative. Therefore, the No Project Alternative does not provide the same detail of direction on the development of visitor lodging and workforce housing as does the project. Finally, the No Project Alternative would not address recent changes in state law and does not provide detailed environmental policies related to energy conservation, building height, community services, development mitigation, and aesthetics.

7.4 ALTERNATIVE 2: WORKFORCE/AFFORDABLE HOUSING ALTERNATIVE

7.4.1 Description

The Workforce/Affordable Housing Alternative emphasizes expanded affordable and workforce housing development. The same land use categories would be used in this Alternative as in the project. However, this alternative would allow for more workforce housing within the IP zone, would allow all developments such as transient projects to be eligible for Density Bonus provisions and would allow for a doubling of density for projects which provide workforce Housing. Figure 7-2 on page 7-21 shows the locations of the various land uses under the Workforce/Affordable Housing Alternative. As can be seen in Figure 7-2, the land use pattern would be similar to the pattern proposed under the project.

The amount of land designated for non-transient residential land use would be slightly greater and the resort land use would be slightly less under this Alternative compared with the project. In comparison to the Updated Plan, the Workforce/Affordable Housing Alternative would designate additional land for affordable/workforce housing, including a re-designation of lands designated for resort development to HDR-1. This alternative would also permit housing in the IP designation; encourage accessory dwelling units and the purchase of existing transient units for workforce housing. Transfers of density between selected parcels are permitted for affordable/workforce housing.

As compared to the project, the LDR-1 and LDR-2 under this Alternative would allow the same residential densities. The Workforce/Affordable Housing Alternative would allow 12 units per acre in the HDR-1 and HDR-2 designations compared with 10 units per acre that would be allowed under the project. However, residential housing in the C-1 and C-2 designations would be 12 units per acre compared with 20 units per acre that is proposed in the Updated Plan. However, all developments would be eligible for density bonuses of up to 100% for affordable housing.

This Alternative would include land uses and policies that support the development and preservation of new and existing housing to fully meet the needs of the Town's workforce and resident population. This Alternative would further allow the greatest density for all housing

Town of Mammoth Lakes

Explanation

- Commercial 1
- Commercial 2
- High Density Residential 1
- High Density Residential 2
- Industrial
- Institutional Public
- Low Density Residential 1
- Low Denisity Residential 2
- Resort
- North Village Specific Plan
- Open Space
- Urban Growth Boundary
- National Forest Lands
- National Forest Lands Outside the Municipal Boundary

PARCELS

1. Bell-Shape Parcel
2. Mammoth Creek Park
3. Water District
4. Foundation Parcel

N

0 250 500 1,000 Meters

Base Maps: Old Mammoth, Mammoth Mountain, Crystal Crag & Bloody Mountain
Source: Town of Mammoth Lakes

Figure 7-2 Workforce/Affordable Housing Alternative Land Use Designations

projects, including visitor accommodations that provide a minimum percentage of affordable/workforce housing. This alternative would increase the density bonuses permitted for all projects from 25 percent to a maximum of 50 percent. Densities for projects that are 100 percent restricted to Town-identified affordability levels may be eligible for density increases of up to 100 percent.

Under this alternative, the anticipated people at one time would be approximately ten percent greater than the projected people at one time that would occur under the project. The peak resident and visitor population expected at buildout under the Workforce/Affordable Housing Alternative is estimated at 67,225 PAOT as compared to the ~~60,680~~ approximately 60,700 PAOT under the project.

The following provides a discussion of the land use designations under the Workforce/Affordable Housing Alternative:

Residential. As with the project, this alternative would have the same four residential land use designations. As in the project, the LDR1 would apply to single-family residential development within the Old Mammoth area, as well as those areas previously designated as SCP and zoned RR. A maximum density of two units per gross acre would be allowed. The LDR2 would apply to single-family residential development of four dwelling units per gross acre. The HDR1 designation is intended primarily to provide areas for development of multi-family housing and the HDR-2 permits transient occupancy and is intended for multi-family style developments including townhouses, condominiums and apartments. The Workforce/Affordable Housing Alternative would allow 12 units per acre in the HDR-1 and HDR-2 designations compared with 10 units per acre that would be allowed under the project. The HDR-1 designation would also be expanded to cover portions of land designated for resort purposes.

Commercial. As with the project, the Workforce/Affordable Housing Alternative would provide a C-1 and C-2 designation. The C1 designation is intended primarily to provide areas for lodging and commercial services for residents and visitors, as well as affordable/workforce housing development. The C2 designation is designed and intended to provide areas for commercial services and goods. Multi-family housing is encouraged as an accessory use. This Alternative would allow a maximum residential density of 12 units per acre compared with 20 units per acre that is proposed in the Updated Plan.

Open Space. As with the project, the OS designation is applied to lands that have significant recreational or environmental values. The OS designation permits development of facilities that support the environmental and recreational objectives of the community.

Institutional/Public. The IP designation allows for public facilities and institutional uses, and is applied to lands with anticipated use for schools, hospitals, governmental offices and facilities, museums, and related uses. Affordable and workforce housing as defined by the Town would be permitted on all IP designated land and would not be limited to IP lands located south of Meridian Boulevard and east of Old Mammoth Road as would be under the project. As with the project, for housing development the HDR 1 uses and development standards would apply with a maximum density of up to four units per gross acre. Policies encouraging adequate pedestrian and transit facilities are included to promote alternatives to private vehicle access to places of employment, study, shopping, and recreation.

Resort. As with the project, the R designation is intended to provide mixed uses consistent with a mountain resort community. However, under this Alternative the R designation would place more emphasis on the provision of affordable/workforce housing than under the project. While visitor accommodations would be the primary emphasis in the R designation, this Alternative would require the inclusion of affordable/workforce housing into each major development. This designation would be applied to large parcels capable of providing a mix of recreation, lodging, and commercial uses. Maximum density would be eight dwelling units per acre for residential uses, including visitor accommodations, whereas for the project only visitor lodging units[81] would be eligible for 8 units per acre. Resort development projects are required to provide support commercial within their development area.

Industrial. As with the project, the I designation is designed and intended to accommodate industrial uses needed to support a resort community, such as light manufacturing, storage, and maintenance uses. The uses include heavy equipment storage and maintenance, batch plants, automobile repair and service, and similar uses.

Specific Plan. The North Village SP area provides for the highest intensity uses consistent with a mountain resort community. This area provides for a mix of visitor-oriented commercial and visitor lodging uses. he maximum density under the North Village Specific Plan is 3,020 rooms and 135,000 square feet of commercial. Density is not uniform, but rather is allocated by zones as specified in the North Village SP. Residential development under the SP is

[81] *Visitor lodging is defined as an accommodation unit that is available for transient visitor use and not usable for permanent residency. Visitor lodging shall not be available for permanent residency and must be available for nightly rental a minimum of 10 months per year. To qualify as visitor lodging, fractional units must be available for transient lodging when not occupied by owners or members. Units may be individually owned or may be owned as a block. They shall be fully furnished with standardized FF&E and designed to be easily rented on a daily basis. On site facilities include space for a management operation, a reception area with front desk and telephone switchboard, daily housekeeping and linen service, ski and luggage storage, meeting rooms, and such other facilities as may complement a transient rental facility. All such facilities shall have front desk service available 24 hours a day.*

limited to visitor accommodations and affordable/workforce housing. Affordable/workforce housing is encouraged to be provided onsite.

Airport. As with the project, the A designation is applied to the Mammoth Yosemite Airport. Facilities and services associated with aviation including hangars, fueling, and fixed base operator services are permitted. Supporting uses including automobile rental, transient lodging, retail uses, and a 100 space RV park may be permitted. The Airport zone is designated for 250 visitor accommodation units and about 30,000 square feet of commercial development.

National Forest. As with the project, the NF designation is applied to lands administered by the Inyo National Forest that are outside the adopted UGB.

7.4.2 Impact Analysis

7.4.2.1 Aesthetics

Under the Workforce/Affordable Housing Alternative as with the project, growth would occur within the UGB. Intensity of development would be greater under the Workforce/Affordable Housing Alternative compared with the project. As with the project, continued development and redevelopment of land would permanently replace some existing views and scenic vistas with structures. Under the Workforce/Affordable Housing Alternative, as with the project, all major development projects would undergo environmental and design review on a site-specific basis, per CEQA, the Town's Municipal Code and all applicable regulatory requirements, to ensure that facilities and structures would be sited in a way that would not have substantial adverse effects to scenic vistas and to avoid the loss of scenic resources (such as trees and rock outcrops). In addition, the changes in light and glare would be similar with the Workforce/Affordable Housing Alternative and the project. The Town's regulations regarding lighting would reduce lighting impacts to the night sky. However, as with the project, this Alternative would result in significant and unavoidable lighting impacts to the night sky due to the increase in development compared with existing conditions. With regard to visual character and quality, as with the project, the Workforce/Affordable Housing Alternative would result in a change in the visual character and quality of the community through the development of vacant lands and the redevelopment of other lands. The types and intensity of developments under the Workforce/Affordable Housing Alternative would be similar to the types of development that would occur under the project. As with the project, due to the permanent change in visual character of newly developed areas of the Town, impacts to the Town's visual character and quality are significant and unavoidable.

7.4.2.2 Air Quality

Compared to the Updated Plan, implementation of the Workforce/Affordable Housing Alternative would result in a greater level of development, but the overall VMT would be slightly reduced by locating the workforce closer to employment areas. However, with the greater level of development a slight increase in wood-burning appliances would occur. Overall, due to Town Particulate Matter Ordinances, PM_{10} concentrations would be similar ~~at buildout~~ under this Alternative when compared to the project. As with the project, air quality impacts would not exceed federal standards or conflict with implementation of the AQMP. Nonetheless, the State 24-hour PM_{10} and 1-hour O_3 standard would continue to be exceeded, in which pollutant emissions from implementation of the Workforce/Affordable Housing Alternative or the project would continue to contribute to these exceedances of State standards. As with the project, implementation of the Workforce/Affordable Housing Alternative would be considered cumulatively considerable and sensitive receptors could be exposed to substantial pollutant concentrations (PM_{10} and O_3). As with the project, the O_3 impact is primarily the result of pollution transport from the San Joaquin Valley and is not a condition substantially generated by Town activities. Nonetheless, the Workforce/Affordable Housing Alternative would result in a significant and unavoidable air quality impact.

7.4.2.3 Biological Resources

Compared to the Updated Plan, implementation of the Workforce/Affordable Housing Alternative would result in a greater level of development. As with the project, impacts to biological resources would increase incrementally with intensified development and human activity. With the level of development expected, direct impacts to candidate, sensitive, or special species, as well as impacts to riparian habitats or other natural communities, would still be less than significant, given federal regulations and Town codes and plans in place to protect such species and habitats. However, as with the project, and given the higher PAOT that would result under this Alternative, the increased wilderness and open lands usage as may be indirectly caused by the Workforce/Affordable Housing Alternative could have a significant and unavoidable impact upon one or more of the special status wildlife or plants species discussed in Section 4.3 of this EIR.

In addition, federally protected wetlands are regulated by the U.S. Army Corps of Engineers under Section 404 of the CWA, and CDFG recognizes wetlands for their value as high quality habitat for both plants and animals. Both agencies have policies of "no net loss" of wetlands, and additionally, the Town has adopted Federal Emergency Management Agency (FEMA) requirements for setbacks within the floodplain, which would apply to the Mammoth Creek corridor. As with the project, the Workforce/Affordable Housing Alternative would result in less than significant impacts to federally protected wetlands.

Implementation of the Workforce/Affordable Housing Alternative could create barriers to wildlife movement with increased population and human activity. However, given the level of development expected at buildout, this increase would be similar to that of the project. In addition, given existing levels of urbanization within the UGB, the likelihood of disturbing a previously existing wildlife corridor is low. Furthermore, the Town has adopted Municipal Codes to ensure protection and preservation of trees and other biological resources. Therefore, as with the project, impacts ~~to biological resources and tree preservation~~ regarding migratory corridors and consistency with local policies or ordinances protecting biological resources would be less than significant. In addition, similar to the project, the Workforce/Affordable Housing Alternative would not conflict with the provisions of a habitat conservation plan.

7.4.2.4 Geology

Compared to the Updated Plan, implementation of the Workforce/Affordable Housing Alternative would result in a greater level of development. The Workforce/Affordable Housing would contain goals and policies that address geotechnical hazards similar to the Updated Plan. Under the Updated Plan and this Alternative, future development would be required to comply with the California Building Code as well as Section 12.08.080 of the Town Municipal Code, which requires engineered plans and a soils report to be submitted with an application for a grading permit. Future development under both the Updated Plan and this Alternative would also require detailed recommendations regarding specific techniques and designs to reduce, eliminate or avoid geotechnical hazards and site plan review by the Town to determine conformance with specific recommended geotechnical procedures. Implementation of this Alternative would not result in additional impacts related to development in areas of ground surface rupture due to faulting, seismic shaking, seismically-induced ground deformation, including liquefaction, landslides and slope instability, volcanic eruption, erosion, or expansive soils, when compared to the Updated Plan. Therefore, the Workforce/Affordable Housing Alternative would have similar geology impacts as the Updated Plan.

7.4.2.5 Public Safety and Hazards

Compared to the Updated Plan, implementation of the Workforce/Affordable Housing Alternative would result in a greater level of development. Under both this Alternative and the Updated Plan, no new impacts would be created regarding wildfires, avalanches, aircraft patterns and airport compatibility, and conflict with the Town's Emergency Operations Plan (EOP). As with the project, given that implementation of measures to reduce the potential impact of wildfires are not under the control of the Town, this potential impact would be significant and unavoidable under the Workforce/Affordable Housing Alternative.

All future development would be required to comply with all applicable regulatory requirements FAA regulations and the requirements of the Mammoth/June Lake Airport Land

Use Plan, which would result in less than significant impact regarding compatibility with airport operations. No changes to aircraft patterns would occur under this Alternative or the Workforce/Affordable Housing Alternative. Development under the Updated Plan and this Alternative would not impair implementation or physically interfere with the EOP, because no circulation changes would occur that conflict with the procedures set forth in the plan.

Development in areas with slope gradients of between 30 and 45 degrees could expose people or property to hazards such as avalanches under the Updated Plan or the Workforce/Affordable Housing Alternative. However, areas in the Town where avalanche potential has been identified have been overlaid with a Snow Deposition Design (SDD) Zone to minimize health and safety hazards. Any development within this zone would be permitted by use permit only and requires an Avalanche Risk Assessment certified by a recognized expert in the field of avalanche occurrence. Furthermore, no critical or permanently occupied facilities would be located within a high avalanche hazard area. As with the project, Municipal Code requirements for building design relative to snow would apply. Thus, impacts regarding avalanches and other snow related issues would be less than significant under both the Workforce/Affordable Housing Alternative and the Updated Plan

With regard to hazardous materials, the use of hazardous materials is generally associated with non-residential uses. The Workforce/Affordable Housing Alternative would result in less non-residential development compared with the project. However, as with the project, under the Workforce/Affordable Housing Alternative any use, storage or handling of hazardous materials would be conducted in compliance with applicable federal, state, and local regulations. Therefore, impacts under the Workforce/Affordable Housing Alternative with regard to hazardous materials would be similar to the project and would be less than significant.

7.4.2.6 Hydrology and Water Quality

The Workforce/Affordable Housing Alternative would result in a greater level of development than the project. Development within the Town under both the Workforce/Affordable Housing Alternative and the project would increase impermeable surface area, resulting in an increase of storm and irrigation water runoff. However, with the development of either the Updated Plan or the Workforce/Affordable Housing Alternative, compliance with federal, state and local water quality and waste discharge requirements, including the NPDES Program and implementation of Best Management Practices (BMPs), would be required for the construction and post-construction phases of development. Under both development scenarios, remediation of undetected contamination and BMPs to reduce the potential pollutants of concern would be implemented. BMPs would also reduce and/or eliminate erosion potential, would be incorporated into development projects. All future development would be subject to the requirements of the Mammoth Lakes Storm Drainage Master Plan (SDMP), which includes guidelines for erosion control and identifies storm drainage

facility improvements designed to accommodate development for the Mammoth Lakes area. Additionally, FEMA design standards and guidelines would apply to all development within flood prone areas. Thus, similar impacts would occur regarding flooding.

Overall, future development within the Town under the Workforce/Affordable Housing Alternative, as with the project, would result in less than significant impacts associated with water quality and hydrology. Thus, under the Workforce/Affordable Housing Alternative, impacts to hydrology and water quality would be similar to those of the Updated Plan.

7.4.2.7 Land Use and Planning

The land use pattern and distribution of land uses under the Workforce/Affordable Housing Alternative would be similar to the pattern and distribution that would occur under the project. Under this Alternative, the residential land use area would be slightly larger and the resort land use area would be slightly smaller when compared to the project. However, the total acres devoted to the various land uses under the Workforce/Affordable Housing Alternative is similar to the Updated Plan. As with the project, the ~~No Project~~Workforce/Affordable Housing Alternative would not physically divide an established community nor would the ~~No Project~~ Workforce/Affordable Housing Alternative create incompatible land uses or affect the community character of an established community. The ~~No Project~~Workforce/Affordable Housing Alternative would not conflict with any applicable plans, policies, or regulations. Land use and planning impacts would be similar under the ~~No Project~~ Workforce/Affordable Housing Alternative compared with the project.

7.4.2.8 Noise

Compared to the Updated Plan, implementation of the Workforce/Affordable Housing Alternative would result in a greater level of development, but the overall VMT would be slightly reduced by locating the workforce closer to employment areas. As with the project, impacts related to the exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies would be less than significant. Implementation of the measures provided in the Updated Plan along with measures provided in the Noise Element would ensure that existing and proposed sensitive uses would not exceed applicable noise standards. This significant impact would be reduced due to the slight decrease in overall VMT. However, similar to the project, there may nonetheless be a significant unavoidable impact because the noise generated by traffic from implementation of the Workforce/Affordable Housing Alternative would exceed current ambient levels by up to 6 dBA. As the Workforce/Affordable Housing Alternative results in a slight decrease in the overall VMT, the traffic noise level would also have a corresponding reduction. However, the decrease in overall traffic volumes would be approximately two percent. This reduction in traffic would not substantially reduce the noise associated with traffic. While noise

levels would be below the threshold, as with the project the increment would be substantial. Therefore, as with the project the impact would be a significant and unavoidable impact.

7.4.2.9 Population, Housing and Employment

The Workforce/Affordable Housing Alternative anticipates greater population growth than the proposed project and would result in approximately ~~67,225~~ 67,200 people at one time compared to ~~60,680~~ approximately 60,700 PAOT that would occur under the project. The estimated residential units (transient and non-transient) would be approximately 20,225 units. The additional housing under the Workforce/Affordable Housing Alternative would result from slightly higher density in the HDR-1 and HDR-2 compared with the project (12 units compared with 10 units per acre, respectively) as well as an increase in the provision of density bonuses. The Workforce/Affordable Housing Alternative would not provide for the extension or expansion of roadways into the area. In addition, the Workforce/Affordable Housing Alternative would not result in an increase in the capacity of existing infrastructure so as to provide for an increase in population. The Workforce/Affordable Housing Alternative would accommodate a relatively substantial increment in population growth, in fact, a growth greater than the project. However, as with the project, the Workforce/Affordable Housing Alternative would neither directly nor indirectly induce that growth or cause it to occur. Rather, as with the project the Alternative would shape the location, form, and behavior of the growth increment should external demand be sufficient.

7.4.2.10 Public Services

The Workforce/Affordable Housing Alternative anticipates greater population growth than the Updated Plan. The Workforce/Affordable Housing Alternative would result in a total of 67,225 PAOT or 6,545 PAOT more than under the project. As with the project, the demand for police and fire protection, schools, libraries, roadway maintenance and snow removal, and health services associated with the Workforce/Affordable Housing Alternative would increase incrementally with increased population growth. However, as with the Updated Plan project-specific environmental review and payment of the development impact fee would reduce impacts to services to a less than significant level, with the exception of libraries and health services. As with the project, impacts to libraries and health services would remain significant and unavoidable. With increases in workforce housing units over transient housing units there would be an impact to the Town's budget of which the majority is funded through Transient Occupancy Tax. These monies fund the development of workforce housing as well as Town services, such as snow removal and police services. The loss of revenue would impact the Town's ability to provide services. The impacts to public services would be greater than the impacts under the project, with the exception of snow removal, due to the greater number of PAOT. Impacts to public services would be less than significant, with the exception of libraries and health services, which would remain significant and unavoidable.

Table 7-5

Comparison of Water Supply and Demand between the No Project Alternative and the Project for Normal, Single Dry Year and Multiple Dry Years

Current Supply & Demand	Normal Year	Single Dry Year	Multiple Dry Years			
			Year 1	Year 2	Year 3	Year 4
Supply Total	6,760	3,410	5,190	4,908	4,508	4,492
Demand Total Including Project	4,898	4,898	4,898	4,898	4,898	4,898
Surplus or (Deficiency)	1,862	(1,488)	292	10	(390)	(406)
Supply Total	6,760	3,410	5,190	4,908	4,508	4,492
Demand Total Including Workforce/ Affordable Housing Alternative	5,430	5,430	5,430	5,430	5,430	5,430
Surplus or (Deficiency)	1,330	(2,020)	(240)	(522)	(922)	(938)

Source: MCWD, 2005

7.4.2.11 Public Utilities

As indicated above, the Workforce/Affordable Housing Alternative anticipates greater population growth than the Updated Plan. The Workforce/Affordable Housing Alternative would result in a total of 67,225 people at one time or 6,545 people at one time more than under the project. With regard to water supply, the MCWD prepared a water supply assessment for the project and provided an analysis for the alternatives under consideration. Based on the information provided by MCWD, as shown in Table 7-5 on page 7-31, the Workforce/ Affordable Housing Alternative would result in ~~a deficiency of 347, 896, and 938 acre-feet of water per year in the one dry, two dry and three dry years scenarios, respectively. The deficiency that would result under the Workforce/Affordable Housing Alternative would be greater than that which would occur under the project.~~ appreciably larger deficiencies during single dry year and multiple dry year scenarios than would the proposed General Plan Update. Therefore, similar to the project, the Workforce/Affordable Housing Alternative would result in a significant impact with regard to water supply. The Workforce/Affordable Housing would incorporate the same mitigation measure that would occur with the project to ensure that adequate water supply would be available prior to future development. Therefore, as with the project, the Workforce/Affordable Housing would result in a less than significant impact with regard to water supply.

The population increase and structural development associated with the Updated Plan and the Workforce/Affordable Housing Alternative would increase the quantity of wastewater generated and associated requirements for collection, treatment and disposal. The existing treatment facility has a capacity for 4.9 mgd. Sufficient capacity exists to accommodate the buildout projected under the project. The Workforce/Affordable Housing Alternative would have an increase of 6,545 PAOT compared with the project. The capacity of the wastewater

treatment would be sufficient to accommodate the projected growth under the ~~No Project~~Workforce/Affordable Housing Alternative[82]. However, the increase in average people at one time under the Workforce/Affordable Housing Alternative would result in a significant impact with regard to wastewater.

With regard to solid waste, adequate capacity exists to accommodate growth projected under the project. The Workforce/Affordable Housing Alternative would generate a greater amount of solid waste. The Town is expanding its recycling capabilities to achieve the state mandated 50 percent diversion rate, which would reduce the amount of solid waste disposed of at local landfills. However, the increase in average people at one time under the Workforce/Affordable Housing Alternative would result in a significant impact with regard to solid waste.

7.4.2.12 Recreation

The Workforce/Affordable Housing Alternative would increase demands for, as well as demands upon, recreational facilities and areas, necessitating construction of additional facilities in order to maintain adequate service levels and to prevent overuse and the resultant physical deterioration of existing facilities. The Workforce/Affordable Housing Alternative would result in a greater resident population in the Town compared with the project. Under the Workforce/Affordable Housing Alternative, the permanent/seasonal population would be approximately 19,800. Based on the ratio of 5 acres per 1,000 persons, this Alternative would require 99 acres of park land, or 24 acres more than under the project. As with the project, the increase in demand on existing facilities as well as the unknown locations for additional park acreage, the impacts to recreation would be significant and unavoidable.

7.4.2.13 Transportation and Circulation

The Workforce/Affordable Housing Alternative would result in the following 10~~11~~ intersections having service levels that exceed the Town's thresholds:

- Lake Mary Road/Lakeview Road
- Main Street/Center Street
- Minaret Road/Main Street
- Main Street/Forest Trail
- Main Street Westbound/Meridian Boulevard
- Main Street Eastbound/Meridian Boulevard

[82] *As per MCWD response to Original Draft EIR, letter dated April 2005.*

- Meridian Boulevard/Majestic Pines Drive
- Minaret Road/Forest Trail
- Minaret Road/Old Mammoth Road
- Lake Mary Road/Kelly Road

In comparison, the project would result in service levels that exceed the Town's thresholds at nine ~~10~~ intersections. The traffic study, which is contained in Appendix F of this EIR, provides mitigation measures that would be necessary to reduce the impacts under this Alternative to a less than significant level. As with the project, feasible mitigation measures have been identified to reduce the impacts to less than significant levels. Mitigation measures would be incorporated under this Alternative. As with the project the Master Facility Plan would be amended to incorporate the mitigation measures if this Alternative were to be adopted. Fees would be collected by the Town in order to implement the necessary mitigation measures. As with the project, with the incorporation of mitigation, the Workforce/Affordable Housing Alternative would result in less than significant impacts with regard to transportation and circulation.

7.4.2.14 Cultural Resources

Compared to the Updated Plan, implementation of the Workforce/Affordable Housing Alternative would result in a greater level of development. Cultural resources could be impacted as a result of future development under the Workforce/Affordable Housing Alternative. The Workforce/Affordable Housing Alternative would incorporate the same mitigation measure to ensure that the level of impact to cultural resources would be reduced to a less than significant level. Therefore, impacts to cultural resources under the Workforce/Affordable Housing Alternative would be the same compared with the project.

7.4.3 Conclusion and Relationship of the Alternative to Project Objectives

A comparative summary of the environmental impacts associated with the Workforce/Affordable Housing Alternative with the environmental impacts anticipated under the proposed project is provided in Table 7-7 on page 7-48. This Alternative would result in new environmental impacts in public utilities that would not occur under the project and more severe impacts to ~~air quality as a result of increased traffic and~~ wildlife as a result of increased use of the surrounding environment for recreation. Due to the increase in population, the demand for utilities would exceed capacities.

The Workforce/Affordable Housing Alternative would result in similar impacts to the Updated Plan in the areas of aesthetics; air quality, geology, soils, and mineral resources; public safety and hazards; hydrology and water quality; land use and planning; noise; population, and

housing and employment; and cultural resources. Impacts on public services and public utilities would be greater under the Workforce/Affordable Housing Alternative compared with the project. However, impacts regarding fire, police, schools, and roadway maintenance would remain less than significant while impacts to libraries and health services would be significant and unavoidable. Similarly, impacts regarding recreation would be greater than under the project but in both the impact would be significant and unavoidable. Transportation and Circulation impacts would be greater in that 10 ~~11~~ intersections compared to 9 ~~10~~ intersections under the project would be impacted at buildout. However, as with the project, with the incorporation of mitigation measures, the impact would be reduced to a less than significant level.

The Workforce/Affordable Housing Alternative would achieve the project objective of providing adequate and appropriate housing that residents and workers can afford. This Alternative would focus on the provision of housing for the workforce that is affordable. However, this Alternative would not meet the objective of retaining and enhancing the Town's cohesive small-town community character by providing a stable economy, high quality educational facilities and programs, a broad range of community services, and a participatory Town government to the same extent as the project. Due to the significant population increase that would occur under this Alternative, the Alternative would not retain the Town's small-town character. In addition, due to the population increase, the demand for public services and utilities would exceed the Town's ability to provide adequate capacity. Therefore, this Alternative would not meet the project objectives.

7.5 ALTERNATIVE 3: REDUCED DEVELOPMENT ALTERNATIVE

7.5.1 Description

The Reduced Development Alternative reduces overall development and an increase in the provision of open space with the objective of reducing traffic, air pollution, and conserving natural resources while still providing housing for resident and workforce population. Figure 7-3 on page 7-35 shows the locations of the various land uses under the Reduced Development Alternative. In comparison with the project, areas designated for Resort and Institutional Public use would be reduced. More specifically, much of the eastern portion of the UGB would be designated OS in this Alternative compared to IS under the project. In addition, the bell shaped property in the central portion of the UGB would be designated OS under this Alternative compared to a Resort designation under the project. The Reduced Development Alternative would also change permitted uses at the Airport from visitor accommodations to Industrial uses.

As shown in Table 7-3 on page 7-8, compared to the project, residential areas would have similar allowable densities but commercial areas would permit substantially less residential density (10 units per acres in this Alternative compared to 20 units per acre in the project). In

Town of Mammoth Lakes

Explanation

- Commercial 1
- Commercial 2
- High Density Residential 1
- High Density Residential 2
- Industrial
- Institutional Public
- Low Density Residential 1
- Low Density Residential 2
- Resort
- North Village Specific Plan
- Open Space
- Urban Growth Boundary
- National Forest Lands
- National Forest Lands Outside the Municipal Boundary

PARCELS

1. Bell-Shape Parcel
2. Mammoth Creek Park
3. Water District
4. Foundation Parcel

N

0 250 500 1,000 Meters

Base Maps: Old Mammoth, Mammoth Mountain, Crystal Crag & Bloody Mountain
Source: Town of Mammoth Lakes

Figure 7-3 Reduced Development Alternative Land Use Designations

terms of intensity of development, while the area designated for residential land use would be similar to that under the project, the total number of units would be substantially less than the Updated Plan since the permitted densities in commercial areas would be less. This Alternative would reduce density for most undeveloped residential/visitor accommodation properties in the town while emphasizing the provision of affordable/workforce housing through the purchase of existing condominiums rather than through new construction. It is expected that this Alternative would have primary effect in reducing the Town's transient and visitor-serving capacity relative to the project.

Under this Alternative the anticipated population would be almost 16 percent less than the project. The peak resident and visitor population expected at buildout under the Reduced Development Alternative is estimated at ~~51,210~~ approximately 51,200 PAOT as compared to the ~~60,680~~ approximately 60,700 PAOT under the project.

The following provides a discussion of the land use designations under the Reduced Development Alternative:

Residential. As with the project, this alternative would have the same four residential land use designations. As in the project, the LDR1 would apply to single-family residential development within the Old Mammoth area, as well as those areas previously designated as SCP and zoned RR. A maximum density of two units per gross acre would be allowed. The LDR2 would apply to single-family residential development of four dwelling units per gross acre. The HDR1 designation preserves areas in town for resident housing by prohibiting transient visitor use. The HDR 2 designation permits transient occupancy and is intended for multi-family style developments including townhouses, condominiums, and apartments. The Reduced Development Alternative would allow 10 units per acre in the HDR-1 and HDR-2 designations, the same as would be allowed under the project.

Commercial. As with the project, the Reduced Development Alternative would provide a C-1 and C-2 designation. The C1 designation is intended primarily to provide areas for lodging and commercial services for residents and visitors, as well as residential development. The C2 designation is designed and intended to provide areas for commercial services and goods. Multi-family housing is encouraged as an accessory use. This Alternative would allow a maximum residential density of 10 units per acre compared with 20 units per acre that is proposed in the Updated Plan.

Open Space. The OS designation permits development of facilities that support the environmental and recreational objectives of the community and may include public recreation facilities such as parks, athletic fields, ski areas, golf courses, and community gathering spaces. Under this Alternative, the OS designation would remain on the eastern portion of the ~~UBC~~

UGB instead of being designated as IP, and the bell-shaped property would remain as OS instead of being designated Resort.

Institutional/Public. The IP designation allows for public facilities and institutional uses, and is applied to lands with anticipated use for schools, hospitals, governmental offices and facilities, museums, and related uses. The IP-designated land would not allow development of affordable~~Affordable~~ and workforce housing as defined by the Town ~~would not be permitted on all IP designated land~~.

Resort. The R designation is intended to provide mixed uses consistent with a mountain resort community. Visitor accommodations are the primary emphasis and affordable/workforce housing is incorporated into each major development. This designation is generally applied to large parcels capable of providing a mix of recreation, lodging, and commercial uses. New developments are physically connected with an integrated system of streets, sidewalks, and recreational paths to all primary visitor oriented destinations. Maximum densities would be six units per acre for residential uses, including visitor accommodations. In comparison with the project, this Alternative would allow approximately 25% less visitor lodging at six units per acre compared with eight units per acre under the project. Resort development projects are required to provide support commercial within their development area. Under this Alternative, this designation would not be applied to the bell-shaped parcel, and that parcel would remain designated OS.

Industrial. As with the project, the I designation would accommodate industrial uses needed to support a resort community, such as light manufacturing, storage, and maintenance uses. Other permitted uses include heavy equipment storage and maintenance, batch plants, automobile repair and service, and similar uses. Under this Alternative, the Mammoth Mountain RV Park and the National Forest Land to the east and the land between the Mammoth Lakes Foundation property and the Mammoth Community Water District facilities in the South Gateway would not be designated I but would remain as Open Space.

Specific Plan. The North Village SP area provides for the highest intensity uses consistent with a mountain resort community. This area provides for a mix of visitor-oriented commercial and visitor lodging uses. The maximum density under the North Village SP is 2,656 rooms and 135,000 square feet of commercial. Density is not uniform but allocated by zones as specified in the North Village SP. Residential development under the SP designation is limited to visitor accommodations and affordable/workforce housing. Affordable/workforce housing is encouraged to be provided on-site. Total density in the North Village under this Alternative would be reduced by approximately 12 percent from current zoning after accounting for Development Agreements.

Airport. The A designation is applied to the Mammoth Yosemite Airport. Facilities and services associated with aviation including hangars, fueling, and fixed base operator services are permitted. Supporting uses may include automobile rental and retail uses. The Airport designation would not permit residential uses, but would permit up to 25 acres of industrial development.

National Forest. As with the project, the NF designation is applied to lands administered by the Inyo National Forest that are outside the adopted UGB.

7.5.2 Impact Analysis

7.5.2.1 Aesthetics

Under the Reduced Development Alternative as with the project, growth would occur within the UGB. Intensity of development would be less under the Reduced Development Alternative compared with the project. However, as with the project, continued development and redevelopment of land would permanently replace some existing views and scenic vistas with structures. Under the Reduced Development Alternative, as with the project, all major development projects would undergo environmental and design review on a site-specific basis, per CEQA, the Town's Municipal Code and all applicable regulatory requirements, to ensure that facilities and structures would be sited in a way that would not have substantial adverse effects to scenic vistas and to avoid the loss of scenic resources (such as trees and rock outcrops). In addition, the changes in light and glare would be less with the Reduced Development Alternative than with the project. As with the project, the Town's regulations regarding lighting would serve to reduce lighting impacts to the night sky. While lighting would be less compared with the project, lighting impacts to the night sky would remain significant and unavoidable due to the increase in development compared with existing conditions. With regard to visual character and quality, as with the project, the Reduced Development Alternative would result in a change in the visual character and quality of the community through the development of vacant lands and the redevelopment of other lands. However, the degree and extent of impacts associated with Reduced Development Alternative would be less than the Updated Plan because it would not allow as much growth or development as the proposed Updated Plan. However, the impact to visual character and quality would remain significant and unavoidable.

7.5.2.2 Air Quality

Compared to the Updated Plan, implementation of the Reduced Development Alternative would reduce future development densities by approximately 20 percent. However, overall VMT would be reduced by approximately ~~10~~ nine percent. ~~Overall,~~ Due to existing Town Particulate Matter Ordinances, PM_{10} concentrations would be similar at buildout. As with the

project, air quality impacts would not exceed federal standards or conflict with implementation of the AQMP. Nonetheless, the State 24-hour PM_{10} and 1-hour O_3 standard would continue to be exceeded, in which pollutant emissions from implementation of the Reduced Development Alternative or the project would continue to contribute to these exceedances of State standards. As with the project, implementation of the Reduced Development Alternative would be considered cumulatively considerable and sensitive receptors could be exposed to substantial pollutant concentrations (PM_{10} and O_3). However, the O_3 impact is primarily the result of pollution transport from the San Joaquin Valley and is not a condition substantially generated by Town activities, policies, or the Updated Plan. Nonetheless, this air quality impact would be significant and unavoidable.

7.5.2.3 Biological Resources

Under the Reduced Development Alternative, impacts to biological resources would be less than those of the project, since the Alternative would preserve more open space and would reduce future development densities by 20 percent. The Reduced Development Alternative would result in a total of 575 acres of land designated for Open Space uses, while the Updated Plan would include 295 acres designated for Open Space use. The open space would maintain existing native vegetation and wildlife habitats; however, human activity associated with informal recreational uses of the open space could create impacts to these habitats. Nevertheless, impacts associated with use of the open space would be less than those resulting from development as proposed by the project. As such, direct impacts to candidate, sensitive, or special species, as well as impacts to riparian habitats or other natural communities, would be less than significant, given federal regulations and Town codes and plans in place to protect such species and habitats. However, as with the project, while the PAOT would be less than the project, the increased wilderness and open lands usage as may be indirectly caused by the Reduced Development Alternative could have a significant and unavoidable impact upon one or more of the special status wildlife or plants species discussed in Section 4.3 of this EIR.

In addition, federally protected wetlands are regulated by the U.S. Army Corps of Engineers under Section 404 of the CWA, and CDFG recognizes wetlands for their value as high quality habitat for both plants and animals. Both agencies have policies of "no net loss" of wetlands, and additionally, the Town has adopted Federal Emergency Management Agency (FEMA) requirements for setbacks within the floodplain, which would apply to the Mammoth Creek corridor. As with the project, the Reduced Development Alternative would result in less than significant impacts to federally protected wetlands.

Implementation of the Reduced Development Alternative could create barriers to wildlife movement with increased population and human activity. However, given the level of development expected at buildout, this increase would be similar to that of the project. In addition, given existing levels of urbanization within the UGB, the likelihood of disturbing a

previously existing wildlife corridor is low. Furthermore, the Town has adopted Municipal Codes to ensure protection and preservation of trees and other biological resources. Under the Reduced Development Alternative, impacts to biological resources would be less than those of the Updated Plan. As with the project, impacts ~~to biological resources and tree preservation~~ regarding migratory corridors and consistency with local policies or ordinances protecting biological resources would be less than significant. In addition, similar to the project, the Reduced Development Alternative would not conflict with the provisions of a habitat conservation plan.

~~The Reduced Development Alternative would result in a total of 575 acres of land designated for Open Space uses, while the Updated Plan would include 295 acres designated for Open Space use. This land would not provide recreation facilities and would be reserved for conservation.~~

7.5.2.4 Geology

Compared to the Updated Plan, implementation of the Reduced Development Alternative would result in less development. The Reduced Development Alternative would contain goals and policies that address geotechnical hazards similar to the Updated Plan. Under the Updated Plan and this Alternative, future development would be required to comply with the California Building Code as well as Section 12.08.080 of the Town Municipal Code, which requires engineered plans and a soils report to be submitted with an application for a grading permit. Future development under both the Updated Plan and this Alternative would also require detailed recommendations regarding specific techniques and designs to reduce, eliminate or avoid geotechnical hazards and site plan review by the Town to determine conformance with specific recommended geotechnical procedures. Implementation of this Alternative would not result in additional impacts related to development in areas of ground surface rupture due to faulting, seismic shaking, seismically-induced ground deformation, including liquefaction, landslides and slope instability, volcanic eruption, erosion, or expansive soils, when compared to the Updated Plan. Therefore, the Reduced Development Alternative would have similar geology impacts as the Updated Plan.

7.5.2.5 Public Safety and Hazards

Compared to the Updated Plan, implementation of the Reduced Development Alternative would result in the development of less acreage within the urban growth boundary. Under both this Alternative and the Updated Plan, no new impacts would be created regarding wildfires, avalanches, aircraft patterns and airport compatibility, and conflict with the Town's EOP. Given that implementation of measures to reduce the potential impact of wildfires are not under the control of the Town, this potential impact is considered to be significant and unavoidable under both the Updated Plan and the Reduced Development Alternative.

While this Alternative would allow industrial development within the Airport designation all future development would be required to comply with all applicable regulatory requirements FAA regulations and the requirements of the Mammoth/June Lake Airport Land Use Plan, which would result in less than significant impact regarding compatibility with airport operations. No changes to aircraft patterns would occur under this Alternative or the Reduced Development Alternative. Development under the Updated Plan and this Alternative would not impair implementation or physically interfere with the EOP, because no circulation changes would occur which conflict with the procedures set forth in the plan.

Development in areas with slope gradients of between 30 and 45 degrees could expose people or property to hazards such as avalanches under the Updated Plan or the Reduced Development Alternative. However, areas in the Town where avalanche potential has been identified have been overlaid with a SDD Zone to minimize health and safety hazards. Any development within this zone would be permitted by use permit only and requires an Avalanche Risk Assessment certified by a recognized expert in the field of avalanche occurrence. Furthermore, no critical or permanently occupied facilities would be located within a high avalanche hazard area. Thus, impacts regarding avalanches would be less than significant under both the Reduced Development Alternative and the Updated Plan

With regard to hazardous materials, the use of hazardous materials is generally associated with non-residential uses. The Reduced Development Alternative would result in less non-residential development compared with the project. However, as with the project, under the Reduced Development Alternative any use, storage or handling of hazardous materials would be conducted in compliance with applicable federal, state, and local regulations. Therefore, impacts under the Reduced Development Alternative with regard to hazardous materials would be similar to the project and would be less than significant.

7.5.2.6 Hydrology and Water Quality

Development within the Town under both the Updated Plan and Reduced Development Alternative would increase impermeable surface area, resulting in an increase of storm and irrigation water runoff. However, with the development of either the Updated Plan or the Reduced Development Alternative, compliance with federal, state and local water quality and waste discharge requirements, including the NPDES Program and implementation of BMPs, would be required for the construction and post-construction phases of development. Under both development scenarios, remediation of undetected contamination and BMPs to reduce the potential pollutants of concern would be implemented. BMPs would also reduce and/or eliminate erosion potential, would be incorporated into development projects. All future development would be subject to the requirements of the SDMP, which includes guidelines for erosion control and identifies storm drainage facility improvements designed to accommodate

development for the Mammoth Lakes area. Additionally, FEMA design standards and guidelines would apply to all development within flood prone areas.

Overall, future development within the Town under the Updated Plan or the Reduced Development Housing Alternative would result in less than significant impacts associated with water quality and hydrology. However, since less area would be developed with urbanized uses under this Alternative when compared to the Updated Plan, there would be less runoff with potential urban pollutants and more natural infiltration than the Updated Plan. Thus, impacts to hydrology and water quality would be less under this Alternative when compared to the Updated Plan.

7.5.2.7 Land Use and Planning

The land use pattern and distribution of land uses under the Reduced Development Alternative would be different than the pattern and distribution that would occur under the project. The total acres devoted to the various land uses under the Reduced Development Alternative would be different than under the Updated Plan (see Table 7-3). Under this Alternative, the open space area would be larger by 200 acres, mostly in the eastern portion of the UGB. In addition, this Alternative would result in an open space area in the central portion of the UGB, as the bell shaped parcel would be designated OS rather than R as it would be designated in the project. As with the project, the Reduced Development Alternative would not physically divide an established community nor would the Reduced Development Alternative create incompatible land uses or affect the community character of an established community. The Reduced Development Alternative would not conflict with any applicable plans, policies, or regulations. Land use and planning impacts would be similar under the Reduced Development Alternative compared with the project.

7.5.2.8 Noise

Compared to the Updated Plan, implementation of the Reduced Development Alternative would reduce future development densities by approximately 20 percent, with a resulting reduction in the overall VMT of approximately 10 percent. As with the project, impacts related to the exposure of persons to noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies would be less than significant. Implementation of the measures provided in the Updated Plan along with measures provided in the Noise Element would ensure that existing and proposed sensitive uses would not exceed applicable noise standards. This significant impact would be reduced due to the slight decrease in overall VMT. However, similar to the project, there may nonetheless be a significant unavoidable impact because the noise generated by traffic from implementation of the Reduced Development Alternative would exceed current ambient levels by up to 6 dBA. As the Reduced Development Alternative results in a slight decrease in the overall VMT, the traffic noise level

would also have a corresponding reduction. However, the decrease in overall impacts would be approximately ten percent and inaudible.

7.5.2.9 Population, Housing and Employment

The Reduced Development Alternative anticipates less population growth than the proposed Project, and would result in approximately 51,210 people at one time compared to ~~60,680~~ approximately 60,700 PAOT that would occur under the project. This Alternative would result in 9,470, or almost 16 percent, less people at one time compared with the project. The Reduced Development Alternative restricts growth and development compared with the project and would result in a decreased number of residential units when compared to the Updated Plan, including an appreciable reduction in transient/visitor-serving lodging capacity. The estimated residential units of all types would be approximately 15,270 units.

The Reduced Development Alternative would result in fewer employment opportunities, which could be viewed as an adverse impact on employment, and in a less stable community employment profile throughout the year. This is because the Updated Plan's provision for expanded transient capacity specifically addresses the Town's objective to attract destination resort uses and amenities which lead to more balanced mid-week and seasonal visitation. Neither the project nor the existing Reduced Development Alternative would provide for the extension or expansion of roadways into the area and would not result in an increase in the capacity of existing infrastructure so as to provide for an increase in population. Similar to the project, the Reduced Development Alternative would accommodate a relatively substantial increment in population growth. However, as with the project, the Reduced Development Alternative would neither directly nor indirectly induce that growth or cause it to occur. Rather, as with the project the Alternative would shape the location, form, and behavior of the growth increment should external demand be sufficient.

7.5.2.10 Public Services

As indicated above, the projected population under the Reduced Development Alternative would be 51,210 people at one time compared to ~~60,680~~ approximately 60,700 PAOT under the project. The Reduced Development Alternative would allow for up to 15,270 dwelling units or less than nine percent fewer than the estimated 16,710 dwelling units which would be allowed by the Updated Plan. As with the project, the demand for police and fire protection, schools, libraries, roadway maintenance and snow removal, and health services associated with the Reduced Development Alternative would increase incrementally with increased population growth. However, the demand would not be as great as under the project given that the Reduced Development Alternative would result in 9,470 less people at one time compared with the project. As with the project, project-specific environmental review and payment of the development impact fee would reduce impacts to services to a less than

Table 7-6

Comparison of Water Supply and Demand between the No Project Alternative and the Project for Normal, Single Dry Year and Multiple Dry Years

Current Supply & Demand	Normal Year	Single Dry Year	Multiple Dry Years			
			Year 1	Year 2	Year 3	Year 4
Supply Total	6,760	3,410	5,190	4,908	4,508	4,492
Demand Total Including Project	4,898	4,898	4,898	4,898	4,898	4,898
Surplus or (Deficiency)	1,862	(1,488)	292	10	(390)	(406)
Supply Total	6,760	3,410	5,190	4,908	4,508	4,492
Demand Total Including Reduced Development Alternative	4,506	4,506	4,506	4,506	4,506	4,506
Surplus or (Deficiency)	2,254	(1,096)	684	402	2	(14)

Source: MCWD, 2005

significant level, with the exception of libraries and health services since the Town does not have control over the library and health care services. As with the project, impacts to libraries and health services would remain significant and unavoidable.

7.5.2.11 Public Utilities

The Reduced Development Alternative would result in a population of ~~51,210~~ approximately 51,200 people at one time, which is considerably less than the population at one time under the project (~~60,680~~ approximately 60,700 people at one time). With regard to water supply, the MCWD prepared a water supply assessment for the project and provided an analysis for the alternatives under consideration. Based on the information provided by MCWD, as shown in Table 7-6 on page 7-44, the Reduced Project Alternative would result in a ~~deficiency in year three in the dry year scenario. The deficiency that would result~~ deficiencies in a single dry year scenario and in the fourth year of a multiple dry year scenario. In each case, the predicted deficiency under the Reduced Development Alternative would be less than that which would occur under the ~~project~~ proposed General Plan Update. However, ~~similar to the project,~~ the Reduced Development Alternative would still result in a significant impact with regard to water supply. The Reduced Development Alternative would incorporate the same mitigation measure that would occur with the project to ensure that adequate water supply would be available prior to future development. Therefore, as with the project, with incorporation of mitigation, the Reduced Development Alternative would result in a less than significant impact with regard to water supply.

The population increase and structural development associated with the Updated Plan and the Reduced Development Alternative would increase the quantity of wastewater generated and associated requirements for collection, treatment and disposal compared with existing conditions.

The existing treatment facility has a capacity for 4.9 mgd. Sufficient capacity exists to accommodate the buildout projected under the project. The Reduced Development Alternative would have a reduction of 9,470 people at one time compared with the project. Therefore, the capacity of the wastewater treatment would be sufficient to accommodate the projected growth under the Reduced Development Alternative. Therefore, as with the project, the Reduced Development Alternative would result in a less than significant impact with regard to wastewater.

With regard to solid waste, adequate capacity exists to accommodate growth projected under the project. The Reduced Development Alternative would result in a substantial reduction in the generation of solid waste due to the reduced buildout with 9,470 less people at one time under the Reduced Development Alternative compared with the project. In addition, the Town is expanding its recycling capabilities to achieve the state mandated 50 percent diversion rate, which will reduce the amount of solid waste disposed of at local landfills. Therefore, as with the project, impacts to solid waste would be less than significant.

7.5.2.12 Recreation

As with the project, the Reduced Development Alternative would increase demands for, as well as demands upon, recreational facilities and areas, necessitating construction of additional facilities in order to maintain adequate service levels and to prevent overuse and the resultant physical deterioration of existing facilities compared with existing conditions. However, the Reduced Development Alternative would result in a considerably lower resident population in the Town. Under the Reduced Development Alternative, the permanent/seasonal population would be approximately 12,170 people. Based on the ratio of five acres per 1,000 persons, this Alternative would require approximately 61 acres of park land, or 14 acres less than under the project. Overall, the impacts on to existing recreational facilities associated with the Reduced Development Alternative would be less than the Updated Plan. However, as with the project, the increase in demand on existing facilities as well as the unknown locations for additional park acreage, the impacts to recreation would be significant and unavoidable. Since Mammoth Creek Park would not be redesignated under this Alternative, the potential loss of a park that would occur under the project would not occur under this Alternative.

The Reduced Development Alternative would result in a total of 575 acres of land designated for Open Space uses, while the Updated Plan would include 295 acres designated for Open Space use. However, this land would not provide recreation facilities and would be reserved for conservation.

7.5.2.13 Transportation and Circulation

As with the project, buildout of the Reduced Development Alternative would result in increased traffic levels beyond existing conditions. The Reduced Development Alternative would result in the following eight intersections having service levels that exceed the Town's thresholds:

- Lake Mary Road/Lakeview Road
- Main Street/Center Street
- Minaret Road/Main Street
- Main Street/Forest Trail
- Main Street Eastbound/Meridian Boulevard
- Minaret Road/Forest Trail
- Minaret Road/Old Mammoth Road
- Minaret Road/Meridian Boulevard

In comparison, the project would result in service levels that exceed the Town's thresholds at nine ~~10~~ intersections. The traffic study, which is contained in Appendix F of this EIR, provides mitigation measures that would be necessary to reduce the impacts to a less than significant level. As with the project, feasible mitigation measures have been identified to reduce the impacts to less than significant levels. As with the project, the Master Facility Plan would be amended to incorporate the mitigation measures if this Alternative were to be adopted. Fees would be collected by the Town in order to implement the necessary mitigation measures. Therefore, as with the project, impacts to transportation and circulation would be less than significant.

7.5.2.14 Cultural Resources

Compared to the Updated Plan, implementation of the Reduced Development Alternative would result in a similar level of development to that of the Updated Plan. Cultural resources could be impacted as a result of future development under the Reduced Development Alternative. The Reduced Development Alternative would incorporate the same mitigation measure to ensure that the level of impact to cultural resources would be reduced to a less than significant level. Therefore, impacts to cultural resources would be under the Reduced Development Alternative would be the same compared with the project.

7.5.3 Conclusion and Relationship of the Alternative to Project Objectives

A comparative summary of the environmental impacts associated with the Reduced Development Alternative with the environmental impacts anticipated under the proposed project

is provided in Table 7-7 on page 7-48. No impacts would be greater under the Reduced Development Alternative when compared to the Updated Plan.

As the Reduced Development Alternative would result in less development and population at buildout, the degree of impacts would be reduced. However, as with the project, the Reduced Development Alternative would result in similar impacts as the Updated Plan in the areas of aesthetics; air quality; biological resources; geology, soils, and mineral resources; public safety and hazards; hydrology and water quality; land use and planning; noise; population, housing and employment; and cultural resources. While impacts to public services, public utilities, and recreation would be less compared with the project due to the reduced PAOT, impacts would be the same in terms of level of significance. The Reduced Development Alternative would impact eight intersections compared with nine ~~10~~ intersections under the project. However, as with the project, with the incorporation of mitigation measures, the impact would be reduced to a less than significant level.

The Reduced Development Alternative would not meet the project objectives to the same extent as the project. The Reduced Development Alternative would retain a limited urbanized area. While the Reduced Development Alternative would retain the same UGB as the project, more areas within the UGB would be designated open space and would be protected as conservation areas. Therefore, the Reduced Development Alternative would provide protection of the surrounding environment and the Town's small-town atmosphere to a greater extent than the project. The Reduced Development Alternative would achieve a portion of the project objective to sustain and protect the unique environmental setting of the Town to a greater degree than the project since less area within the UGB would be developed. The Reduced Development Alternative would not achieve or would hinder achievement of other community objectives including the overall goal of an economy that is strong and stable year-round and the objectives of:

- Providing adequate housing. The Reduced Development Alternative would lower the availability of land for workforce and other housing.
- Increasing off-peak visitation through longer stays and higher occupancy rates. This alternative would reduce the town's ability to create new visitor accommodations that respond to the changing market place.
- Stabilizing employment opportunities throughout the seasons and the year.
- Ensuring the provision of a range of events, facilities, and services that enhance the resort economy. Both directly by reducing development opportunities, and indirectly by reducing future revenues, this alternative reduces the provision of these community desired facilities and services.
- Implementation of adopted master plans. Achievement of the Reduced Development Alternative would require revisions to master and specific plans, in some cases part way through their implementation.

7.6 THE ENVIRONMENTALLY SUPERIOR ALTERNATIVE

Section 15126(d) of the CEQA Guidelines indicates that an analysis of alternatives to the proposed project shall identify one alternative to the project as the environmentally superior alternative. Furthermore, if the environmentally superior alternative is the No Project Alternative, the EIR shall also identify the environmentally superior alternative from among the other alternatives. Table 7-7 on page 7-48 provides a summary comparison of the impacts of the various project alternatives.

As discussed above, the buildout under the No Project Alternative would be slightly greater than that which would occur under the project. As a result, the No Project Alternative would result in similar impacts on the physical environment as the project and would not be environmentally superior to the project. Rather, the Reduced Development Alternative would be environmentally superior to the project since it would result in somewhat less physical impact than the project. While the Reduced Development Alternative would incrementally reduce the severity of project impacts, this Alternative would not eliminate any impacts that would result under the project.

However, the Reduced Development Alternative would not realize key objectives of the project to the extent that the project would. While the Reduced Development Alternative would retain the same UGB as the project and, therefore, would similarly limit urbanized area, more areas within the UGB would be designated open space and would be retained as conservation areas. Therefore, the Reduced Development Alternative would maintain the surrounding environment and the Town's small-town atmosphere to a greater extent than the project. While the reduction in development within the UGB would be partly consistent with the project objective to sustain and protect the unique environmental setting of the Town, the Reduced Development Alternative would not support the equally important part of this same objective regarding the Town's vital economic relationship with resort visitation since the Reduced Development Alternative would provide considerably less visitor-serving capacity than the project. This dilution in visitor-serving capacity would erode this primary source of economic growth which is expected to provide the Town's means of delivering on several of the public service and facility objectives that directly relate to community quality of life. For example, the Reduced Development Alternative would reduce the critical mass of residential and lodging capacity in the vicinity of North Village. This limitation in North Village would make the success of the area as a major visitor destination less likely. In addition, the Reduced Development Alternative would eliminate the opportunity for additional industrial space to meet the community's needs. Finally, the Reduced Development Alternative would inadequately satisfy the objective of providing for adequate and appropriate housing for residents and workers since the Alternative would reduce the availability of land for future housing development.

Table 7-7

Project Alternatives Summary Comparison Impacts

Issue	Proposed Project	No Project Alternative	Workforce/Affordable Housing Alternative	Reduced Development Alternative
Aesthetics	Significant Unavoidable (night lighting and visual character/quality)	Similar to project - Significant Unavoidable (night lighting and visual character/quality)	Similar to project - Significant Unavoidable (night lighting and visual character/quality)	Less than project - Significant Unavoidable (night lighting and visual character/quality)
Air Quality	Significant Unavoidable	Similar to project - Significant Unavoidable	Similar to project - Significant Unavoidable	Similar to project - Significant Unavoidable
Biological Resources	Significant and Unavoidable (indirect impact)	Similar to project – Significant and Unavoidable (indirect impact)	Greater than project - Significant and Unavoidable (indirect impact)	Less than project - Significant and Unavoidable (indirect impact)
Geology, Soils, and Minerals	Less than Significant	Less than Significant	Less than Significant	Less than Significant
Public Safety and Hazards	Significant Unavoidable (wildland fires)	Significant Unavoidable (wildland fires)	Significant Unavoidable (wildland fires)	Significant Unavoidable (wildland fires)
Hydrology and Water Quality	Less than Significant	Less than Significant	Less than Significant	Less than Significant
Land Use and Planning	Less than Significant	Less than Significant	Less than Significant	Less than Significant
Noise	Significant Unavoidable (increase in traffic noise levels)	Significant Unavoidable (increase in traffic noise levels)	Significant Unavoidable (increase in traffic noise levels)	Significant Unavoidable (increase in traffic noise levels)
Population, Housing and Employment	Less than Significant	Less than Significant	Less than Significant	Less than Significant
Public Services				
Fire Protection	Less than Significant	Less than Significant	Less than Significant	Less than Significant
Police Protection	Less than Significant	Less than Significant	Less than Significant	Less than Significant
Schools	Less than Significant	Less than Significant	Less than Significant	Less than Significant
Libraries	Significant Unavoidable	Significant Unavoidable	Significant Unavoidable	Significant Unavoidable
Roadway Maintenance	Less Than Significant	Less Than Significant	Less Than Significant	Less Than Significant
Hospitals/Health Services	Significant Unavoidable	Significant Unavoidable	Significant Unavoidable	Significant Unavoidable

Table 7-7 (Continued)

Project and Alternative Summary Table

Issue	Proposed Project	No Project Alternative	Workforce/Affordable Housing Alternative	Reduced Development Alternative
Public Utilities				
Water	Less than Significant	Greater than project – Significant Unavoidable	Greater than project – Less than Significant	Less than project - Less than Significant
Wastewater	Less than Significant	Less than Significant	Significant Unavoidable	Less than Significant
Solid Waste	Less than Significant	Less than Significant	Significant Unavoidable	Less than Significant
Recreation	Significant Unavoidable	Significant Unavoidable	Significant Unavoidable	Significant Unavoidable
Transportation and Circulation	Less than Significant	Greater than project - Less than Significant	Greater than project - Less than Significant	Less than project - Less than Significant
Cultural Resources	Less than Significant	Greater than project – Less than Significant	Less than Significant	Less than Significant

Source: PCR Services Corporation, 2005

8.0 ORGANIZATIONS AND PERSONS CONSULTED

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9.0 ENVIRONMENTAL IMPACT REPORT DISTRIBUTION

9.1 LOCATIONS OF ENVIRONMENTAL IMPACT REPORT AVAILABILITY

The Revised Draft PEIR will be available for review at the following locations:

Town of Mammoth Lakes Office
437 Old Mammoth Road
Mammoth Lakes, California 93546

Mono County Library
960 Forest Trail
Mammoth Lakes, California 93546

Copies of the Revised Draft PEIR will be available for purchase, at reproduction cost, from the Town.

9.2 DISTRIBUTION LIST

Copies of the Revised Draft PEIR were distributed to the following agencies and organizations.

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Mammoth Ranger District
USFS, Inyo National Forest
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10.0 REFERENCES, ACRONYMS AND ABBREVIATIONS

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ACRONYMS AND ABBREVIATIONS

Acronym	Definition
ADU	Accessory Dwelling Unit
AHMR	Affordable Housing Mitigation Regulations
amsl	above mean sea level
APCD	Great Basin Unified Air Pollution Control District
AQMP	Air Quality Management Plan
BLM	Bureau of Land Management
BMPs	Best Management Practice
B.P.	Before present
CAA	Clean Air Act, as amended
CAR	Critical Aquatic Refuge
CARB	California Air Resources Board
CCAA	California Clean Air Act
CDF	California Department of Forestry
CDFG	California Department of Fish and Game
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
cfs	cubic feet per second
CNDDB	California Natural Diversity Data Base

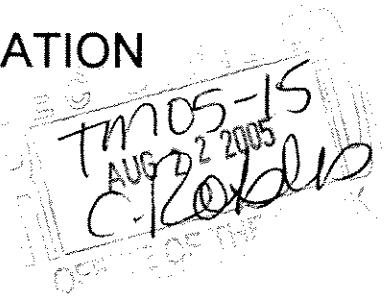
Acronym	Definition
CNPS	California Native Plant Society
CNEL	Community Noise Equivalent Levels
dB	Decibels
dBA	Decibels (A-weighted)
DIF	Development Impact Fee
EA	Environmental Assessment
EDD	California Employment Development Department, Labor Market Division
EHU	Employee Housing Units
EIR	Environmental Impact Report
EPA	Environmental Protection Agency
ESA	Endangered Species Act
ESRFSC	Eastern Sierra Regional Fire Safe Council
˚F	Degrees Fahrenheit
FAA	Federal Aviation Administration
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration's Highway Noise Prediction Model
FPD	Fire Protection District
FY	Fiscal year
GBVAB	Great Basin Valleys Air Basin
gpd	Gallons per day
gpm	Gallons per minute
HDR	High Density Residential
HMDP	Housing Mitigation Development Plan
HUD	Department of Housing & Urban Development
IWMA	California Integrated Waste Management Act
IP	Institutional/Public Land Use Designation
LA	Los Angeles
LAFCO	Local Agency Formation Commission
L_{dn}	Day-night Average Level
LDR	Low Density Residential
LRWQCB	Lahontan Regional Water Quality Control Board
MCSD	Mono County Sheriff's Department
MCWD	Mammoth Community Water District
MFR	Multiple-Family Residential
mgd	Million gallons per day
mg/l	Milligrams per liter
MLFPD	Mammoth Lakes Fire Protection District
MLPD	Mammoth Lakes Police Department
mph	Miles per hour
MPLP	Mammoth Pacific L.P.
MUSD	Mammoth Unified School District
NAAQS	National Ambient Air Quality Standards
NDOW	Nevada Department of Wildlife
NEPA	National Environmental Policy Act

Acronym	Definition
NFIP	National Flood Insurance Program
NFP	National Fire Plan
NOP	Notice of Preparation
NPDES	National Pollution Discharge Elimination System
NPS	National Park Service
NSPS	New source performance standards
NSR	New source review
NVSP	North Village Specific Plan
O_3	Ozone
OS	Open Space
OSSC	Open Space Stream Corridor
PEIR	Program EIR
pH	Potential of hydrogen
Plan	Mammoth Lakes 2005 General Plan Update
PM	Particulate matter
$PM_{2.5}$	Particulate matter less than 2.5 micrometers in aerodynamic diameter
PM_{10}	Particulate matter less than 10 micrometers in aerodynamic diameter
PM_{10}/TSP	Particulate matter less than 10 micrometers/total suspended particulate
ROW	Right-of-way
RR	Rural Residential
SCP	Special Conservation Planning
SDMP	Mammoth Lakes Storm Drainage Master Plan
SFR	Single-Family Residential
SIP	State Implementation Plan
SMARA	Surface Mining and Reclamation Act
SNARL	Sierra Nevada Aquatic Research Lab
SNFPA	Sierra Nevada Forest Plan Amendment
SP	Specific Plan
SSEIR	Supplement to Subsequent Environmental Impact Report
TAC	Toxic Air Containments
TDS	Total dissolved solids
TOT	Transient Occupancy Tax
Town	Town of Mammoth Lakes
tpd	Tons per day
UBC	Uniform Building Code
ug/m^3	Micrograms per cubic meter
UGB	Urban Growth Boundary
USDA	United States Department of Agriculture
USDI	United States Department of Interior
USFS	United States Forest Service
USFWS	United States Fish & Wildlife Service
USGS	United States Geological Survey
VESR	Valentine Eastern Sierra Reserve
WMA	Weed Management Area

APPENDIX A

REVISED DRAFT PEIR NOTICE OF PREPARATION

NOTICE OF PREPARATION



From: Town of Mammoth Lakes
Post Office Box 1609
Mammoth Lakes, CA 93546

Subject: **Notice of Preparation of a Revised Draft Environmental Impact Report**
(State Clearinghouse No. 2003042155)

The Town of Mammoth Lakes will be the Lead Agency and will prepare a revised environmental impact report (EIR) for the project identified below. A draft EIR was previously prepared and circulated from February 2005 to May 17, 2005. A revised draft is being prepared in response to agency and community comments on the previously circulated draft EIR and because there has been a modification in the project and additional and clarifying information will be added to the draft EIR. We need to know the views of your agency as to the scope and content of the environmental information, which is germane to your agency's statutory responsibilities in connection with the proposed project. Your agency will need to use the EIR prepared by our agency when considering your permit or other approval for the project.

The project description and the potential environmental effects are contained in the attached materials. A copy of the Initial Study is not attached.

Due to the time limits mandated by State law, your response must be sent at the earliest possible date but not later than thirty (30) days after receipt of this notice.

Please send your response to Ms. Sonja Porter, Senior Planner, at the address shown above. We will need the name for a contact person in your agency.

Project Title: Mammoth Lakes General Plan Update

Date: August 15, 2005

Signature: _____
Title: Senior Planner
Telephone: (760) 934-8989 ext. 286

POSTED 8/22-10/22

Notice of Preparation
Mammoth Lakes General Plan Update
Revised Draft Environmental Impact Report
(State Clearinghouse No. 2003042155)

Project Description

The proposed project is a comprehensive update of the Town of Mammoth Lakes' General Plan. A draft EIR was originally prepared for the project and circulated for review and comment from the end of February 2005 through May 17, 2005. A revised draft EIR is being prepared for the project in response to comments on the previously circulated draft EIR and because there have been some modifications in the project additional and clarifying information will be added to the revised draft EIR.

The General Plan is the primary policy document for the Town and is the basis for all decisions regarding the physical development within the Town. It expresses the community's vision for its future and is the guide for both long-term and day-to-day decisions and actions of the Town. The Town's current General Plan was adopted in 1987. Since that time, independent amendments have been made to several of the elements that comprise the Plan; however, the General Plan has not been comprehensively reviewed since it was adopted in 1987. The Town of Mammoth Lakes will also be updating its Parks and Recreation Element in the near future as a separate project.

The updated General Plan (project) evaluated in the previously circulated draft EIR, which was referred to as the Project Action Alternative, would have increased the permitted density in certain areas above that allowed by the current General Plan and would have allowed an increase in the Town's population at build-out over the total population from 61,375 to 71,200. In particular, it would have increased the density permitted in the Old Mammoth area from the two (2) units per gross acre permitted by the current General Plan to four (4) units per gross acre; would have increased the density in the Canyon Lodge area from twelve (12) units per gross acre permitted by the current General Plan to forty-eight (48) units per units per gross acre; it would have allowed for residential development in the Institutional Public Designation at four (4) units per gross acre; expanded the industrial designation; and increased density of the Specific Plan Designation from 3,020 rooms and 135,000 square feet of commercial permitted under the current General Plan to 3,720 rooms and 185,000 square feet of commercial.

The modified updated General Plan that will be addressed in the revised draft EIR would retain the low density residential land use for the Old Mammoth area at two (2) units per gross acre that is allowed by the current General Plan; it

would the remove the High Density Residential 3 land use designation proposed by the Plan addressed in the previously circulated draft EIR; it would reduce density in the High Density Residential 1 and 2 land use designation from 12 to 10 units per acre; maintain the existing density in the Commercial 1 and 2 land use designations; and restrict housing development in the Institutional/Public land use designation to a greater degree than in the Plan addressed in the previously circulated draft EIR. In addition, revisions to the density transfer policy are under consideration.

Overall, the revised project would allow for a lesser number of dwelling units than the previously proposed project. The anticipated population at build-out under the current General Plan is 61,375. The anticipated population at build-out from the version of the General Plan that was analyzed in the previously circulated draft EIR is 71,200. The anticipated population at build-out from the revised draft General Plan is now 60,700, which is approximately the same as the current General Plan. The changes from the previously circulated version of the EIR and the impacts on overall population are summarized in the chart below:

Population Projections	
Existing Population (Estimated as of 2003)	34,269
Existing General Plan	61,375
Version of General Plan that was the Project and labeled as the "Project Action Alternative" in the Previously Circulated EIR	71,200
Newly Revised and Current Proposed General Plan (the Project)	60,700

Project Location

Town of Mammoth Lakes, Mono County, California

Potential Environmental Effects

Aesthetics, Air Quality, Biological Resources, Cultural Resources, Economics/Jobs, Geology and Soils, Hazards and Hazardous Materials, Hydrology and Water Quality, Land Use and Planning, Noise, Population/Housing, Public Services, Recreation, Transportation/Traffic, Utilities and Service Systems, Growth Inducing, and Cumulative Impacts.

APPENDIX B

REVISED DRAFT PEIR NOTICE OF PREPARATION COMMENT LETTERS

DEPARTMENT OF TRANSPORTATION
District 9
500 South Main Street
Bishop, California 93514
PHONE (760) 872-0785
FAX (760) 872-0754
TTY (760) 872-9043

RECEIVED
SEP 19 2005
TOWN OF MAMMOTH
COMMUNITY DEVELOPMENT DEPARTMENT

Flex your power!
Be energy efficient!

September 15, 2005

Ms. Sonja Porter, Senior Planner
Town of Mammoth Lakes
P.O. Box 1609
Mammoth Lakes, California 93546

File: 09-MNO
NOP RDEIR
SCH #: 2003042155

Dear Ms. Porter:

Mammoth Lakes 2005 General Plan Update (GPU) Notice of Preparation (NOP) for a Revised Draft Program Environmental Report (RDEIR) (August 2005)

Thank you for giving the California Department of Transportation the opportunity to respond during the NOP phase for General Plan RDEIR. Please ensure the following transportation related issues are addressed:

- Jobs-housing proximity. It is a State planning priority to achieving sustainable land use development patterns that accommodate a sufficient supply of adequate housing in and near population and job centers. Since this revised project would reduce the number of dwelling units even below the existing plan, there may be less local housing available given the number of jobs. Impacts to the state highway system for commuting need to be considered along with air quality.

- Traffic and circulation analysis and mitigation measures for full build-out, including all modes – motor vehicle, transit, pedestrian, bicycle, etc.

- Require analysis before implementation of design solution policies on a case-by-case basis (narrower roads, etc.).

- Snow removal and storage.

- Parking for private vehicles and commercial deliveries.

- Reservation of right-of-way for future transportation usages.

- Fair share developer financing for all modes of transportation, including motorized vehicles.

- Identify Mammoth's cumulative effects area boundaries and address transportation needs/impacts.

- Possible relinquishment of State Route 203 to the Town.

If you have any questions, I may be contacted at (760) 872-0785. We value a cooperative working relationship in transportation matters with the Town of Mammoth Lakes.

Sincerely,

Gayle J. Rosander

GAYLE J. ROSANDER
IGR/CEQA Coordinator

c: State Clearinghouse
Terry Gess, Caltrans

RECEIVED
SEP 1 2 2005
TOWN OF MAMMOTH
COMMUNITY DEVELOPMENT DEPARTMENT

Mammoth Community Water District
P.O. Box 597, Mammoth Lakes, CA 93546
(760) 934-2596; fax (760) 934-4080

September 13, 2005

Sonja Porter
Senior Planner
Town of Mammoth Lakes
P.O. Box 1609
Mammoth Lakes, CA 93546

Re: Notice of Preparation of a Revised Draft Environmental Impact Report for the Mammoth Lakes General Plan Update

Dear Ms. Porter,

The District has reviewed the Notice of Preparation of a Revised Draft Environmental Impact Report for the Mammoth Lakes General Plan Update. The District has previously provided comments on the Draft EIR for the Town of Mammoth Lakes General Plan update circulated in February 2005, which we hope will be incorporated into the new Revised Draft EIR. We appreciate the opportunity to comment on the scope of the Revised Draft EIR.

The District would like to request a detailed analysis of water supply and demand in the Revised Draft EIR. The analysis included in the February 2005 Draft EIR, although consistent with the September 2004 Water Source Assessment submitted to the Town for the original February 2005 Draft, can be improved with a thorough examination of information regarding updated supply deficiency and potential water sources. The September 2004 Assessment was prepared following the requirements of Senate Bill 610 (SB 610) and provided projections of water supply during normal, single dry, and multiple dry water years. However, although this

document was consistent with the law, the complicated nature of water supply and demand in Mammoth Lakes requires a more detailed analysis.

The District is developing a new Water Source Assessment for the Revised Draft EIR for the General Plan Update. The forthcoming Water Source Assessment will enhance the water supply and demand analysis in the Revised Draft EIR. Through discussions with Town staff and internal review, the District has determined a variety of ways to improve the water supply and demand analysis in the original September 2004 Water Source Assessment. In addition, the new Revised Draft EIR will be analyzing for the impacts of 60,700 PAOT, an alternative that not evaluated in the 2004 Water Source Assessment. In order to complete a thorough analysis of the proposed project in the EIR, the District must evaluate this alternative.

When performing a Water Source Assessment, SB 610 requires that existing and planned sources of water available to the water supplier be identified and quantified in 5-year increments for a 20-year projection. The District has found that this type of broad analysis, as performed in the September 2004 Assessment, can be deceptive. In certain population scenarios, annual water supply and demand analysis shows sufficient supplies, but when the same scenarios were analyzed on a monthly basis deficiencies are revealed. This is due to the nature of the District's surface water rights and the variance in demand on a seasonal basis. In addition, the District has evaluated peak daily demands and impacts from increased mid-week visitor populations, which will provide important perspective to the required components of the Water Source Assessment and the Revised Draft EIR.

The District looks forward to working with the Town on analyzing wastewater flows for the Revised Draft EIR. Detailed information on wastewater flows is available for Town staff to assist in predicting wastewater flows for different populations scenarios that may be evaluated. In addition, the District would like to encourage the Town to address the revisions made to the February 2005 Draft EIR regarding wastewater flows, the collection system, and treatment plant capacity as described in the District's comment letter, dated April 26, 2005.

Thank you again for the opportunity to comment on this document. We look forward to working with the Town to provide any assistance necessary to help complete a comprehensive Revised EIR. Please feel free to contact the District if you have any questions.

Sincerely,

Gary Sisson, General Manager

Ericka Spies, Environmental Specialist

STATE OF CALIFORNIA **Arnold Schwarzenegger, *Governor***

NATIVE AMERICAN HERITAGE COMMISSION
915 CAPITOL MALL, ROOM 364
SACRAMENTO, CA 95814
(916) 653-4082
(916) 657-5390 - Fax

RECEIVED
AUG 29 2005
TOWN OF MAMMOTH
COMMUNITY DEVELOPMENT DEPARTMENT

August 24, 2005

Ms. Sonja Porter
City of Mammoth Lakes
P.O. Box 1609
Mammoth lakes, Ca 93546

Re: Mammoth Lakes General Plan Update
SCH# 2003042155

Dear Ms. Porter:

Thank you for the opportunity to comment on the above-referenced document. In order to adequately identify and mitigate project-related impacts on cultural resources in accordance with the CEQA Guidelines (15063 (d) (3), the Commission recommends that you provide evidence that all of the following actions be taken:

- Contact the appropriate California Historic Resources Information Center for a record search. The record search will determine:
  - If a part or all of the area of project effect (APE) has been previously surveyed for cultural resources.
  - If any known cultural resources have already been recorded on or adjacent to the APE.
  - If the probability is low, moderate, or high that cultural resources are located in the APE.
  - If a survey is required to determine whether previously unrecorded cultural resources are present.
- If an archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey.
  - The final report containing site forms, site significance, and mitigation measurers should be submitted immediately to the planning department. All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum, and not be made available for pubic disclosure.
  - The final written report should be submitted within 3 months after work has been completed to the appropriate regional archaeological Information Center.
- Contact the Native American Heritage Commission (NAHC) for a Sacred Lands File search of the project area and information on tribal contacts in the project vicinity who may have additional cultural resource information.
  - Please provide U.S.G.S. location information for the project site, including Quadrangle, Township, Section, and Range.
  - We recommend that you contact all tribes listed on the contact list to avoid the unanticipated discovery of sensitive Native American resources after the project has begun.
- Lack of surface evidence of archeological resources does not preclude their subsurface existence.
  - Lead agencies should include in their mitigation plan provisions for the identification and evaluation of accidentally discovered archeological resources, per California Environmental Quality Act (CEQA) §15064.5 (f). In areas of identified archaeological sensitivity, a certified archaeologist and a culturally affiliated Native American, with knowledge in cultural resources, should monitor all ground-disturbing activities.
  - Lead agencies should include in their mitigation plan provisions for the disposition of recovered artifacts, in consultation with culturally affiliated Native Americans.
- Lead agencies should include provisions for discovery of Native American human remains or cemeteries in their mitigation plans. Health and Safety Code §7050.5 and Public Resources Code §15064.5 (e) and §5097.98 mandate procedures to be followed in the event of an accidental discovery of any human remains in a location other than a dedicated cemetery.
- Lead agencies should consider avoidance, as defined in Section 15370 of the CEQA Guidelines, when significant cultural resources are discovered during the course of project planning.

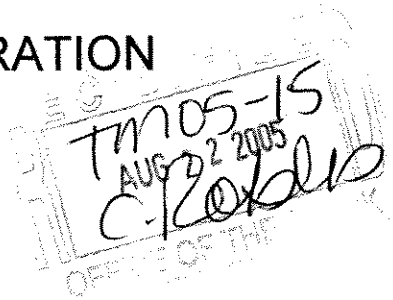
Please feel free to contact me at (916) 653-6251 if you have any questions.

Sincerely,

Carol Gaubatz
Program Analyst

CC: State Clearinghouse

NOTICE OF PREPARATION



From: Town of Mammoth Lakes
Post Office Box 1609
Mammoth Lakes, CA 93546

Subject: **Notice of Preparation of a Revised Draft Environmental Impact Report**
(State Clearinghouse No. 2003042155)

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The project description and the potential environmental effects are contained in the attached materials. A copy of the Initial Study is not attached.

Due to the time limits mandated by State law, your response must be sent at the earliest possible date but not later than thirty (30) days after receipt of this notice.

Please send your response to Ms. Sonja Porter, Senior Planner, at the address shown above. We will need the name for a contact person in your agency.

Project Title: Mammoth Lakes General Plan Update

Date: August 15, 2005 Signature: _____

Title: Senior Planner
Telephone: (760) 934-8989 ext. 286

POSTED 8/22-10/22

Notice of Preparation
Mammoth Lakes General Plan Update
Revised Draft Environmental Impact Report
(State Clearinghouse No. 2003042155)

Project Description

The proposed project is a comprehensive update of the Town of Mammoth Lakes' General Plan. A draft EIR was originally prepared for the project and circulated for review and comment from the end of February 2005 through May 17, 2005. A revised draft EIR is being prepared for the project in response to comments on the previously circulated draft EIR and because there have been some modifications in the project additional and clarifying information will be added to the revised draft EIR.

The General Plan is the primary policy document for the Town and is the basis for all decisions regarding the physical development within the Town. It expresses the community's vision for its future and is the guide for both long-term and day-to-day decisions and actions of the Town. The Town's current General Plan was adopted in 1987. Since that time, independent amendments have been made to several of the elements that comprise the Plan; however, the General Plan has not been comprehensively reviewed since it was adopted in 1987. The Town of Mammoth Lakes will also be updating its Parks and Recreation Element in the near future as a separate project.

The updated General Plan (project) evaluated in the previously circulated draft EIR, which was referred to as the Project Action Alternative, would have increased the permitted density in certain areas above that allowed by the current General Plan and would have allowed an increase in the Town's population at build-out over the total population from 61,375 to 71,200. In particular, it would have increased the density permitted in the Old Mammoth area from the two (2) units per gross acre permitted by the current General Plan to four (4) units per gross acre; would have increased the density in the Canyon Lodge area from twelve (12) units per gross acre permitted by the current General Plan to forty-eight (48) units per units per gross acre; it would have allowed for residential development in the Institutional Public Designation at four (4) units per gross acre; expanded the industrial designation; and increased density of the Specific Plan Designation from 3,020 rooms and 135,000 square feet of commercial permitted under the current General Plan to 3,720 rooms and 185,000 square feet of commercial.

The modified updated General Plan that will be addressed in the revised draft EIR would retain the low density residential land use for the Old Mammoth area at two (2) units per gross acre that is allowed by the current General Plan; it

would the remove the High Density Residential 3 land use designation proposed by the Plan addressed in the previously circulated draft EIR; it would reduce density in the High Density Residential 1 and 2 land use designation from 12 to 10 units per acre; maintain the existing density in the Commercial 1 and 2 land use designations; and restrict housing development in the Institutional/Public land use designation to a greater degree than in the Plan addressed in the previously circulated draft EIR. In addition, revisions to the density transfer policy are under consideration.

Overall, the revised project would allow for a lesser number of dwelling units than the previously proposed project. The anticipated population at build-out under the current General Plan is 61,375. The anticipated population at build-out from the version of the General Plan that was analyzed in the previously circulated draft EIR is 71,200. The anticipated population at build-out from the revised draft General Plan is now 60,700, which is approximately the same as the current General Plan. The changes from the previously circulated version of the EIR and the impacts on overall population are summarized in the chart below:

Population Projections	
Existing Population (Estimated as of 2003)	34,269
Existing General Plan	61,375
Version of General Plan that was the Project and labeled as the "Project Action Alternative" in the Previously Circulated EIR	71,200
Newly Revised and Current Proposed General Plan (the Project)	60,700

Project Location

Town of Mammoth Lakes, Mono County, California

Potential Environmental Effects

Aesthetics, Air Quality, Biological Resources, Cultural Resources, Economics/Jobs, Geology and Soils, Hazards and Hazardous Materials, Hydrology and Water Quality, Land Use and Planning, Noise, Population/Housing, Public Services, Recreation, Transportation/Traffic, Utilities and Service Systems, Growth Inducing, and Cumulative Impacts.

Advocates for Mammoth P.O. Box 2005 Mammoth Lakes, CA 93546

September 14, 2005

Ms. Sonja Porter
Senior Planner
Town of Mammoth Lakes
P.O. Box 1609
Mammoth Lakes, CA 93546

Dear Ms. Porter:

Thank you for sending us your Notice of Preparation for a revised Draft Program Environmental Impact Report (DPEIR) for the project, Mammoth Lakes General Plan Update (GPU), State Clearinghouse Number 2003042155. We are glad that the Town has chosen to prepare a revision to the previously circulated DPEIR, dated February 2005, due to agency and public comments, modifications to the project, and additional clarifying information. This is the course of action we recommended in our comment letter on the February DPEIR. Unfortunately, since the GPU is still lingering in the Planning Commission with what we believe are substantive issues still under discussion, it is difficult to comment in great specificity on the scope of the DPEIR in preparation. However, we would like to request that comprehensive studies and analysis be done in the following areas based on the brief project description given in your notice and what we perceive to be the deficiencies in the original DPEIR.

We believe that the new DPEIR must address the comments and issues raised in the original comments. Almost all of the comments are pertinent, since most of the original DPEIR failed to address the range of variables in the alternate projects described in the first draft. We have attached a copy of our original comment letter and would like each point within it to be considered part of our official response to your Notice of Preparation. Based on detailed interactions with both Town staff and various Town decision makers, after the original comments on the February DPEIR were made, we would like the new draft to include several changes in scope and emphasis discussed below.

The population projection given for the current General Plan in the Notice of Preparation is highly misleading. The projected population in the current General Plan is 48,000. The Town has chosen to recalculate this number based on variables like new State required density bonuses for affordable housing. This new calculated number is over 25% greater than the one in the current General Plan. An increase is an increase regardless of where it comes from, and it is disingenuous to suppose that just because it is mandated or that the population ground rules have changed, there are no new environmental impacts. In order to provide the decision makers with a meaningful range of options, we feel the Town should include as one of the Project alternatives a plan with a projected population of 45,000. This is the value that has been consistently suggested by the Advocates for Mammoth as a upper limit to the population for which the environmental impacts can be reasonably mitigated. This value would also be close to that anticipated in the current General Plan. We reviewed the acceptable population, particularly in terms of recreation accessibility for both residents and visitors and the number of recreationists that will come to Mammoth Lakes. The analysis must consider the current General Plan contained 12,000 downhill skier capacity that is not included in the GPU while the population increased 12,000 in the GPU. We wonder what this net increase of 24,000 people will do.

Recent discussions with Town staff, the new Town Developer Impact Fee studies and adopted schedules, and the Transient Occupancy Tax income assumptions in the recent Town budget, make it clear that the Town is anticipating almost all of the growth that is projected over the 20 year span of the GPU will occur in the first five years. In fact much of it is being cast in concrete as the GPU is analyzed and debated. To have a meaningful DPEIR, the planned accelerated pace of development followed by an almost complete moratorium on additional growth in the Project must be analyzed. The rapid pace of development is sure to have negative impacts on the environment, as is a sudden stop to almost all development sure to have severe social and economic impacts. The severely ramped development proposed by the Town must be compared to a uniform pace of development spread over 20 years.

The original DPEIR did little to analyze the impacts of the various segments that make up the Town peak projected population. It is unreasonable to assume that a resort visitor will have the same impacts as full-time residents, or that second homeowners will have the same impact as those occupying affordable housing. In fact, the major evaluations all seem to revolve around a value that the Town specifies as People At One Time (PAOT). However, the Town admits that it has little real data on the current PAOT, and has suggested that the most reliable number is based on waste water usage. If we are going to depend on this sewage data, it should be presented and analyzed in the DPEIR. Preferably, each of the major components of our population must be considered in the analysis:

- full time residents and their guests
- second homeowners and their guests
- seasonal workers including the construction crews for the massive proposed projects
- in town resort visitors (inside urban growth boundary)
- residents and visitors outside the UGB but within the Town boundaries (MMSA Main Lodge, Forest Service cabins, campgrounds etc.)
- residents and visitors within the Town planning area

Each of these categories can be reasonably expected to have greatly different demands on Town services and result in different impacts. The revised DPEIR must break down components of PAOT for each of the Project alternatives, and then analyize the total environmental impacts resulting from the sum of the individual impacts on such factors as traffic, transportation, housing, water supply, etc. It is interesting that the original GPU and DPEIR spend most of their effort on resort visitors essentially ignoring both full time residents and the second homeowners.

Although our original comment letter had detailed comments on the water availability section, this is such an important topic in the Eastern Sierra that we would like to expand and reiterate what we think should be included in the revised DPEIR.

1. A comprehensive analysis of the water availability, based on proven resources that are technically feasible and politically accessible (e.g. do not include Dry Creek).

2. An evaluation of the aquifer's practical limits including the effects of well interactions, long term conditions and trends in the aquifer, and the potential rights and plans of other users of the aquifer.
3. An evaluation of the surface water availability, including a discussion of any conflicting or competing water rights and the need to preserve the quantity and quality of stream flows to support healthy stream ecology and aquatic life.
4. A risk and uncertainty analysis of how close we are to severe problems in terms of public welfare and safety including, but not limited to, a well failure, extended power failure, and natural disasters such as volcanism, forest fire, or earthquake. The analysis must include how much safety margin or reserve capacity is required.
5. A detailed analysis of the requirements that takes into account the various population segments as defined above. We understand that the MCWD and the Town use a model that is very insensitive to population, particularly visitor population. This model and the justifying data must be presented as part of the DPEIR.
6. A detailed analysis of drought, which is referred to as multiple dry years in the original DPEIR. The longest interval of dry years mentioned in the original evaluation is three years. A casual evaluation of the records shows the average drought or span of dry years is about seven years. The detailed data towhich the Town and MCWD have access, must be analyzed to determine a conservative "design drought," and a drought of this magnitude should be used in the water availability analysis. The analysis must also include the latest accepted data on the impacts of global warming on water supply and length of droughts.

The revised DPEIR must include a comprehensive traffic analysis, and a much clearer evaluation of the proposed mitigations. Additional mitigations must be proposed and analyzed wherever the Level Of Service exceeds the acceptable criteria established by the Town (LOS D). Many new very large projects are in the works for the Village, locally increasing density beyond that previously envisioned, and their impacts need careful analysis. In particular, the impacts of large numbers of pedestrians trying to cross a state highway that is running at 93% capacity need to be fully described, along with evaluation of mitigations such as underpasses and overpasses.

Removal of the traffic signal at Main and Minaret and replacement with a roundabout should be analyzed as one of the mitigations. The economic impact of severe traffic congestion should be quantified. Also, the congestion caused by retaining a single grocery store with an increased PAOT should be clearly identified.

The 2005 LSC study of parking in Mammoth shows that using the Town's parking requirements, which LSC says is the reasonable standard, we are currently short 1,000 spaces, and with the proposed development will need an additional 2,600. The DPEIR must examine the impact of this shortage of parking spaces on traffic congestion, now and in the future. It should also examine the effectiveness of proposed mitigations. For example, proposed parking structures at the tennis courts will require skiers to cross both Forest Trail and Minaret, in ski boots, carrying skis and poles.

The Town of Mammoth Lakes includes within its boundaries Mammoth Mountain, its base lodge areas, much of the Lakes Basin and the Sherwins, the Mammoth Yosemite airport, geothermal development projects both proposed and ongoing, an RV park, and numerous campgrounds, as well as forest areas in between. Please include these areas in the analysis because it is clear they have the potential to produce major environmental impacts. This analysis must include, but not be limited to, air and water quality, waste disposal, water supply, traffic (including diesel buses and plows), noise, fire risk, and all other factors mandated by CEQA.

The airport is within the Town limits. The airport also includes a development agreement that allows significant development at or adjacent to the airport. The original GPU was almost mute on the airport even though is has been touted as a key part of the Towns' future. The SSEIR prepared for the airport does not provide a detailed analysis of the impacts of the predicted levels of air travel or the residential and commercial development allowed by the Development Agreement on the overall Town environment. These factors effecting the Town's environment must be analyzed and the analysis and conclusions included in the appropriate sections of the new DPEIR. This analysis must include impacts on air quality, water supply, traffic, housing, emergency planning, noise, and any other factors mandated by CEQA.

This letter highlights what we feel are some of the major factors, evaluations, and analyses that must be included in the new DPEIR. We refer you to our attached comment letter on the February DPEIR for a more complete listing of our detailed concerns on the technical content of the DPEIR. Some of our major concerns revolve around the lack of detailed analysis and hard data in the original document. We trust this will be rectified in the revision. Since the GPU seems to be in such a state of flux, we hope that either the DPEIR await a complete project description or that the analysis is broad enough to substantively cover all the considered project alternatives so that it does not have to be redone again.

The Certified Letter containing your notice appeared in our P. O. Box sometime in late August with the signature card, if one was required, removed. The letter was postmarked August 16, and allowing one day for delivery, which would be a world record for Mammoth Lakes, we are assuming that "30 days after receipt of this notice," will be September 17, and have geared our response to that date. We do not recall seeing any public notice of this Notice of Preparation and assume that other members of the public, particularly those that commented on the original DPEIR, are also being given a chance to comment on the scooping of the document under preparation.

Please contact John Walter, at 760 934 1767, or Walter@qnet.com, directly with any questions about, or clarifications on, the above comments. Should you not be able to reach Mr. Walter, please contact Jo Bacon, 760 934 4932, jbacon22@verizon.net, or the address on the above letterhead. We look forward to reviewing the new DPEIR and working with you on these important issues.

Sincerely:

Advocates for Mammoth

John Walter, Chairperson

Enclosure: Letter of May 17, 2005; Advocates for Mammoth to Planning Commission, Town of Mammoth Lakes.

Advocates for Mammoth P.O. Box 2005 Mammoth Lakes, CA 93546

May 17, 2005

Planning Commission
Town of Mammoth Lakes
P.O. Box 1609
Mammoth Lakes, CA 93546

Dear Commissioners:

Thank you for the opportunity to comment on the Draft Program Environmental Impact Report. We have completed a detailed analysis of the document and appendices. Unfortunately, we don't believe the document meets the requirements of CEQA for the following reasons:

(1) The DPEIR does not describe the same project as the Draft General Plan Update. The project description is therefore not accurate as required by CEQA. The state court of appeals has declared that an accurate, stable, finite project description is an essential element of an informative and legally sufficient EIR under CEQA. (14 CCR 15124)

(2) CEQA requires that impact analysis be based on substantial evidence (14 CCR 15384). We notice that in many places the claimed effectiveness of proposed mitigations is not supported by any evidence. The same analysis that concluded the mitigation is necessary must be repeated to show that the proposed mitigation is effective.

(3) There is no detailed data available to determine how the Base Population number in Table 2.1.1 Proposed Project and Alternatives was calculated. This has made review of the DPEIR difficult, as a full analysis cannot be made without all available data.

In addition, we have concerns with the overall environmental sustainability of Mammoth Lakes based on the impacts of increased population and traffic, particularly with respect to air quality and water quality and the adequacy of water supply.

Also, since major recreation areas including MMSA, the Lakes Basin, Tamarack Cross Country area, and many miles of snowmobile and cross country ski trails are included in the Town boundaries and Planning area, we feel it is essential to analyze the effects of the proposed substantial increases in permanent residents and visitors on these limited recreation resources and that potential mitigations be proposed.

For these reasons and the detailed failings of the document listed in the following section, we request that the document be withdrawn and redone based on current studies and data and on whichever version of the General Plan update is approved by the Planning Commission.

Further, each required element requires an analysis of all four proposed alternatives. There is no substantive evidence that this has been done. Please provide analysis of the thirteen elements that shows the mitigations will be effective for each population level. This is particularly important since the currently favored approach in the current draft GPU has a much lower population at build out than the action alternative in the DPEIR. We feel the action alternative has far to many environmental impacts to be acceptable; however the DPEIR analysis of the various scenarios does not give either the public or the decision makers adequate analysis or data to select the proper actions to take.

We have also researched the document and have found the following specific items which need further analysis and review, by element. Comments are both general to the element, and also related to specific thresholds for the element. For clarification, we have identified the page number for each threshold, since no numbering system was devised for the thresholds:

Aesthetics, Light & Glare:

1. **Inconsistent with Draft General Plan Update** – the Aesthetics Chapter of the General Plan includes the following policies and implementation measures which are not addressed or analyzed in the DPEIR analysis:
   - area parking districts
   - exceptions to height limitations
   - entry statement for the Town – intersection of Hwy 203/Main Street and Old Mammoth Road
   - development of Old Mammoth Road commercial area/definition of the Old Mammoth Commercial Corridor
   - narrower roads in Old Mammoth
   - narrowing roadways for traffic calming
2. **Threshold (on page 4-10): Substantial adverse effect on a scenic vista** – various zoning regulations are the only mitigations listed, without proof that any of these policies would result in less degradation of light pollution. For example, a view corridor study is championed as the way to reduce the impact, without any evidence of requirements, guidelines, etc. that have been analyzed to reach this conclusion. No substantial evidence is provided that the listed mitigations will be effective. Please supply a quantitative analysis.
3. **Threshold (4-11): Substantially damage scenic resources within a state scenic highway** – again, various zoning regulations are the only mitigations listed, without proof that any of these policies would result in compliance with the California State regulations for scenic highways. No substantial evidence is provided that the listed mitigations will be effective. Please supply a quantitative analysis.
4. **Threshold (4-13): Substantially degrade the existing visual character or quality** – "Loss of some scenic views and resources, and changes to the visual character of

Mammoth Lakes are associated with the plan implementation." Provide analysis of the degree of impact based on each of the four plan options. No substantial evidence is provided that the listed mitigations will be effective. Please supply a quantitative analysis.

5. **Threshold (4-14): New source of substantial light or glare which would adversely affect day or nighttime views.** "Significant and unavoidable adverse impacts on night sky visibility" is not adequately mitigated by the Town Lighting Ordinance which fails to address the issue of glare from multiple fixtures which meet the low wattage requirement, but have a cumulative effect of light pollution. Show quantitative proof of the efficacy of this implementation measure.

Air Quality

This analysis is not adequately based on existing conditions and does not consistently provide substantial evidence as required by CEQA.

1. **Inconsistent Results** – It is implied that wood stoves and road dust are the main sources of PM10 emissions, but Table 4.2.4 shows that traffic dominates by a large margin. Please rewrite and consistently compare all sources of emission for all alternatives.
2. **Use of an Obsolete Model** – The 1990 model and AQMP is obsolete, so that extrapolation and mitigation analysis is invalid, not based on existing conditions. As stated in Appendix C, this analysis is based on a 15-year-old model validated during drought years in which snowfall and ski visitation was below normal. Many changes have occurred since (details in Reference 1, comments from Owen Malloy, attached). Therefore, the analysis and extrapolation is not based on existing conditions or a currently validated model.
3. **Reliance on Mitigations Proved Ineffective** – While it is claimed that the mitigations in the 1990 AQMP will work even with more than double the PAOT, the PM10 and Ozone emissions are exceeded already. Clearly the listed mitigations do not work, and cannot reduce increased emissions. The Project Action Alternative will not comply with state or federal standards.
4. **No Analysis of Mitigations** – There is no quantitative verifiable analysis of the efficacy of the mitigations. There is no way to verify the numbers presented. Therefore, there is no substantial evidence of the numbers in the Tables in the section and Appendix C. Please supply a verifiable and quantitative analysis.
5. **No Details of Measurement Methods** – A more complete description of the measurement system is needed. Where is the monitoring station, and is it located so as to measure worst-case conditions? What are the calibration accuracies and stabilities? (See Reference 1 for additional detail).

6. **Vehicle Type Used in Analysis** – there is now a substantial difference in the type of automobile used by visitors and permanent residents, namely low-mileage SUVs and trucks instead of small cars. The analysis should also include the snow removal and snow hauling equipment, the increasing number of diesel busses and the extensive use of construction equipment required for the extensive growth planed. Please update the modeling used to reflect the types of vehicles now in use.
7. **Threshold (4-22): Conflict with or Obstruction of Applicable Air Quality Plan** – The Town's plan is to increase traffic, not to reduce it. This DPEIR expects an increase in vehicle traffic. Mitigation based on a reduction in traffic is inconsistent. Please evaluate the emissions using the traffic predicted for peak winter holiday visitation, not "typical" winter Saturday. Please provide substantial evidence that there is any mitigation that can reduce emission to meet standards.
8. **Threshold (4-23): Violate any air quality standard or contribute substantially to an existing or projected air quality violation** – the assertion that tailpipe emissions are not significant is not backed up by substantial evidence. As noted above, the 1990 Ono model is 15 years old and was validated during a severe drought with reduce visitation and snow clearance.
9. **Threshold (4-25): Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)** – Ozone is not discussed in detail, although ozone emission standards are exceeded. Please provide an analysis of ozone emissions. Tables 4.2.2 and 4.2.4 are inconsistent. Table 4.2.2 implies that only stoves and road dust contribute to PM10 emission. Table 4.2.4 shows that vehicle emissions dominate.

   No substantial evidence is provided that the listed mitigations will be effective. Please supply a quantitative analysis.

10. **Threshold (4-28): Expose sensitive receptors to substantial pollutant concentrations** – PM10 and ozone emissions can cause acute respiratory distress. This issue is not treated. Emissions of these pollutants already exceed standards. Please quantify the risk.

    No substantial evidence is provided that the listed mitigations will be effective. Please supply a quantitative analysis.

11. **Threshold (4-29): Create objectionable odors affecting a substantial number of people** – there is no quantitative analysis of the actual impact. Is there a significant impact or not? Particular attention should be paid to odors from diesel vehicles operating up steep grades at 8000 ft or higher.

    No substantial evidence is provided that the listed mitigations will be effective. Please supply a quantitative analysis.

Biological Resources

1. **Impact on wildlife of unrestricted fencing (gated communities)** is not analyzed. Please provide substantive analysis.
2. **Invasive species and noxious weeds should be considered in the analysis and appropriate mitigation measures identified.** We are surrounded by National Forest lands that require extensive mitigations on almost any project to address these specific issues (see the EA on the Motocross as an example). Provide data and an substantive analysis.
3. **Threshold (4-56): Substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFG or the USFWS**. Analysis of a specific plan must be identified in 4.3.c. for this to be considered as mitigation.
4. **Threshold (4-58): Substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the CDFG or the USFWS**. Provide specific measurements used in determining that 4.3.f. ensures mitigation and that limits chosen are supported by scientific research.
5. **Threshold (4-60): Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites**. Statement on deer populations is incorrect. The Mammoth Pass herd route below Mammoth Rock to Mammoth Pass is impacted by the old and new proposed Snowcreek development and the Bluffs development which are within the town boundary. Provide a detailed analysis using the correct herd route.

   Analyze and include findings from the DPEIR for the original proposal of the Sherwin Ridge Ski Area regarding impact on deer migration in the area.

   Future of the wetlands at the base of Sherwin Ridge must also be addressed and analyzed.

   Further, statements regarding potential for mountain lion attacks are based on 1991 outdated study. Provide recent study and analysis.

6. **Threshold (4-61): Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.** Provide details on the analysis of corridor setbacks and vegetation removal.

Geology, Soils & Geotechnical Hazards

1. **Current conditions** – the discussion of the Long Valley Caldera and other geologic features contains incorrect dates regarding Devil's Postpile, and incorrect assessment of the composition of Mammoth Rock, and Crystal Crag. These features are described as geologically "young", but the recent activities since the 1980s are not identified, and therefore presumed to have been neglected. Please update with current information.
2. **Obsolete Study Used for Analysis** – the Sieh study 1984 quotations/references are obsolete. Please include USGS research and formal position as of 2005.
3. **Volcanism** – Mammoth Pass magma emplacing long period earthquake activity and CO_2 and He_3 gas emissions at Horseshoe Lake must be included. An eruption of basaltic magma in this area is a possibility in the near future, and should be included. Fire hazard, ash fall, and/or pyroclastic flow from an eruption somewhere along the Inyo-Mono crater chain is not included and should be analyzed.

   Also, it is vital to include recent gas emission measurements at Mammoth Mountain – 300 tons per day (USGS 2004).

4. **Seismic Hazards** – This section does not include Hilton Creek Fault which must be specifically mentioned in DPEIR because of its large displacement potential. No substantial evidence is provided that the listed mitigations will be effective. Please supply a quantitative analysis.
5. **Threshold (4-79): Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving: a) Rupture of a known earthquake fault, as delineated on the most recent Alquist Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault. Refer to Division of Mines and Geology Special Publication 42. b) Strong seismic ground shaking. c) Seismic related ground failure, including liquefaction. d) Landslides** – No analysis for volcanic eruptions, including impacts from major ash accumulations, fire due to pyroclastic eruptions, or continuous long period earthquakes with possible fire and lava flow from basaltic eruption in Mammoth Pass area has been noted in this threshold. Please include substantive information.

   Also, the referenced Evacuation Plan has not been analyzed the effects of volcanic eruptions.

Public Safety & Hazards

1. **Use of Mammoth Creek Park** – the Flood Hazard section is not consistent with the mitigation in Biological Resources 4.3.m and Hydrology 4.6.jj and 4.6tt states "All properties held by the Town along the Mammoth Creek Corridor shall be managed for open space, habitat preservation, and passive recreation."

Re-designation of Mammoth Creek Park to IP in Recreation 4.11.h "Proposed modifications to Mammoth Creek Park shall be subject to compliance with requirements of CEQA, including the obligation to avoid or minimize environmental impacts to the maximum extent feasible." is also not consistent.

The Flood Hazard noted should require passive recreation. Please re-designate this parcel's land use designation and analyze the two conflicting sections of the DPEIR.

2. **Structural Fire Hazards** – No analysis is made of structural fire hazards even though the DPEIR states "the development characteristics (narrow roadways, closely spaced dwellings and businesses, and lack of escape routes) ...uncertainty of water supply, transient visitor use, severe winter weather, and seasonal road conditions that restrict access" are mentioned throughout the DPEIR. Please supply a quantitative analysis.

   Further, provide a traffic analysis which includes estimates of fire department response times as a function of traffic levels at worst-case holiday traffic peaks.

3. **Threshold (4-100): Routine transport, use or disposal of hazardous materials** – no specifics are provided on locations in which hazardous materials would be disposed, although land use patterns in the DPEIR would facilitate increased development of light industrial and commercial uses of hazardous materials. No data provided on current levels of transport in order to determine actual impact. Please identify current and proposed disposal sites, and if appropriate, amend the Public Services and Utilities section if such disposal would be at the Benton Crossing landfill. Or, if the materials are transported out of the area, please identify the transportation corridor and effect on Transportation and Circulation.
4. **Threshold (4-101): Release of hazardous materials into the environment** – no analysis shown of appropriate sites for businesses in areas removed from and down gradient of sensitive land uses.

   No analysis included of the proposed expansion of industrial park as noted in the land use section and public hearings. Also, No data is provided on current sites within Town limits or planning area. Finally, there is only a listing provided for two prior incidents without an analysis of whether Town response in those incidents was adequate.

5. **Threshold (4-102): Emit/handle hazardous materials within 1/4 mile of existing or proposed school** – no analysis provided to determine the effect of the proximity of Mammoth Elementary School or Cero Coso Community College to either the current Industrial Park or proposed expansion. No substantial evidence is provided that the listed mitigations will be effective. Please supply a quantitative analysis.
6. **Threshold (4-104): Impair implementation of or physically interfere with an adopted emergency response plan or emergency evaluation plan** – No data

provided to indicate any analysis of the capacity of evacuation routes based on increased population. Please supply a quantitative analysis.

Hydrology & Water Quality

1. **Ground water** – no detailed study has been made of the aquifers (details in Reference 2 – letter from K. D. Jung) and how they will be developed is needed. Current well production data analysis indicates that the Mammoth Basin "Deep" aquifer has been over-drafted by the eight supply wells. The probability of obtaining Dry Creek water is thought to be so remote that it should not be considered a viable source for planning purposes. Please supply a quantitative analysis.
2. **Water Supply** – no analysis is included of the risk factor in the estimates of water supply by applying some factor to estimates. The Mammoth Basin has the only aquifer (deep or fractured basalt) that can be considered for supplying additional water and it is thought to be over-drafted at this time. Please supply a quantitative analysis.
3. **Inconsistencies with Appendix D Water Study** – The DPEIR references the Mammoth Community Water District Urban Water Management Plan of 2000, but that plan is identified in Appendix D as insufficient, and references a required SB 610 water assessment. There are several areas of the water study that need additional information/comments:

   There is no indication that MCWD has approved this water assessment, rather it is stated that information regarding existing and planned sources of water available is taken from the current urban water management plan. This is not in conformance with state Water Code.

   The appendices D and E referenced in the water study have not been included.

   Tables determining Past, Current and Projected Water Use in the water study are inconsistent with the four alternative Plan alternatives in the DPEIR. Instead this documents uses the titles Draft General Plan Alternatives 1 through 4, which cannot be cross-referenced. Please provide consistent terminology so that the data can be fully analyzed.

   Page 4-121 appears to include water supply sources for which there is no demonstrated proof of contracts or entitlements or federal/state/local permits for construction, all of which required by Water Code section 10910.

   The water study makes no mention of the regulatory oversight of the Lahontan Regional Water Quality Control Board in the discussion of recycled water. Based on page 4-121 of the DPEIR, jurisdiction resides with this board. Please show proof of authority to presume the use of recycled water as an additional supply source. .

Further, the water study mentions installation of a recycled water pipeline from the wastewater facility site to the Sierra Star golf course without providing data on the impacts of such an installation.

Finally, the water study references future water supply reliability including Lake Mary Plant Improvements but does not reference these improvements anywhere in the document. Please provide additional details for analysis.

4. **Subsidence** – Possible subsidence in the Mammoth Basin well field should be addressed. Please include a quantitative analysis.
5. **Threshold (4-188): Violation of any water quality standards or waste discharge requirements** – no analysis has been included of the effect of inhabiting these structures after construction completed. Please supply a qualitative analysis.
6. **Threshold (4-120): Exceed sufficient water supplies available to serve the Project from existing entitlements and resources, and/or result in a substantial depletion of ground water supplies or a substantial interference with ground water recharge such that there would be a net deficit in aquifer volume or a lowering of the local ground water table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)** – Please provide data to show how and when these demands would be identified and proposed phasing methodology. We recommend that a 20-year drought be included in the analysis. The studies quoted seem to only consider a 3 year drought where Mammoth's average drought seems to last up to 7 years. Please analyze the available data and use an appropriate drought duration value in the analysis.
7. **Threshold (4-122): Result in a substantial alteration of the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on or off site** –Specific analysis of appropriate protection on Mammoth Creek has not been included. Please supply a quantitative analysis.
8. **Threshold (4-123): Substantial alteration that would result in flooding** – Specific analysis of appropriate protection on Mammoth Creek has not been included. Please supply a quantitative analysis.
9. **Threshold (4-124): The Project would result in construction of new storm water drainage facilities or expansion of existing facilities, the construction of which would cause significant environmental effects.** This impact remains potentially significant since upgrades in the drainage system will be implemented. Only stating that the environmental impacts of drainage system improvements will need to be evaluated on a case by case basis is not sufficient. Please supply a quantitative analysis.

Land Use Planning

1. **Inconsistent with Draft General Plan** – Figure 2.1.1 – Land Use Map for Project Action Alternative includes a HDR3 category that does not appear in the DPEIR definitions or in the General Plan update. Therefore any analysis of population based on this option is suspect, and must be re-analyzed with the correct information.
2. **National Forest Land** – the National Forest Land discussion in section 4.7.2 does not include analysis of the impacts exploration and operations proposed within existing Geothermal Leases or Recreational leases. No analysis is provided of USNF recreation facilities and/or future plans such as campgrounds, trails, roads, OSV and OHV use. Visual, noise, air pollution, physical interference with trails and roads both winter and summer are conflicts that have not been analyzed.

   The impacts of the Forest Service residences located on Highway 203 at the entrance to town are not mentioned. Effects of these additional residents need to be evaluated.

   Both the Mill City Tract land exchange and Mammoth Mountain Main Lodge base area need to be included in the evaluation of all four plan alternatives. The effect on the Urban Growth Boundary must be discussed and analyzed.

   Also, please include analysis of the current status of USFS land exchanges, verified and documented in writing. Include the projected fate of the RV Park and the strip of land east of RV Park and south of Hwy 203.

   Finally, campgrounds within town limits must also be included in the land use analysis.

3. **Airport Land Use Plan** – the DPEIR mentions that a development agreement is in place, but the effects of this land use on town population, housing requirements, traffic, etc. are not analyzed.
4. **Threshold (4-142): Physically divide established communities or create potential for land use incompatibility** – The final sentence in first paragraph contradicts itself by stating "The Project Action Alternative does not propose any developments that would physically divide an established community but there is potential for future development to divide established communities. It seems clear that the proposed extensive resort developments at the Village will physically divide the established residential communities of the Slopes and the Knolls. Effects of isolating neighborhoods by implementing resort/transit nodes must be addressed and analyzed.

   Also, proposed narrowing of roads is inconsistent with the analysis of traffic volume increases, such as at the intersection of Meridian and Minaret. Please supply a quantitative analysis.

Mitigation 4.7.h is inconsistent, as it refers to a "downtown", with no definition or reference to where this term is used elsewhere in the Land Use Plan.

Also, 4.7.n references required studies without an emphasis on how winter conditions would affect bicycle routes, pedestrian trails and/or public transportation.

5. **Inconsistent with other sections of DPEIR** – Mitigation 4.7.r bases restrictions on a 25% slope which is inconsistent with 4.6.t in the Hydrology section which references slopes of 30%.
6. **Threshold (4-144): Conflict with any applicable land use plan** – all potential types of development outside of the UGB should be specifically identified in order to determine impacts. This should include the effect of town expansion on the National Forest plans with regarding to recreational opportunities, geothermal leases, etc.

   A Point by point comparison between Mono County General Plan and proposed plan should be presented. There is no evidence that the referenced comparison was performed to a meaningful level.

   Please supply a quantitative analysis of these issues.

Noise:

1. **Current ambient noise studies are outdated.** Studies from 1999/2000 and 1981 are inadequate. Therefore, the analysis and extrapolation is not based on existing conditions or a currently validated model.
2. **Inconsistent with Draft General Plan** – the Noise and Land Use compatibility Table on page 4-149 Land Use Categories are not consistent with the Draft General Plan Land Use Designations. Please provide additional detail cross-referencing the two sets of definitions.
3. **Aircraft Noise** – There is no discussion of aircraft noise as both approaches or departures from the airport consistently include a flight path over town. Provide analysis of current and future noise levels from this source.
4. **Summer Peak PAOT** – There is no reference to summer high traffic periods (weekends, festival dates, and major holidays) and their impact on noise. Please supply a quantitative analysis.
5. **Recreational noise** – no analysis has been made regarding high noise recreational vehicle use (i.e. snowmobiles or motocross bikes) in town or in adjoining areas. Please supply a quantitative analysis.
6. **Threshold (4-155): Substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.** Discouraging new projects or activities that would have the potential to elevate ambient noise levels is not sufficient mitigation. Concerns regarding increased levels from special events and recreations must be substantiated. Please provide realistic mitigation measures.

7. **Threshold (4-155, second listed): Substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project** – no analysis has been provided of the noise of idling engines for vehicles caught in traffic congestion due to increased population/traffic. Please supply a quantitative analysis.

   There is also no discussion of heavy trucks going up grade to deliver goods and the resulting higher engine noise levels, or analysis of increased use of buses or expanded use of buses at night. There is also no discussion of the noise impact of trucking snow out of town.

   Also, please provide analysis on limiting the amount or type of additional outdoor concerts or festivals that might be encouraged for additional visitors and the cumulative effect of such noise.

Population, Housing & Employment:

1. **Inconsistency with General Plan** – there is no analysis of the regional fair share requirements, which are current state law. This information is included in the General Plan update, which makes the DPEIR inconsistent.

   Further, the Draft General Plan Housing Chapter refers to an increasing number of Southern California residents desiring to retire in a town like Mammoth Lakes, but there is no analysis within this section of the DPEIR to recognize this growing segment and its effect on the community.

2. **Average peak population** – assumptions are made about average peak population without data or a good methodology. Provide data and a quantitative analysis to support the population levels listed in the DPEIR.
3. **Affordable Housing Statistics Inconsistencies** – data provided in the Affordable Housing Supply discussion does not match the General Plan Housing Element.

   Further there is no analysis of how many units are actually needed. Please supply a quantitative analysis of the true need.

   The DPEIR states that employment figures are derived from 2000 Census, but percentages do not match the table provided in the Housing Element. Please amend the figures in the two documents and re-analyze conclusions based on these statistics.

4. **Carrying capacity** – is not adequately analyzed in the DPEIR. Provide data to support the statement that "the region has not reached a carrying capacity with respect to human habitation".
5. **Threshold (4-164): Would induce substantial population growth in an area, either directly or indirectly** – the mitigation for this conclusion merely states that

the "mitigation referenced in other sections". However a review of these sections listed finds no mention of population within the respective mitigation measures. Provide the specific mitigations intended in this statement and a quantitative analysis.

Public Services & Utilities

1. **Hospital Services** – the DPEIR states that the Hospital emergency room is considered adequate without providing substantiating data. The population figures stated for the adequacy of the Hospital services are not consistent with those used elsewhere in the DPEIR. Please provide and analyze consistent population statistics and ratios of inpatient, outpatient and emergency rooms beds for the projected population levels.
2. **Sewage Collection Systems** – actual data to support the capacity of the Sewage Collection Systems is not available for analysis. Please provide the detailed data on which these statements were made.
3. **Solid Waste** – there is no data available to analyze the statement that projected needs covered for next 20 years based on 25% population increase (40% increase in visitors). Again, the population figures stated for this area are not consistent with those used elsewhere in the DPEIR.

   Further, there is no mention of the potential loss of lease and/or inability to expand the existing Benton Crossing Landfill. Please determine these potential changes and re-analyze.

4. **Threshold (4-177): Averse physical impacts ...in order to maintain acceptable service ratios, response times or other performance objectives for fire, police schools, and other public facilities** – individual sections of this threshold follow:

   Police Protection – no basis is provided for the 1:1000 ratio for officers to population, nor is there substantiation that it ratio is appropriate for the Town of Mammoth Lakes. There is also no analysis of how any staffing level will be reached.

   Fire Protection – no discussion is included of how volunteers will be used or of the number of volunteers needed under the plan. Further, there is no analysis of how the staffing levels would be reached.

   Schools – no data is provided to support the figure of 2,561 single family housing units that would keep enrollment just under the stated capacity. Also, there is no discussion of whether that stated capacity includes an analysis of the number of school age children who would be living in newly developed Affordable/Workforce Housing. Finally, there is no analysis of the traffic impact of the getting students to and from the schools at the stated capacity.

Library – there is no analysis of the effect on traffic for the new facility, in a different location.

Electrical/Geothermal Energy – no data is provided to support the statement that Edison is able to meet current and projected needs.

Roadway Maintenance/Snow Removal – no analysis is provided for the traffic impact for trucking snow out of town.

Please supply a quantitative analysis of each of these public services.

5. **Threshold (4-181): Exceed wastewater treatment requirements** – a mitigation measure stating that the Mammoth Community Water District shall increase the capacity of the treatment facility within the timeframe of the plan build out is not adequate if no timeframe or sanctions are included. No substantial evidence is provided that the listed mitigations will be effective.
6. **Threshold (4-181, second listed): Require or result in construction of new water or wastewater treatment facilities or expansion of existing facilities and construction of which could cause significant environmental effects** – again, a mitigation measure stating that the Mammoth Community Water District shall increase the capacity of the treatment facility within the timeframe of the plan build out is not adequate if no timeframe or sanctions are included. No substantial evidence is provided on the environmental effects of the proposed expansions or that the listed mitigations will be effective.
7. **Threshold (4-182): Wastewater treatment inadequate capacity** – again, a mitigation measure stating that the Mammoth Community Water District shall increase the capacity of the treatment facility within the timeframe of the plan build out is not adequate if no timeframe or sanctions are included. No substantial evidence is provided on the environmental effects of the required facility expansion or that the listed mitigations will be effective.
8. **Threshold (4-182, second listed): Construction of a new landfill** – no data on the true capacity or existing facilities lease for the Benton Crossing Landfill is included.

   Also, using recycling capabilities as mitigation when the identified recycling bins at Vons have been inaccessible due to snow storage for at least five months of the year is inadequate.

   No substantial evidence is provided that the listed mitigations will be effective. Please supply a quantitative analysis.

Recreation:

1. **Parks Inventory** – the statement is made that 26 acres of existing park areas are owned and operated by the Town. Provide an inventory of existing parks for

analysis. Although mention is made of various acreages, these figures are not supported by data nor shown in any listing or on land use maps included in the DPEIR.

2. **Inconsistency with General Plan** – neighborhood parks are mentioned in the General Plan update policies and implementation measures, but no descriptions or locations for such parks are found in the DPEIR.

3. **Quimby Act/Town Ordinance Acreage Requirement** – the DPEIR contains conflicting references to the Quimby act and uses references to 3 ac/1000 or 5-10 ac/1000 calculations. There is no definition of what population number is used for the calculations, such as permanent population or PAOT. Provide analysis of needed park acreage required for each Plan Alternative.

   Also provide analysis of how many people currently use existing parks and how park usage will be affected by increased in permanent population.

   Finally, please provide an analysis as to how many people used the Ice Rink over the years it was in service.

4. **Quimby dedication of land and/or payment of fees** – the act requires the dedication of land and/or payment of fees for park or recreational purposes as a condition to the approval of development. Provide an analysis of how this requirement has been fulfilled and how the benefits accrued have been spent or used.

5. **Winter Recreation Capacity** – there is no analysis of the capacity of each of the mentioned facilities/activities in light of increased population and use. The capacity to expand existing activities has not been analyzed, nor whether expansion is feasible. This is particularly critical for downhill skiing the Towns predominant winter attraction because the MMSA is close to capacity during peak periods and the action alternative proposes to more than double the number of visitors.

6. **Summer recreation opportunities** – the activities mentioned (fishing, hiking, mountain biking, golfing, shuttle busses to Red's Meadow, etc. have a limited availability through quotas, fees, permits, etc. Provide an analysis of how many people participate in these activities currently and how these activities will be affected by both an increase in PAOT and in permanent population.

7. **Threshold(4-187): Substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, or other performance objectives for parks.** – designation of Mammoth Creek Park as active recreation conflicts with the designation as passive recreation in Biological Resources 4.3.m and Hydrology 4.6.jj and 4.6.pp.

Throughout the Recreation section, and other sections, the mitigation measures include vague working such as "wide variety and adequate supply" in 4.11.b and "available to the public as appropriate" which do not provide substantive metrics for evaluation of these mitigation measures. No substantial evidence is provided that the listed mitigations will be effective. Please supply a quantitative analysis.

Also, mitigation measure 4.11.o states that all planned major facilities will be listed in the Land Use Element. The listing is not there as of 4/2/2005 for reference or analysis.

And, the 4.11.q wording is not consistent with the General Plan update wording approved by the Planning Commission.

8. **Threshold (4-188): Project would increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated** -- No substantial evidence is provided that the listed mitigations will be effective. In fact,:
    - no neighborhood parks are indicated in the DPEIR as referenced in 4.11.m
    - no parkland has been acquired as noted in 4.11.p – in fact in this proposed plan we are losing existing parkland
    - 4.11.q wording not consistent with General Plan update wording
    - no data provided for stated research and results in 4.11.t

    Please supply a quantitative analysis.

    These impacts cannot be "less than significant" when there is increased pressure on parks and recreational facilities due to increased population and development, elimination of future opportunities to provide for parks and recreational facilities in the developing areas and increased impacts on surrounding lands.

    Claiming mitigation for this through the increased use of surrounding recreation lands is a totally unsupportable as the forest provides entirely different uses than that of parks. For example, uses like soccer, baseball, and barbeques are not activities for the forest, just as hiking, rock climbing, and fishing are not best performed in parks.

9. **Threshold (4-190): Require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment** – in addition to the notes under #6 and #7 above, this mitigation is called for immediately. The DPEIR states "additional facilities may need to be constructed, potentially at public expense, to provide adequate service levels and to prevent overuse and the resultant physical deterioration of existing facilities." Provide an analysis of how much has been collected in DIF, how this is meeting the needs for parkland, what

adjustments to this policy are planned, and how developers are being held responsible for their proper share of costs.

Transportation & Circulation:

This analysis is not adequately based on existing conditions and does not consistently provide substantial evidence as required by CEQA.

1. **True Peak Traffic** – the traffic analysis does not consider worst-case traffic and how often it may occur, and therefore does not disclose the true impact as CEQA requires. "Average peak traffic on a winter Saturday" is used. The PEAK traffic at the worst times must be quantified, and the impact discussed, with evaluation of proposed mitigation measures. Details in Reference 3 – letter by John H. Cunningham.
2. **Winter Storm Impact** – the effects of snow storms and poor visibility, reduction of road width, presence of heavy, slow snow removal equipment have not been quantified or even included in the traffic analysis.

   Analysis of the effect of snow piled on the sides of the road with the proposed road narrowing must be included.

   The Town has increased lot coverage and reduced snow storage requirements for new projects, relying on snow removal by large trucks rather than on-site snow storage. These trucks need to run day and night. They along with snow removal plows add to congestion. Please demonstrate that they have been included in the traffic congestion analysis.

3. **Impact of Airport growth** – the Airport, and its potential growth inducing effects, has been ignored. A distorted picture is presented by omitting the airport's impact and just describing the Town's plans. The major issues surrounding the airport plan must be described, and evaluated. Lawsuits are underway contesting the Airport EIR contending that it inadequately addresses the "growth inducing" aspects of the plan. Also the FAA has written the Town describing many concerns i.e. the private development proposed is inappropriate on such restricted land, hangers must be moved to meet clearance requirements, more land is required, etc. These are material matters affecting the town and its traffic, and they must be identified, and their impact described.
4. **Summer Traffic** – summer visitation is now greater than winter visitation. Please show traffic data for summer holidays and/or other appropriate summer peaks.
5. **Incomplete information on Level of Service definitions** – the Level of Service (LOS) definitions must be provided. Most communities plan for a LOS C condition at the worst times. Given the proposed D and E levels, it is imperative to provide traffic data for the other Alternatives.

6. **Pedestrians** – the DPEIR must quantify the effect of pedestrians crossing streets on traffic congestion, and safety. This is already a severe problem at The Village, and a nearly doubling of traffic is being proposed.
7. **Quantifiable Unmet Transit Needs** – the DPEIR must quantify the "unmet transit" needs, propose mitigation, and assess its effectiveness. Will more busses increase congestion, or relieve it? Our winter experience is severe congestion associated with streets narrowed by design, or by snow-piles. Clearly busses discharging passengers greatly increase congestion as well, and this impact is not analyzed.

   Please quantify the need for, and benefits, of increased public transit.

8. **Threshold (4-197): Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)** – mitigations should receive the same level of analysis as the primary impact, or there is no substantial evidence that the mitigations work. Great skepticism surrounds the effectiveness of roundabouts during heavy winter storms. Nine are proposed. Please provide data demonstrating the effectiveness of roundabouts, especially during heavy winter storms when the largest traffic jams now occur.

   The data show that the one roundabout that is really needed would be at Main & Minaret, but it is not proposed. Why not? What design standards will be imposed? Will traffic from a 2 lane road be funneled into a one lane roundabout? What delays are expected at the traffic signals?

9. **Threshold (4-202): Result in inadequate emergency access** – this is not analyzed, nor is any mitigation proposed. If traffic through the Village is 93% of maximum capacity on a "typical" winter Saturday, will that prevent emergency response on a true peak day while the Village burns down?

   Are these routes adequate now, and for the proposed more than doubling growth? In winter when only one lane is plowed? Will these routes be adequate in case of a major earthquake, and/or a major fire? If not just what is the proposed mitigation?

   Please quantify this very important problem, and propose suitable mitigation measures.

10. **Threshold (4-203): Inadequate parking capacity** – the effect of inadequate parking throughout town has not been quantified, nor has the benefits of the Town's proposed Transit system. The DPEIR states "congestion ....appears to be correlated with the shortage of accessible private and public parking" No further discussion is provided. It is necessary to quantify how much additional parking is required now, and for the alternatives. Please show the results of analysis that quantifies the benefit of providing additional parking lots, parking garages, etc.

Also quantify the benefit of added bus service. The DPEIR says that "traffic will increase 88%, even assuming 115% increase in bus rider-ship", and leaves it at that. Please quantify how existing parking will be impacted, and what mitigation is proposed.

Provide analysis to show how increased parking will mitigate the traffic problems. Since the newest projects have demonstrably inadequate parking, please review the adequacy of the town's existing ordinance regarding parking requirements for new projects. The DPEIR document simply says the Town should make developers provide adequate parking, without specifying what is adequate. It does say the lack of parking contributes to current congestion, but does not quantify this problem.

11. **Threshold (4-204): Conflict with adopted policies, plans, or programs supporting alternative transportation** – if the town is already not meeting the needs, depending on policies rather than quantifiable actions is not mitigation. No substantial evidence is provided that the listed mitigations will be effective.

    Further, the needs and benefits of alternative transportation (e.g., bus turnouts, bicycle racks) and additional transit (buses) must be quantified. Will increasing use of buses reduce traffic congestion or add to it?

Cultural Resources:

1. **Inconsistent Terminology** – the use of "paleontology" throughout this section results in confusion, since the term also applies to prehistoric and historical remains which are the main concern in the planning area. Please define the term and clarify with specific examples.
2. **Cemeteries** – it is important to note that under California law two burials constitute a cemetery. This must be considered in analyzing the adequacy of mitigation measures.

   The development of the Bluffs apparently "lost" a cemetery. The area near the Bluffs contains historic burials and the entire planning area must be considered to have potential prehistoric burial areas. Please analyze this occurrence and explain how the referenced policy and procedures will prevent a reoccurrence.

3. **Threshold (4-217): Project would cause a substantial adverse change in the significance of a historical resource as defined in §15064.5** – survey methodology needs to be clearly defined in order for this mitigation measure to be deemed adequate.
4. **Threshold (4-219): Project would disturb any human remains, including those interred outside of formal cemeteries** – clarification of the term cemetery in 4.13.m must be stated. The Paiute-Shoshone of this area did not use cemeteries until historic times, and that can lead to confusion.

Chapter 5 – Long Term Implications

The previous sections have outlined our concerns with the analysis of current conditions and mitigations for each identified threshold. We also have significant concerns with **all** of the items listed as resulting in unavoidable significant environmental impacts.

If this DPEIR is intended to reflect the Vision Statement in the General Plan update, there should not be any element which contains an unavoidable impact.

Comments on specific sections of Chapter 5 are:

Section 5.1 – Natural gas should not be listed, since it is not available in the planning area.

Section 5.2

1. **Air Quality** – conforming to a plan is not conforming to the standards. PM10 and Ozone standards will also be exceeded.
2. **Public Safety** – consider high-rise structure fires exacerbated by traffic jams which would increase fire department response times.
3. **Recreation** – The change in land use designation for Mammoth Creek Park is not supported by the DPEIR.
4. **Open Space** – Current designated acreage is less than the stated requirements. This DPEIR results in even less acreage than required. How can that be considered?
5. Noise and Air Quality – these are separate topics, and should be treated separately in a consistent order
   - Noise will increase partly as a result of proposed air traffic.
   - Air Quality statements are misleading. Table 4.2.4 shows that vehicles are by far the main source of particulate emissions, and presumably ozone as well. Increases, not decreases, in traffic are proposed. While the points made about cinders and woodstoves are plausible, regulation of woodstoves is not "strict". Otherwise, the town would long ago have requirement replacement of all high-emission woodstoves and fireplaces.

Section 5.3

The Hydrology statement is misleading, because it implies that new sources of water are available. This is not proven in the DPEIR.

Cumulative Impacts

5.5.1 Past, Present, and Reasonably Foreseeable Projects - The list is completely misleading and omits all the large developments proposed in the Town. Please include the present projects in Town, including the Village and many other projects in the resort corridor and elsewhere that have a cumulative impact. The list should include, but not be limited to:

- The Village, existing and proposed
- 80/50
- Minaret-Main corner projects
- Any other projects along Minaret
- Tallus
- Sierra Star Homes
- Sierra Star Condos
- Mammoth Green
- Juniper Springs
- Sunstone
- Eagle Lodge development
- Other projects along Meridian (Summit, Aspen Springs, etc.)
- Snowcreek expansion
- Mammoth Mountain's Main Lodge plans
- Items in the draft facilities plan
- Hot Creek developments at the airport

Please describe in detail the cumulative impacts of these projects.

5.5.1 Projects Within the Cumulative Effects Area (Table 5.5.2) -- The Benton Crossing Landfill is to be closed. This is the Town's only solid waster disposal site. There is nothing in this DPEIR about what will be done with increased solid waste. Please describe the solution.

5.5.2 Impacts -- Please provide a complete analysis related to actual projects. The Town has no control over impacts outside the Town limits. Therefore, no mitigations adopted by the Town are irrelevant.

Bighorn Sheep - This discussion is not consistent with the Endangered Species Act. If increased visitation causes impact to the sheep, visitation must be prohibited. By law, no impact is permissible.

Mule Deer - The airport has a major effect on the mule deer migration. Please include an analysis of its effects.

Tui Chub – This section is inconsistent. After explaining that expert opinion is that the evidence that groundwater pumping and surface water is inconclusive, the second paragraph concludes that the "expert opinion" is that there is no connection. This is a direct contradiction. Please resolve the contradictory statements. The USFWS stated in comments on the airport EA that it would be necessary to shut down the airport if any evidence of damage to the tui chub was found. The same goes for groundwater pumping upstream. A correct statement would say that reliance on groundwater pumping to obtain water for the Town carries the risk of a cease-and-desist order under the Endangered Species Act.

Recreation - Please discuss the impacts on skiing at Mammoth and June Mountains, as well as cross-country and backcountry skiing. Please also discuss the impact of snowmobile use. Please provide substantial evidence that significant impacts are mitigable, and describe the mitigation methods in detail. Impacts should include, but not be limited to, impacts on air quality, noise, and biological resources from motorized use, including diesel service vehicles.

This cumulative impact must be evaluated, as MMSA is within both the town boundary and the planning area. Adding between 15,000 and 35,000 additional winter tourists without evaluating the impacts on recreation options for both town residents and visitors is inexcusable. This is an impact that strongly affects the town's way of life and the town economy, so effective mitigations must be spelled out.

Population, Housing, and Employment - This discussion and analysis needs to include all the projects listed both within and outside the planning area, not just the Sierra Business Park.

Again, we appreciate the opportunity to comment on the DPEIR. Should you need clarification of any of the comments provided in this letter, please do not hesitate to contact me at (760) 934-1767.

Sincerely,

RECEIVED
SEP 14 2005
TOWN OF MAMMOTH
COMMUNITY DEVELOPMENT DEPARTMENT

John Walter
Chairperson, Advocates for Mammoth

APPENDIX C

AIR QUALITY IMPACT MODEL

Existing PM10 Emissions (2004)

Vehicle Emissions

Vehicle Miles Travelled	PM10 Emission Factor (g/vmt)[a]	PM10 Emissions (kg/day)
74,051	23.76	1759

Residential Wood Burning Device Emissions

Wood Burning Appliance Type	Number [b]	Emission Factor (lbs/ton burned) [c]	Tons burned/Day [d]	PM10 Emission Factor (g/day/stove)	PM10 Emissions (kg/day)
Fireplace-Visitor	492	34.6	0.021	329	81
Fireplace-Resident	56	34.6	0.024	381	11
Conventional Stove/Insert	263	30.6	0.026	357	47
Certified I Stove/Insert	177	19.8	0.024	214	38
Certified II Stove/Insert	6607	15.4	0.021	146	965
Pellet	0	4.2	0.026	49	0

CALCULATED IMPACTS (ug/m^3)

Wood-Burning Dominated Design Day	
Fireplaces	9.7
Stoves/Inserts	110.4
Road Dust	3.7
Tailpipe	5.6
Background	5.0
Total	**134**

Road Dust-Dominated Design Day	
Fireplaces	5.6
Stoves/Inserts	63.6
Road Dust	68.5
Tailpipe	0.0
Background	5.0
	143

Notes

a) 34% control from street sweeping, per AQMP p F-4.

b) Calculations assume 50% compliance with curtailment for fireplaces and conventional stoves (conservative assumption)

c) Emission Factors for Stoves derived from EPA AP-42 Residential Wood Stoves Table 1.10-1
Emission Factors for Fireplace derived from EPA AP-42 External Combustion Sources Table 1.9-1

d) From Town survey results, as reported in AQMP Table 3.4

Project PM10 Emissions (2024)

Unmitigated

Vehicle Emissions

Vehicle Miles Travelled	PM10 Emission Factor (g/vmt)[a]	PM10 Emissions (kg/day)
128,270	23.76	3048

Residential Wood Burning Device Emissions

Wood Burning Appliance Type	Number [b]	Emission Factor (lbs/ton burned) [c]	Tons burned/Day [d]	PM10 Emission Factor (g/day/stove)	PM10 Emissions (kg/day)
Fireplace-Visitor	50	34.6	0.021	329	8
Fireplace-Resident	6	34.6	0.024	381	1
Conventional Stove/Insert	26	30.6	0.026	357	5
Certified I Stove/Insert	177	19.8	0.024	214	19
Certified II Stove/Insert	7662	15.4	0.021	146	559
Pellet [e]	77	4.2	0.026	49	4

CALCULATED IMPACTS (ug/m^3)

Wood-Burning Dominated Design Day	
Fireplaces	1.0
Stoves/Inserts	61.7
Road Dust	6.4
Tailpipe	9.7
Background	5.0
Total	**84**

Road Dust-Dominated Design Day	
Fireplaces	0.6
Stoves/Inserts	35.6
Road Dust	118.6
Tailpipe	0.0
Background	5.0
	160

Notes

a) 34% control from street sweeping, per AQMP p F-4.

b) Calculations assume 50% compliance with "No Burn" days for all wood burning [GBVAPCD Rule 431] (conservative)

c) Emission Factors for Stoves derived from EPA AP-42 Residential Wood Stoves Table 1.10-1
Emission Factors for Fireplace derived from EPA AP-42 External Combustion Sources Table 1.9-1

d) From Town survey results, as reported in AQMP Table 3.4

e) As no data exists regarding the number of pellet stoves in the Town, a conservative assumption was used.

Project PM10 Emissions (2024)

Mitigated

Vehicle Emissions

Vehicle Miles Travelled	PM10 Emission Factor (g/vmt)[a]	PM10 Emissions (kg/day)
106,600	23.76	2533

Residential Wood Burning Device Emissions

Wood Burning Appliance Type	Number [b]	Emission Factor (lbs/ton burned) [c]	Tons burned/Day [d]	PM10 Emission Factor (g/day/stove)	PM10 Emissions (kg/day)
Fireplace-Visitor	50	34.6	0.021	329	8
Fireplace-Resident	6	34.6	0.024	381	1
Conventional Stove/Insert	26	30.6	0.026	357	5
Certified I Stove/Insert	177	19.8	0.024	214	19
Certified II Stove/Insert	7662	15.4	0.021	146	559
Pellet [e]	77	4.2	0.026	49	4

CALCULATED IMPACTS (ug/m^3)

Wood-Burning Dominated Design Day	
Fireplaces	1.0
Stoves/Inserts	61.7
Road Dust	5.3
Tailpipe	8.0
Background	5.0
Total	**81**

Road Dust-Dominated Design Day	
Fireplaces	0.6
Stoves/Inserts	35.6
Road Dust	98.6
Tailpipe	0.0
Background	5.0
	140

Notes

a) 34% control from street sweeping, per AQMP p F-4.

b) Calculations assume 50% compliance with "No Burn" days for all wood burning [GBVAPCD Rule 431] (conservative)

c) Emission Factors for Stoves derived from EPA AP-42 Residential Wood Stoves Table 1.10-1
Emission Factors for Fireplace derived from EPA AP-42 External Combustion Sources Table 1.9-1

d) From Town survey results, as reported in AQMP Table 3.4

e) As no data exists regarding the number of pellet stoves in the Town, a conservative assumption was used.

Existing GP PM10 Emissions (2024)

Unmitigated

Vehicle Emissions

Vehicle Miles Travelled	PM10 Emission Factor (g/vmt)[a]	PM10 Emissions (kg/day)
123,868	23.76	2943

Residential Wood Burning Device Emissions

Wood Burning Appliance Type	Number [b]	Emission Factor (lbs/ton burned) [c]	Tons burned/Day [d]	PM10 Emission Factor (g/day/stove)	PM10 Emissions (kg/day)
Fireplace-Visitor	50	34.6	0.021	329	8
Fireplace-Resident	6	34.6	0.024	381	1
Conventional Stove/Insert	26	30.6	0.026	357	5
Certified I Stove/Insert	177	19.8	0.024	214	19
Certified II Stove/Insert	7662	15.4	0.021	146	559
Pellet [e]	77	4.2	0.026	49	4

CALCULATED IMPACTS (ug/m^3)

Wood-Burning Dominated Design Day	
Fireplaces	1.0
Stoves/Inserts	61.7
Road Dust	6.2
Tailpipe	9.3
Background	5.0
Total	**83**

Road Dust-Dominated Design Day	
Fireplaces	0.6
Stoves/Inserts	35.6
Road Dust	114.5
Tailpipe	0.0
Background	5.0
	156

Notes

a) 34% control from street sweeping, per AQMP p F-4.

b) Calculations assume 50% compliance with "No Burn" days for all wood burning [GBVAPCD Rule 431] (conservative)

c) Emission Factors for Stoves derived from EPA AP-42 Residential Wood Stoves Table 1.10-1
Emission Factors for Fireplace derived from EPA AP-42 External Combustion Sources Table 1.9-1

d) From Town survey results, as reported in AQMP Table 3.4

e) As no data exists regarding the number of pellet stoves in the Town, a conservative assumption was used.

Existing GP PM10 Emissions (2024)

Mitigated

Vehicle Emissions

Vehicle Miles Travelled	PM10 Emission Factor (g/vmt)[a]	PM10 Emissions (kg/day)
106,600	23.76	2533

Residential Wood Burning Device Emissions

Wood Burning Appliance Type	Number [b]	Emission Factor (lbs/ton burned) [c]	Tons burned/Day [d]	PM10 Emission Factor (g/day/stove)	PM10 Emissions (kg/day)
Fireplace-Visitor	50	34.6	0.021	329	8
Fireplace-Resident	6	34.6	0.024	381	1
Conventional Stove/Insert	26	30.6	0.026	357	5
Certified I Stove/Insert	177	19.8	0.024	214	19
Certified II Stove/Insert	7662	15.4	0.021	146	559
Pellet	77	4.2	0.026	49	4

CALCULATED IMPACTS (ug/m^3)

Wood-Burning Dominated Design Day	
Fireplaces	1.0
Stoves/Inserts	61.7
Road Dust	5.3
Tailpipe	8.0
Background	5.0
Total	**81**

Road Dust-Dominated Design Day	
Fireplaces	0.6
Stoves/Inserts	35.6
Road Dust	98.6
Tailpipe	0.0
Background	5.0
	140

Notes

a) 34% control from street sweeping, per AQMP p F-4.

b) Calculations assume 50% compliance with "No Burn" days for all wood burning [GBVAPCD Rule 431] (conservative)

c) Emission Factors for Stoves derived from EPA AP-42 Residential Wood Stoves Table 1.10-1
Emission Factors for Fireplace derived from EPA AP-42 External Combustion Sources Table 1.9-1

d) From Town survey results, as reported in AQMP Table 3.4

e) As no data exists regarding the number of pellet stoves in the Town, a conservative assumption was used.

Workforce/Affordable Housing Alternative
PM10 Emissions (2024)

Unmitigated

Vehicle Emissions

Vehicle Miles Travelled	PM10 Emission Factor (g/vmt)[a]	PM10 Emissions (kg/day)
126,357	23.76	3002

Residential Wood Burning Device Emissions

Wood Burning Appliance Type	Number [b]	Emission Factor (lbs/ton burned) [c]	Tons burned/Day [d]	PM10 Emission Factor (g/day/stove)	PM10 Emissions (kg/day)
Fireplace-Visitor	50	34.6	0.021	329	8
Fireplace-Resident	6	34.6	0.024	381	1
Conventional Stove/Insert	26	30.6	0.026	357	5
Certified I Stove/Insert	177	19.8	0.024	214	19
Certified II Stove/Insert	7741	15.4	0.021	146	565
Pellet [e]	78	4.2	0.026	49	4

CALCULATED IMPACTS (ug/m^3)

Wood-Burning Dominated Design Day	
Fireplaces	1.0
Stoves/Inserts	62.3
Road Dust	6.3
Tailpipe	9.5
Background	5.0
Total	**84**

Road Dust-Dominated Design Day	
Fireplaces	0.6
Stoves/Inserts	35.9
Road Dust	116.8
Tailpipe	0.0
Background	5.0
	158

Notes

a) 34% control from street sweeping, per AQMP p F-4.

b) Calculations assume 50% compliance with "No Burn" days for all wood burning [GBVAPCD Rule 431] (conservative)

c) Emission Factors for Stoves derived from EPA AP-42 Residential Wood Stoves Table 1.10-1
Emission Factors for Fireplace derived from EPA AP-42 External Combustion Sources Table 1.9-1

d) From Town survey results, as reported in AQMP Table 3.4

e) As no data exists regarding the number of pellet stoves in the Town, a conservative assumption was used.

Workforce/Affordable Housing Alternative
PM10 Emissions (2024)

Mitigated

Vehicle Emissions

Vehicle Miles Travelled	PM10 Emission Factor (g/vmt)[a]	PM10 Emissions (kg/day)
106,600	23.76	2533

Residential Wood Burning Device Emissions

Wood Burning Appliance Type	Number [b]	Emission Factor (lbs/ton burned) [c]	Tons burned/Day [d]	PM10 Emission Factor (g/day/stove)	PM10 Emissions (kg/day)
Fireplace-Visitor	50	34.6	0.021	329	8
Fireplace-Resident	6	34.6	0.024	381	1
Conventional Stove/Insert	26	30.6	0.026	357	5
Certified I Stove/Insert	177	19.8	0.024	214	19
Certified II Stove/Insert	7741	15.4	0.021	146	565
Pellet [e]	78	4.2	0.026	49	4

CALCULATED IMPACTS (ug/m^3)

Wood-Burning Dominated Design Day	
Fireplaces	1.0
Stoves/Inserts	62.3
Road Dust	5.3
Tailpipe	8.0
Background	5.0
Total	**82**

Road Dust-Dominated Design Day	
Fireplaces	0.6
Stoves/Inserts	35.9
Road Dust	98.6
Tailpipe	0.0
Background	5.0
	140

Notes

a) 34% control from street sweeping, per AQMP p F-4.

b) Calculations assume 50% compliance with "No Burn" days for all wood burning [GBVAPCD Rule 431] (conservative)

c) Emission Factors for Stoves derived from EPA AP-42 Residential Wood Stoves Table 1.10-1
Emission Factors for Fireplace derived from EPA AP-42 External Combustion Sources Table 1.9-1

d) From Town survey results, as reported in AQMP Table 3.4

e) As no data exists regarding the number of pellet stoves in the Town, a conservative assumption was used.

Reduced Development Alternative
PM10 Emissions (2024)

Unmitigated

Vehicle Emissions

Vehicle Miles Travelled	PM10 Emission Factor (g/vmt)[a]	PM10 Emissions (kg/day)
116,871	23.76	2777

Residential Wood Burning Device Emissions

Wood Burning Appliance Type	Number [b]	Emission Factor (lbs/ton burned) [c]	Tons burned/Day [d]	PM10 Emission Factor (g/day/stove)	PM10 Emissions (kg/day)
Fireplace-Visitor	50	34.6	0.021	329	8
Fireplace-Resident	6	34.6	0.024	381	1
Conventional Stove/Insert	26	30.6	0.026	357	5
Certified I Stove/Insert	177	19.8	0.024	214	19
Certified II Stove/Insert	7599	15.4	0.021	146	555
Pellet [e]	76	4.2	0.026	49	4

CALCULATED IMPACTS (ug/m^3)

Wood-Burning Dominated Design Day	
Fireplaces	1.0
Stoves/Inserts	61.2
Road Dust	5.8
Tailpipe	8.8
Background	5.0
Total	**82**

Road Dust-Dominated Design Day	
Fireplaces	0.6
Stoves/Inserts	35.3
Road Dust	108.1
Tailpipe	0.0
Background	5.0
	149

Notes

a) 34% control from street sweeping, per AQMP p F-4.

b) Calculations assume 50% compliance with "No Burn" days for all wood burning [GBVAPCD Rule 431] (conservative)

c) Emission Factors for Stoves derived from EPA AP-42 Residential Wood Stoves Table 1.10-1
Emission Factors for Fireplace derived from EPA AP-42 External Combustion Sources Table 1.9-1

d) From Town survey results, as reported in AQMP Table 3.4

e) As no data exists regarding the number of pellet stoves in the Town, a conservative assumption was used.

Reduced Development Alternative
PM10 Emissions (2024)

Mitigated

Vehicle Emissions

Vehicle Miles Travelled	PM10 Emission Factor (g/vmt)[a]	PM10 Emissions (kg/day)
106,600	23.76	2533

Residential Wood Burning Device Emissions

Wood Burning Appliance Type	Number [b]	Emission Factor (lbs/ton burned) [c]	Tons burned/Day [d]	PM10 Emission Factor (g/day/stove)	PM10 Emissions (kg/day)
Fireplace-Visitor	50	34.6	0.021	329	8
Fireplace-Resident	6	34.6	0.024	381	1
Conventional Stove/Insert	26	30.6	0.026	357	5
Certified I Stove/Insert	177	19.8	0.024	214	19
Certified II Stove/Insert	7599	15.4	0.021	146	555
Pellet [e]	76	4.2	0.026	49	4

CALCULATED IMPACTS (ug/m^3)

Wood-Burning Dominated Design Day	
Fireplaces	1.0
Stoves/Inserts	61.2
Road Dust	5.3
Tailpipe	8.0
Background	5.0
Total	**81**

Road Dust-Dominated Design Day	
Fireplaces	0.6
Stoves/Inserts	35.3
Road Dust	98.6
Tailpipe	0.0
Background	5.0
	139

Notes

a) 34% control from street sweeping, per AQMP p F-4.

b) Calculations assume 50% compliance with "No Burn" days for all wood burning [GBVAPCD Rule 431] (conservative)

c) Emission Factors for Stoves derived from EPA AP-42 Residential Wood Stoves Table 1.10-1
Emission Factors for Fireplace derived from EPA AP-42 External Combustion Sources Table 1.9-1

d) From Town survey results, as reported in AQMP Table 3.4

e) As no data exists regarding the number of pellet stoves in the Town, a conservative assumption was used.

Mobile

Criteria Pollutant Emissions (Tons/Yr)

tailpipe and break (see details in next sheet)

	VMT	NOx	VOC	PM10	CO	SOx
Existing	74,051	22.4	4.2	10.4	52.0	0.2
Project	128,270	38.9	7.2	18.0	90.0	0.4
Change	54,219	16	3	8	38	0.2

cinders (see details in provided sheet)

Change	102

Stationary

Criteria Pollutant Emissions (Tons/Yr)

		NOx	VOC	PM10	CO	SOx
URBEMIS		18.87	137.69	49.17	314.38	0.97

Project delta		NOx	VOC	PM10	CO	SOx
Mobile		16	3	110	38	0.2
Stationary		19	138	49	314	1.0
Total	**tpy**	35	141	159	352	1.1
Mono County 2005	**tpy**	978	2,873	14,155	19,206	110
Percent increase		4%	5%	1%	2%	1%

Plan	VMT		Year	
Existing (Current)	74,051	miles	2004	Note: EMFAC2007 for 25 mph,
Project	128,270	miles	2024	Mono County fleet mix

Tail Pipe Emissions Factors

CO

Plan	VMT (mi/day)	Emission Factor (g/mi)	Emission Factor (lbs/mi)	Mass (lbs/day)	Mass (Tons/day)	Mass (tons/year)	Delta (tpy)
Existing (Current)	74,051	1.744	3.84E-03	284.72	0.14	51.96	
Project	128,270	1.744	3.84E-03	493.18	0.25	90.01	38.04

NOx

Plan	VMT (mi/day)	Emission Factor (g/mi)	Emissions Factor (lbs/mi)	Mass (lbs/day)	Mass (Tons/day)	Mass (tons/year)	Delta (tpy)
Existing (Current)	74,051	0.753	1.66E-03	122.93	0.06	22.43	
Project	128,270	0.753	1.66E-03	212.94	0.11	38.86	16.43

ROG

Plan	VMT (mi/day)	Emission Factor (g/mi)	Emissions Factor (lbs/mi)	Mass (lbs/day)	Mass (Tons/day)	Mass (tons/year)	Delta (tpy)
Existing (Current)	74,051	0.14	3.09E-04	22.86	1.14E-02	4.17E+00	
Project	128,270	0.14	3.09E-04	39.59	1.98E-02	7.23E+00	3.05

SOx

Plan	VMT (mi/day)		Emissions Factor (lbs/mi)	Mass (lbs/day)	Mass (Tons/day)	Mass (tons/year)	Delta (tpy)
Existing (Current)	74,051	0.007	1.54E-05	1.14	5.71E-04	2.09E-01	
Project	128,270	0.007	1.54E-05	1.98	9.90E-04	3.61E-01	0.15

PM10

Plan	VMT (mi/day)			Mass (lbs/day)	Mass (Tons/day)	Mass (tons/year)	Delta (tpy)
Per AQMP, page 3-6	66,300			51.04	2.55E-02	9.31E+00	
Existing (Current)	74,051			57.01	2.85E-02	1.04E+01	
Project	128,270			98.75	4.94E-02	1.80E+01	7.62

Winter Season Fugitive Dust Calculation Assumptions

PM10 Emissions (Tons/Yr)							
	g/VKT [a]	Max delta VKT	kg/day	Days/yr [b]	lb/day	lb/yr	tpy
cinders	14.8	88,884	1,314	26	2897	75319	
		44,442	657	52	1448	75319	
		22,221	329	74	724	53592	
				152		204230	102

Notes:

a) per AQMP, p.3-5. 22.4 g/vkt x 0.66 (34% control efficiency)

b) per AQMP, Table 2.2 p.2-6. Winter Season = 152 days/yr;
Max historical exceedances = 26 days/yr. Assumption regarding non-peak days.

Title : Mammoth 2007 Rerun
Version : Emfac2007 V2.3 Nov 1 2006
Run Date : 2007/05/04 09:26:02
Scen Year: 2024 -- All model years in the range 1980 to 2024 selected
Season : Annual
Area : Mono
****
Year: 2024 -- Model Years 1980 to 2024 Inclusive -- Annual
Emfac2007 Emission Factors: V2.3 Nov 1 2006

County Average Mono County Average

Table 1: Running Exhaust Emissions (grams/mile)

Pollutant Name: Total Organic Gases Temperature: 40F Relative Humidity: 50%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.117	0.228	0.283	2.807	0.000	5.557	0.686
10	0.077	0.152	0.191	1.550	0.000	4.234	0.415
15	0.054	0.107	0.135	0.758	0.000	3.393	0.246
20	0.039	0.079	0.101	0.446	0.000	2.859	0.169
25	0.030	0.061	0.078	0.380	0.000	2.531	0.140
30	0.024	0.050	0.064	0.325	0.000	2.353	0.120
35	0.021	0.042	0.054	0.280	0.000	2.298	0.107
40	0.018	0.038	0.048	0.245	0.000	2.356	0.099
45	0.017	0.036	0.045	0.219	0.000	2.535	0.095
50	0.017	0.035	0.043	0.203	0.000	2.862	0.097
55	0.018	0.036	0.044	0.195	0.000	3.392	0.103
60	0.019	0.039	0.047	0.197	0.000	4.220	0.117
65	0.022	0.044	0.052	0.207	0.000	5.510	0.139

Pollutant Name: Carbon Monoxide Temperature: 40F Relative Humidity: 50%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	1.342	2.569	2.752	6.283	0.000	28.723	3.294
10	1.210	2.279	2.349	3.998	0.000	24.231	2.652
15	1.098	2.041	2.052	2.536	0.000	21.286	2.203
20	1.001	1.844	1.823	1.824	0.000	19.437	1.918
25	0.917	1.678	1.642	1.596	0.000	18.441	1.744
30	0.843	1.538	1.495	1.441	0.000	18.198	1.612
35	0.779	1.419	1.374	1.343	0.000	18.721	1.514
40	0.722	1.318	1.274	1.291	0.000	20.144	1.450
45	0.672	1.233	1.192	1.281	0.000	22.759	1.419
50	0.629	1.163	1.126	1.311	0.000	27.102	1.428
55	0.591	1.106	1.076	1.382	0.000	34.125	1.490
60	0.559	1.062	1.042	1.498	0.000	45.527	1.628
65	0.531	1.035	1.028	1.669	0.000	64.406	1.885

Pollutant Name: Oxides of Nitrogen Temperature: 40F Relative Humidity: 50%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.164	0.396	0.709	7.962	0.000	1.495	1.584
10	0.142	0.338	0.608	5.904	0.000	1.432	1.217
15	0.126	0.296	0.536	4.494	0.000	1.392	0.963
20	0.113	0.265	0.485	3.737	0.000	1.368	0.820
25	0.104	0.242	0.450	3.420	0.000	1.360	0.753
30	0.097	0.225	0.428	3.162	0.000	1.364	0.700
35	0.092	0.215	0.417	2.961	0.000	1.381	0.661
40	0.089	0.209	0.417	2.817	0.000	1.408	0.636
45	0.088	0.207	0.426	2.732	0.000	1.447	0.623
50	0.088	0.210	0.447	2.706	0.000	1.497	0.624
55	0.090	0.217	0.482	2.743	0.000	1.560	0.640
60	0.094	0.230	0.534	2.847	0.000	1.638	0.671
65	0.101	0.250	0.610	3.026	0.000	1.732	0.722

Pollutant Name: Carbon Dioxide Temperature: 40F Relative Humidity: 50%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	943.581	1185.447	1705.995	3456.705	0.000	265.609	1551.934
10	713.155	896.205	1253.385	2848.940	0.000	221.500	1205.138
15	559.441	703.256	964.820	2355.335	0.000	190.286	961.905
20	455.497	572.782	776.627	2001.825	0.000	168.356	795.298
25	384.921	484.191	652.457	1875.202	0.000	153.415	700.260
30	337.602	424.794	571.056	1771.510	0.000	144.042	633.884
35	307.309	386.769	519.880	1688.947	0.000	139.442	589.027
40	290.321	365.445	491.683	1626.527	0.000	139.318	561.470
45	284.648	358.324	482.713	1583.765	0.000	143.833	548.989
50	289.643	364.594	491.825	1560.531	0.000	153.656	550.880
55	305.876	384.970	520.235	1557.015	0.000	170.113	567.828
60	335.242	421.831	571.797	1573.777	0.000	195.462	602.039
65	381.337	479.692	653.933	1611.923	0.000	233.416	657.714

Pollutant Name: Sulfur Dioxide Temperature: 40F Relative Humidity: 50%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.009	0.011	0.016	0.033	0.000	0.003	0.015
10	0.007	0.009	0.012	0.027	0.000	0.003	0.012
15	0.005	0.007	0.009	0.022	0.000	0.002	0.009
20	0.004	0.006	0.007	0.019	0.000	0.002	0.008

25	0.004	0.005	0.006	0.018	0.000	0.002	0.007
30	0.003	0.004	0.006	0.017	0.000	0.002	0.006
35	0.003	0.004	0.005	0.016	0.000	0.002	0.006
40	0.003	0.004	0.005	0.016	0.000	0.002	0.005
45	0.003	0.003	0.005	0.015	0.000	0.002	0.005
50	0.003	0.004	0.005	0.015	0.000	0.002	0.005
55	0.003	0.004	0.005	0.015	0.000	0.002	0.005
60	0.003	0.004	0.006	0.015	0.000	0.003	0.006
65	0.004	0.005	0.006	0.015	0.000	0.003	0.006

Pollutant Name: PM10 Temperature: 40F Relative Humidity: 50%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.054	0.091	0.108	0.226	0.000	0.031	0.107
10	0.035	0.059	0.071	0.174	0.000	0.024	0.074
15	0.024	0.041	0.049	0.135	0.000	0.020	0.053
20	0.017	0.029	0.036	0.111	0.000	0.017	0.040
25	0.013	0.022	0.028	0.100	0.000	0.015	0.033
30	0.011	0.018	0.022	0.094	0.000	0.014	0.029
35	0.009	0.015	0.019	0.093	0.000	0.014	0.027
40	0.008	0.013	0.017	0.096	0.000	0.015	0.026
45	0.007	0.013	0.016	0.103	0.000	0.016	0.026
50	0.007	0.013	0.015	0.114	0.000	0.018	0.028
55	0.008	0.013	0.016	0.129	0.000	0.022	0.031
60	0.009	0.014	0.017	0.148	0.000	0.027	0.035
65	0.010	0.017	0.019	0.171	0.000	0.035	0.040

Pollutant Name: PM10 - Tire Wear Temperature: 40F Relative Humidity: 50%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.008	0.008	0.009	0.031	0.000	0.004	0.012
10	0.008	0.008	0.009	0.031	0.000	0.004	0.012
15	0.008	0.008	0.009	0.031	0.000	0.004	0.012
20	0.008	0.008	0.009	0.031	0.000	0.004	0.012
25	0.008	0.008	0.009	0.031	0.000	0.004	0.012
30	0.008	0.008	0.009	0.031	0.000	0.004	0.012
35	0.008	0.008	0.009	0.031	0.000	0.004	0.012
40	0.008	0.008	0.009	0.031	0.000	0.004	0.012
45	0.008	0.008	0.009	0.031	0.000	0.004	0.012
50	0.008	0.008	0.009	0.031	0.000	0.004	0.012
55	0.008	0.008	0.009	0.031	0.000	0.004	0.012
60	0.008	0.008	0.009	0.031	0.000	0.004	0.012
65	0.008	0.008	0.009	0.031	0.000	0.004	0.012

Pollutant Name: PM10 - Break Wear Temperature: 40F Relative Humidity: 50%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.013	0.013	0.013	0.025	0.000	0.006	0.014
10	0.013	0.013	0.013	0.025	0.000	0.006	0.014
15	0.013	0.013	0.013	0.025	0.000	0.006	0.014
20	0.013	0.013	0.013	0.025	0.000	0.006	0.014
25	0.013	0.013	0.013	0.025	0.000	0.006	0.014
30	0.013	0.013	0.013	0.025	0.000	0.006	0.014
35	0.013	0.013	0.013	0.025	0.000	0.006	0.014
40	0.013	0.013	0.013	0.025	0.000	0.006	0.014
45	0.013	0.013	0.013	0.025	0.000	0.006	0.014
50	0.013	0.013	0.013	0.025	0.000	0.006	0.014
55	0.013	0.013	0.013	0.025	0.000	0.006	0.014
60	0.013	0.013	0.013	0.025	0.000	0.006	0.014
65	0.013	0.013	0.013	0.025	0.000	0.006	0.014

Pollutant Name: Gasoline - mi/gal Temperature: 40F Relative Humidity: 50%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	9.358	7.420	5.010	3.487	0.000	27.142	7.746
10	12.379	9.814	6.771	5.242	0.000	32.671	10.225
15	15.777	12.506	8.808	7.457	0.000	38.053	13.011
20	19.375	15.357	11.020	10.041	0.000	42.910	15.958
25	22.927	18.170	13.249	12.798	0.000	46.848	18.863
30	26.141	20.716	15.301	15.438	0.000	49.503	21.485
35	28.721	22.760	16.964	17.626	0.000	50.578	23.577
40	30.407	24.097	18.049	19.047	0.000	49.896	24.922
45	31.021	24.585	18.426	19.482	0.000	47.434	25.374
50	30.494	24.170	18.047	18.860	0.000	43.346	24.879
55	28.884	22.897	16.961	17.281	0.000	37.973	23.490
60	26.361	20.900	15.300	14.987	0.000	31.809	21.358
65	23.180	18.380	13.253	12.302	0.000	25.427	18.700

Pollutant Name: Diesel - mi/gal Temperature: 40F Relative Humidity: 50%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	29.116	29.133	19.626	3.166	0.000	0.000	4.897
10	29.116	29.133	19.626	3.654	0.000	0.000	5.338
15	29.116	29.133	19.626	4.259	0.000	0.000	5.886
20	29.116	29.133	19.626	4.895	0.000	0.000	6.462
25	29.116	29.133	19.626	5.170	0.000	0.000	6.711
30	29.116	29.133	19.626	5.433	0.000	0.000	6.949
35	29.116	29.133	19.626	5.673	0.000	0.000	7.166

40	29.116	29.133	19.626	5.876	0.000	0.000	7.349
45	29.116	29.133	19.626	6.029	0.000	0.000	7.488
50	29.116	29.133	19.626	6.122	0.000	0.000	7.572
55	29.116	29.133	19.626	6.148	0.000	0.000	7.596
60	29.116	29.133	19.626	6.105	0.000	0.000	7.557
65	29.116	29.133	19.626	5.997	0.000	0.000	7.459

Title : Mammoth 2007 Rerun
Version : Emfac2007 V2.3 Nov 1 2006
Run Date : 2007/05/04 09:26:02
Scen Year: 2024 -- All model years in the range 1980 to 2024 selected
Season : Annual
Area : Mono
****
****

Year: 2024 -- Model Years 1980 to 2024 Inclusive -- Annual
Emfac2007 Emission Factors: V2.3 Nov 1 2006

County Average Mono County Average

Table 2: Starting Emissions (grams/trip)

Pollutant Name: Total Organic Gases Temperature: 40F Relative Humidity: ALL

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.031	0.050	0.096	0.175	0.000	1.712	0.100
10	0.061	0.098	0.190	0.341	0.000	2.026	0.172
20	0.117	0.188	0.368	0.647	0.000	2.638	0.307
30	0.169	0.269	0.536	0.917	0.000	3.229	0.431
40	0.215	0.343	0.694	1.151	0.000	3.799	0.545
50	0.256	0.409	0.840	1.350	0.000	4.347	0.647
60	0.293	0.467	0.976	1.514	0.000	4.735	0.736
120	0.373	0.576	1.398	0.876	0.000	3.897	0.830
180	0.191	0.305	0.878	0.930	0.000	2.847	0.529
240	0.203	0.323	0.933	0.981	0.000	3.032	0.561
300	0.214	0.341	0.988	1.032	0.000	3.214	0.593
360	0.225	0.358	1.042	1.080	0.000	3.392	0.624
420	0.236	0.375	1.096	1.127	0.000	3.567	0.655
480	0.246	0.392	1.149	1.172	0.000	3.738	0.685
540	0.257	0.409	1.202	1.215	0.000	3.907	0.715
600	0.267	0.425	1.255	1.257	0.000	4.071	0.744
660	0.277	0.441	1.307	1.297	0.000	4.233	0.772
720	0.287	0.457	1.358	1.335	0.000	4.391	0.800

Pollutant Name: Carbon Monoxide Temperature: 40F Relative Humidity: ALL

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.432	0.698	1.581	4.068	0.000	4.744	1.252
10	0.851	1.374	3.121	7.971	0.000	6.912	2.418
20	1.650	2.662	6.080	15.282	0.000	11.001	4.635
30	2.399	3.865	8.877	21.931	0.000	14.759	6.696
40	3.097	4.982	11.514	27.918	0.000	18.187	8.602
50	3.744	6.015	13.990	33.245	0.000	21.284	10.353
60	4.341	6.962	16.304	37.910	0.000	24.051	11.948
120	6.062	9.295	22.453	14.764	0.000	28.446	12.803
180	3.138	4.965	9.750	15.196	0.000	12.757	6.904
240	3.359	5.300	10.546	15.642	0.000	14.123	7.361
300	3.558	5.602	11.252	16.102	0.000	15.369	7.776
360	3.735	5.872	11.866	16.576	0.000	16.494	8.148
420	3.889	6.110	12.390	17.064	0.000	17.499	8.478
480	4.021	6.315	12.823	17.567	0.000	18.384	8.767
540	4.131	6.488	13.166	18.084	0.000	19.149	9.013
600	4.218	6.628	13.417	18.615	0.000	19.793	9.216
660	4.283	6.737	13.579	19.161	0.000	20.318	9.378
720	4.325	6.813	13.649	19.720	0.000	20.721	9.497

Pollutant Name: Oxides of Nitrogen Temperature: 40F Relative Humidity: ALL

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.101	0.198	1.048	0.353	0.000	0.193	0.402
10	0.110	0.217	1.103	0.532	0.000	0.240	0.444
20	0.128	0.252	1.202	0.847	0.000	0.322	0.518
30	0.143	0.281	1.287	1.103	0.000	0.390	0.580
40	0.155	0.304	1.360	1.301	0.000	0.444	0.630
50	0.164	0.322	1.418	1.441	0.000	0.484	0.667
60	0.170	0.334	1.463	1.522	0.000	0.509	0.693
120	0.183	0.362	1.602	1.569	0.000	0.521	0.747
180	0.202	0.398	1.652	1.563	0.000	0.523	0.779
240	0.201	0.395	1.639	1.554	0.000	0.514	0.773
300	0.199	0.391	1.618	1.543	0.000	0.503	0.764
360	0.196	0.385	1.590	1.528	0.000	0.490	0.752
420	0.192	0.377	1.553	1.510	0.000	0.475	0.737
480	0.187	0.367	1.508	1.489	0.000	0.457	0.718
540	0.181	0.356	1.455	1.465	0.000	0.437	0.697
600	0.174	0.343	1.393	1.438	0.000	0.415	0.672
660	0.167	0.329	1.324	1.408	0.000	0.391	0.644
720	0.159	0.312	1.247	1.374	0.000	0.364	0.612

Pollutant Name: Carbon Dioxide Temperature: 40F Relative Humidity: ALL

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	12.021	14.896	21.196	2.580	0.000	13.892	14.795
10	13.587	16.922	24.071	5.147	0.000	16.112	17.003
20	17.205	21.570	30.671	10.236	0.000	20.469	21.988
30	21.472	27.014	38.405	15.269	0.000	24.715	27.731
40	26.387	33.254	47.271	20.244	0.000	28.850	34.232
50	31.951	40.290	57.271	25.162	0.000	32.874	41.491
60	38.163	48.122	68.404	30.023	0.000	36.787	49.508
120	88.159	110.457	157.075	51.064	0.000	54.393	111.555
180	100.164	125.587	178.583	60.329	0.000	58.512	126.970
240	112.129	140.646	199.992	69.046	0.000	62.389	142.264
300	124.054	155.633	221.302	77.217	0.000	66.025	157.438
360	135.937	170.550	242.512	84.841	0.000	69.419	172.493
420	147.780	185.395	263.622	91.918	0.000	72.572	187.428
480	159.581	200.169	284.633	98.448	0.000	75.482	202.243
540	171.342	214.872	305.545	104.432	0.000	78.152	216.938
600	183.062	229.503	326.357	109.869	0.000	80.579	231.514
660	194.742	244.064	347.069	114.759	0.000	82.765	245.970
720	206.380	258.553	367.682	119.102	0.000	84.710	260.305

Pollutant Name: Sulfur Dioxide Temperature: 40F Relative Humidity: ALL

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.000	0.000	0.000	0.000	0.000	0.000	0.000
10	0.000	0.000	0.000	0.000	0.000	0.000	0.000
20	0.000	0.000	0.000	0.000	0.000	0.000	0.000
30	0.000	0.000	0.001	0.001	0.000	0.001	0.000
40	0.000	0.000	0.001	0.001	0.000	0.001	0.000
50	0.000	0.000	0.001	0.001	0.000	0.001	0.001
60	0.000	0.001	0.001	0.001	0.000	0.001	0.001
120	0.001	0.001	0.002	0.001	0.000	0.001	0.001
180	0.001	0.001	0.002	0.001	0.000	0.001	0.001
240	0.001	0.001	0.002	0.001	0.000	0.001	0.001
300	0.001	0.002	0.002	0.001	0.000	0.001	0.002
360	0.001	0.002	0.003	0.001	0.000	0.001	0.002
420	0.001	0.002	0.003	0.001	0.000	0.001	0.002
480	0.002	0.002	0.003	0.001	0.000	0.001	0.002
540	0.002	0.002	0.003	0.001	0.000	0.001	0.002
600	0.002	0.002	0.003	0.001	0.000	0.001	0.002
660	0.002	0.002	0.004	0.001	0.000	0.001	0.003
720	0.002	0.003	0.004	0.001	0.000	0.001	0.003

Pollutant Name: PM10 Temperature: 40F Relative Humidity: ALL

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL

5	0.001	0.001	0.001	0.000	0.000	0.007	0.001
10	0.001	0.002	0.002	0.001	0.000	0.006	0.002
20	0.002	0.003	0.003	0.001	0.000	0.005	0.003
30	0.003	0.005	0.005	0.002	0.000	0.004	0.004
40	0.004	0.007	0.006	0.002	0.000	0.004	0.006
50	0.005	0.008	0.007	0.003	0.000	0.003	0.007
60	0.006	0.009	0.009	0.003	0.000	0.003	0.008
120	0.010	0.015	0.014	0.004	0.000	0.006	0.013
180	0.011	0.017	0.015	0.004	0.000	0.009	0.014
240	0.012	0.018	0.017	0.004	0.000	0.011	0.016
300	0.013	0.020	0.018	0.005	0.000	0.013	0.017
360	0.014	0.021	0.019	0.005	0.000	0.015	0.018
420	0.014	0.022	0.020	0.005	0.000	0.016	0.018
480	0.015	0.023	0.021	0.005	0.000	0.018	0.019
540	0.015	0.023	0.021	0.005	0.000	0.019	0.020
600	0.015	0.024	0.022	0.005	0.000	0.019	0.020
660	0.016	0.024	0.022	0.005	0.000	0.020	0.020
720	0.016	0.024	0.022	0.006	0.000	0.020	0.020

Title : Mammoth 2007 Rerun
Version : Emfac2007 V2.3 Nov 1 2006
Run Date : 2007/05/04 09:26:02
Scen Year: 2024 -- All model years in the range 1980 to 2024 selected
Season : Annual
Area : Mono
****

Year: 2024 -- Model Years 1980 to 2024 Inclusive -- Annual
Emfac2007 Emission Factors: V2.3 Nov 1 2006

County Average Mono County Average

Table 4: Hot Soak Emissions (grams/trip)

Pollutant Name: Total Organic Gases Temperature: 40F Relative Humidity: ALL

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.026	0.045	0.027	0.004	0.000	0.056	0.034
10	0.048	0.083	0.050	0.007	0.000	0.104	0.062
20	0.082	0.141	0.084	0.011	0.000	0.177	0.106
30	0.104	0.181	0.108	0.014	0.000	0.227	0.136
40	0.113	0.195	0.116	0.015	0.000	0.246	0.146

Hot soak results are scaled to reflect zero emissions for trip lengths of less than 5 minutes (about 25% of in-use trips).

Title : Mammoth 2007 Rerun
Version : Emfac2007 V2.3 Nov 1 2006
Run Date : 2007/05/04 09:26:02
Scen Year: 2024 -- All model years in the range 1980 to 2024 selected
Season : Annual
Area : Mono
****
Year: 2024 -- Model Years 1980 to 2024 Inclusive -- Annual
Emfac2007 Emission Factors: V2.3 Nov 1 2006

County Average Mono County Average

Table 5a: Partial Day Diurnal Loss Emissions (grams/hour)

Pollutant Name: Total Organic Gases Temperature: ALL Relative Humidity: ALL

Temp degF	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
40	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Title : Mammoth 2007 Rerun
Version : Emfac2007 V2.3 Nov 1 2006
Run Date : 2007/05/04 09:26:02
Scen Year: 2024 -- All model years in the range 1980 to 2024 selected
Season : Annual
Area : Mono
****
Year: 2024 -- Model Years 1980 to 2024 Inclusive -- Annual
Emfac2007 Emission Factors: V2.3 Nov 1 2006

County Average Mono County Average

Table 5b: Multi-Day Diurnal Loss Emissions (grams/hour)

Pollutant Name: Total Organic Gases Temperature: ALL Relative Humidity: ALL

Temp

degF	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
40	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Title : Mammoth 2007 Rerun
Version : Emfac2007 V2.3 Nov 1 2006
Run Date : 2007/05/04 09:26:02
Scen Year: 2024 -- All model years in the range 1980 to 2024 selected
Season : Annual
Area : Mono
****
Year: 2024 -- Model Years 1980 to 2024 Inclusive -- Annual
Emfac2007 Emission Factors: V2.3 Nov 1 2006

County Average Mono County Average

Table 6a: Partial Day Resting Loss Emissions (grams/hour)

Pollutant Name: Total Organic Gases Temperature: ALL Relative Humidity: ALL

Temp degF	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
40	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Title : Mammoth 2007 Rerun
Version : Emfac2007 V2.3 Nov 1 2006
Run Date : 2007/05/04 09:26:02
Scen Year: 2024 -- All model years in the range 1980 to 2024 selected
Season : Annual
Area : Mono
****
Year: 2024 -- Model Years 1980 to 2024 Inclusive -- Annual
Emfac2007 Emission Factors: V2.3 Nov 1 2006

County Average Mono County Average

Table 6b: Multi-Day Resting Loss Emissions (grams/hour)

Pollutant Name: Total Organic Gases Temperature: ALL Relative Humidity: ALL

Temp degF	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
40	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Title : Mammoth 2007 Rerun
Version : Emfac2007 V2.3 Nov 1 2006
Run Date : 2007/05/04 09:26:02
Scen Year: 2024 -- All model years in the range 1980 to 2024 selected
Season : Annual
Area : Mono

****

Year: 2024 -- Model Years 1980 to 2024 Inclusive -- Annual
Emfac2007 Emission Factors: V2.3 Nov 1 2006

County Average Mono County Average

Table 7: Estimated Travel Fractions

Pollutant Name: Temperature: ALL Relative Humidity: ALL

	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
%VMT	0.183	0.512	0.136	0.155	0.000	0.013	1.000
%TRIP	0.167	0.480	0.243	0.092	0.000	0.018	1.000
%VEH	0.187	0.542	0.142	0.065	0.000	0.064	1.000

Title : Mammoth 2007 Rerun
Version : Emfac2007 V2.3 Nov 1 2006
Run Date : 2007/05/04 09:26:02
Scen Year: 2024 -- All model years in the range 1980 to 2024 selected
Season : Annual
Area : Mono

****

Year: 2024 -- Model Years 1980 to 2024 Inclusive -- Annual
Emfac2007 Emission Factors: V2.3 Nov 1 2006

County Average Mono County Average

Table 8: Evaporative Running Loss Emissions (grams/minute)

Pollutant Name: Total Organic Gases Temperature: 40F Relative Humidity: ALL

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
1	0.008	0.407	0.380	0.063	0.000	0.004	0.271
2	0.008	0.207	0.193	0.032	0.000	0.037	0.139
3	0.009	0.142	0.134	0.022	0.000	0.055	0.097
4	0.011	0.112	0.106	0.017	0.000	0.065	0.077
5	0.012	0.094	0.089	0.014	0.000	0.072	0.065
10	0.015	0.059	0.058	0.009	0.000	0.085	0.043
15	0.016	0.049	0.049	0.007	0.000	0.089	0.037
20	0.016	0.046	0.047	0.006	0.000	0.092	0.035
25	0.017	0.044	0.046	0.006	0.000	0.093	0.034
30	0.017	0.044	0.046	0.006	0.000	0.093	0.034
35	0.017	0.044	0.046	0.006	0.000	0.093	0.034
40	0.017	0.044	0.046	0.006	0.000	0.093	0.034
45	0.017	0.044	0.046	0.006	0.000	0.093	0.034
50	0.016	0.044	0.046	0.006	0.000	0.092	0.034
55	0.016	0.044	0.046	0.006	0.000	0.092	0.034
60	0.016	0.044	0.046	0.006	0.000	0.092	0.034

MammothURBEMIS

URBEMIS 2002 For Windows 8.7.0

File Name: V:\AQNOISE DIVISION\Active Projects\Mammoth\Spreadsheets\All pollutants\mammoth with project AREA.urb
Project Name: Mammoth - Project
Project Location: Mountain Counties and Rural Counties

SUMMARY REPORT

(Tons/Year- Winter)

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10
TOTALS (tpy, unmitigated)	137.56	18.89	313.84	0.97	49.17

URBEMIS 2002 For Windows 8.7.0

File Name: V:\AQNOISE DIVISION\Active Projects\Mammoth\Spreadsheets\All pollutants\mammoth with project AREA.urb
Project Name: Mammoth - Project
Project Location: Mountain Counties and Rural Counties

DETAIL REPORT
(Tons/Year)

AREA SOURCE EMISSION ESTIMATES (Tons per Year, Unmitigated)

Source	ROG	NOx	CO	SO2	PM10
Natural Gas	1.00	13.08	6.94	0.00	0.02
Hearth	54.61	5.77	304.61	0.96	49.14
Landscaping	0.31	0.04	2.29	0.01	0.01
Consumer Prdcts	61.06	-	-	-	-
Architectural Coatings	20.58	-	-	-	-
TOTALS (tpy, unmitigated)	137.56	18.89	313.84	0.97	49.17

Changes made to the default values for Area

The wood stove percentage changed from 35 to 44.
The wood fireplace percentage changed from 10 to 1.
The cords of wood burned in wood stoves per year changed from 1.48 to 2.5.
The days of use for wood stoves changed from 82 to 100.
The fireplace cords of wood burned changed from 1.48 to 2.
The days of use for wood fireplace changed from 82 to 100.
The natural gas fireplace days/yr for single family changed from 90 to 100.
The natural gas fireplace days/yr for multi-family changed from 90 to 100.
The landscape year changed from 2005 to 2020.

Enviroscientists, Inc.
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MEMORANDUM

TO: File

FROM: Dr. Clay Postlethwaite

DATE: September 26, 2005

SUBJECT: Air Quality Impact Model

THIS APPENDIX COMPLETELY REVISED AND REPLACED.

Violations of the federal 24-hour PM_{10} standard were recorded in the Town in the late 1980s. As a result, the Air Quality Management Plan (AQMP) (Ono et al. 1990) was developed to improve air quality in the Town and bring the monitored air quality back into compliance with the federal standard.

Ono et al. (1990) analyzed the particulate material captured in the Town's PM_{10} monitor to determine the primary sources of particulate emissions. They determined that the primary sources of PM_{10} emissions were wood burning and traction materials (cinders) placed on winter roads that become finely ground and entrained in the atmosphere by motor vehicles. Further analysis demonstrated that violations of the NAAQS could occur on days when the majority of the PM_{10} was derived from wood smoke, as well as on days when road dust was the primary source. Ono et al. (1990) employed two design days to reflect these two scenarios. The model scaled the impacts from the estimated emissions of wood smoke and vehicle-derived dust to the monitored contributions of each source in both scenarios. They then used a roll back calculation to determine what degree of emission reduction was necessary to achieve compliance with the standard.

In this analysis, the AQMP design day model was used to first compare existing monitored air quality in the Town with model's predictions for the current estimated wood stove usage and VMT for a winter Saturday. Table 1 presents the input data and the modeled impacts. The model inputs for the calculation include VMT data from LSC (2004) and wood burning appliance data extrapolated from Ono et al.'s original assumptions and scaled to the current housing inventory. The emission factors are the same as employed by Ono et al and assumes a mandatory ban on wood burning is in effect for non-EPA approved appliances. The wood burning ban is modeled as a 50 percent decrease in emissions from the affected sources. The model predicts peak air quality impacts of 142.4 ug/m^3 on a road dust dominated emission day. The highest monitored value in the last four years was 134 ug/m^3, suggesting that model is still valid.

Air quality impacts from the Project and alternatives were modeled using VMT developed by LSC (2004, 2005) for each alternative. The wood burning appliance input values were based on the assumption that new single family dwellings will each have one wood burning appliance and that no new multi-family units will have them.

One of the results of the AQMP was the woodstove replacement program which required the removal of non-certified wood burning appliances upon the sale of a dwelling. The owner is generally allowed to replace the old appliance with an EPA-certified unit. Ono et al (1990) used their wood stove and fireplace inventory and extrapolated the growth of the community and an assumed rate of stove replacement rate of 90 percent to develop a wood burning appliance inventory for 2005. For this analysis, it was assumed that 90 percent of remaining conventional wood stoves, fireplaces, and inserts will be replaced with EPA-certified units by 2024.

The APCD is proposing a series of control measures to help the Town attain the state PM_{10} standard as directed by SB656. Those measures are expected to be adopted and are not considered mitigation measures for the Project or the alternatives. Two measures have direct implications to the Town and the model. First, the APCD will no longer exempt EPA-approved appliances from the solid fuel burn bans to be implemented during periods of poor air quality. The great majority of wood burning stoves are EPA-approved now, therefore banning the ever-diminishing minority of units is having little beneficial impact. As a result, the model assumes a 50 percent control of all wood burning appliances. Second, the APCD is requiring the Town or its contractors to purchase PM_{10} certified street sweepers for use in the Town as they expand or replace equipment. The certified equipment is more efficient than the sweeper tested by the Town in the 1990s. Therefore the model assumes a slightly (18 percent) greater control efficiency.

THIS APPENDIX COMPLETELY REVISED AND REPLACED.

Tables 2 through 5 present the modeled impacts from buildout of the Project and the alternatives. Each table first presents the modeled impacts based on the mitigation strategies of street sweeping and burn bans, and also presents the modeled impacts mitigated by a VMT limit of 106,600. The complete solid-fuel burn ban is a option available to the Town in the existing ordinances, and the VMT limit is a stated goal in the municipal code. The model predicts that the implementation of these additional measures will allow the buildout of the four alternatives and maintain compliance with federal PM_{10} standard.

Under Project Alternative, the daily VMT could exceed 106,600 without producing a modeled violation of the federal standard. The model predicts compliance with the federal standard up to a daily VMT of 130,000 (Table 6).

Table 1. Modeled Air Quality Impacts for Current Conditions

Vehicle Emissions

2004

Vehicle Miles Travelled	PM10 Emission Factor (g/vmt)[1]	PM10 Emissions (kg/day)
77577	23.76	1843

[1]Assumes 34% control from street sweeping

Residential Wood Stove Emissions

2004

Wood Burning Appliance Type	Number	PM10 Emission Factor (g/day/stove)	PM10 Emissions (kg/day)
Fireplace-Visitor	492	266	65
Fireplace-Resident	56	308	9
Conventional Stove/Insert	263	286	37
Certified I Stove/Insert	177	171	30
Certified II Stove/Insert	6607	142.5	941

Mandtory curtailment (50 percent control) included.

THIS APPENDIX COMPLETELY REVISED AND REPLACED.

CURRENT CALCULATED IMPACTS FROM DESIGN DAYS (ug/m^3)

Wood-Burning Dominated Design Day		**Road Dust-Dominated Design D**	
Fireplaces	7.9	Fireplaces	4.5
Stoves/Inserts	106.2	Stoves/Inserts	61.2
Road Dust	3.9	Road Dust	71.7
Tailpipe	5.9	Tailpipe	0.0
Background	5.0	Background	5.0
Total[2]	**128.7**		**142.4**

[2]The Federal 24 hour PM_{10} standard is 150 ug/m^3.

Table 2. Air Quality Model Impacts for the No Action Alternative

Vehicle Emissions

Unmitigated

Vehicle Miles Travelled	PM10 Emission Factor (g/vmt)[1]	PM10 Emissions (kg/day)
154,471	21.6	3337

Mitigated

Vehicle Miles Travelled	PM10 Emission Factor (g/vmt)[1]	PM10 Emissions (kg/day)
106,600	21.6	2303

[1]Assumes 40% control from street sweeping

Residential Wood Stove Emissions

Unmitigated

Wood Burning Appliance Type	Number	PM10 Emission Factor (g/day/stove)	PM10 Emissions (kg/day)
Fireplace-Visitor	50	266	7
Fireplace-Resident	6	308	1
Conventional Stove/Insert	26	285	4
Certified I Stove/Insert	177	171	15
Certified II Stove/Insert	7739	142.5	551

Mitigated

Number	PM10 Emission Factor (g/day/stove)	PM10 Emissions (kg/day)
50	266	7
6	308	1
26	285	4
177	171	15
7739	142.5	551

Mandatory curtailment (50 percent control) included per SB656.

THIS APPENDIX COMPLETELY REVISED AND REPLACED.

CALCULATED IMPACTS AT BUILDOUT (ug/m³)

Wood-Burning Dominated Design Day	
Fireplaces	0.8
Stoves/Inserts	60.0
Road Dust	7.0
Tailpipe	11.7
Background	5.0
Total[2]	**84.4**

Road Dust-Dominated Design Day	
Fireplaces	0.5
Stoves/Inserts	34.6
Road Dust	129.8
Tailpipe	0.0
Background	5.0
	169.9

MITIGATED CALCULATED IMPACTS AT BUILDOUT (ug/m³)

Wood-Burning Dominated Design Day	
Fireplaces	0.8
Stoves/Inserts	60.0
Road Dust	4.8
Tailpipe	8.0
Background	5.0
Total[2]	**78.7**

Road Dust-Dominated Design Day	
Fireplaces	0.5
Stoves/Inserts	34.6
Road Dust	89.6
Tailpipe	0.0
Background	5.0
	129.6

[2]The Federal 24 hour PM_{10} standard is 150 ug/m³.

Table 3. Air Quality Model Impacts for the Project Alternative

Vehicle Emissions

Unmitigated

Vehicle Miles Travelled	PM10 Emission Factor (g/vmt)[1]	PM10 Emissions (kg/day)
159,961	21.6	3455

Mitigated

Vehicle Miles Travelled	PM10 Emission Factor (g/vmt)[1]	PM10 Emissions (kg/day)
106,600	21.6	2303

[1]Assumes 40% control from street sweeping

Residential Wood Stove Emissions

Unmitigated

Wood Burning Appliance Type	Number	PM10 Emission Factor (g/day/stove)	PM10 Emissions (kg/day)
Fireplace-Visitor	50	266	7
Fireplace-Resident	6	308	1
Conventional Stove/Insert	26	285	4
Certified I Stove/Insert	177	171	15
Certified II Stove/Insert	7739	142.5	551

Mitigated

Number	PM10 Emission Factor (g/day/stove)	PM10 Emissions (kg/day)
50	266	7
6	308	1
26	285	4
177	171	15
7739	142.5	551

Mandatory curtailment (50 percent control) included per SB656.

THIS APPENDIX COMPLETELY REVISED AND REPLACED.

CALCULATED IMPACTS AT BUILDOUT (ug/m^3)

Wood-Burning Dominated Design Day	
Fireplaces	0.8
Stoves/Inserts	60.0
Road Dust	7.2
Tailpipe	12.1
Background	5.0
Total[2]	**85.1**

Road Dust-Dominated Design Day	
Fireplaces	0.5
Stoves/Inserts	34.6
Road Dust	134.4
Tailpipe	0.0
Background	5.0
	174.5

MITIGATED CALCULATED IMPACTS AT BUILDOUT (ug/m^3)

Wood-Burning Dominated Design Day	
Fireplaces	0.8
Stoves/Inserts	60.0
Road Dust	4.8
Tailpipe	8.0
Background	5.0
Total[2]	**78.7**

Road Dust-Dominated Design Day	
Fireplaces	0.5
Stoves/Inserts	34.6
Road Dust	89.6
Tailpipe	0.0
Background	5.0
	129.6

[2]The Federal 24 hour PM_{10} standard is 150 ug/m^3.

Table 4. Air Quality Model Impacts for the Work Force/Affordable Housing Alternative

Vehicle Emissions

Unmitigated

Vehicle Miles Travelled	PM10 Emission Factor (g/vmt)[1]	PM10 Emissions (kg/day)
157,575	21.6	3404

Mitigated

Vehicle Miles Travelled	PM10 Emission Factor (g/vmt)[1]	PM10 Emissions (kg/day)
106,600	21.6	2303

[1]Assumes 40% control from street sweeping

Residential Wood Stove Emissions

Unmitigated

Wood Burning Appliance Type	Number	PM10 Emission Factor (g/day/stove)	PM10 Emissions (kg/day)
Fireplace-Visitor	50	266	7
Fireplace-Resident	6	308	1
Conventional Stove/Insert	26	285	4
Certified I Stove/Insert	177	171	15
Certified II Stove/Insert	7819	142.5	557

Mitigated

Number	PM10 Emission Factor (g/day/stove)	PM10 Emissions (kg/day)
50	266	7
6	308	1
26	285	4
177	171	15
7819	142.5	557

Mandatory curtailment (50 percent control) included per SB656.

THIS APPENDIX COMPLETELY REVISED AND REPLACED.

CALCULATED IMPACTS AT BUILDOUT (ug/m³)

Wood-Burning Dominated Design Day	
Fireplaces	0.8
Stoves/Inserts	60.6
Road Dust	7.1
Tailpipe	11.9
Background	5.0
Total[2]	**85.4**

Road Dust-Dominated Design Day	
Fireplaces	0.5
Stoves/Inserts	34.9
Road Dust	132.4
Tailpipe	0.0
Background	5.0
	172.8

MITIGATED CALCULATED IMPACTS AT BUILDOUT (ug/m³)

Wood-Burning Dominated Design Day	
Fireplaces	0.8
Stoves/Inserts	60.6
Road Dust	4.8
Tailpipe	8.0
Background	5.0
Total[2]	**79.3**

Road Dust-Dominated Design Day	
Fireplaces	0.5
Stoves/Inserts	34.9
Road Dust	89.6
Tailpipe	0.0
Background	5.0
	130.0

[2]The Federal 24 hour PM_{10} standard is 150 ug/m³.

Table 5. Air Quality Model Impacts for the Reduced Development Alternative

Vehicle Emissions

Unmitigated

Vehicle Miles Travelled	PM10 Emission Factor (g/vmt)[1]	PM10 Emissions (kg/day)
145,745	21.6	3148

Mitigated

Vehicle Miles Travelled	PM10 Emission Factor (g/vmt)[1]	PM10 Emissions (kg/day)
106,600	21.6	2303

[1]Assumes 40% control from street sweeping

Residential Wood Stove Emissions

Unmitigated

Wood Burning Appliance Type	Number	PM10 Emission Factor (g/day/stove)	PM10 Emissions (kg/day)
Fireplace-Visitor	50	266	7
Fireplace-Resident	6	308	1
Conventional Stove/Insert	26	285	4
Certified I Stove/Insert	177	171	15
Certified II Stove/Insert	7739	142.5	551

Mitigated

Number	PM10 Emission Factor (g/day/stove)	PM10 Emissions (kg/day)
50	266	7
6	308	1
26	285	4
177	171	15
7739	142.5	551

Mandatory curtailment (50 percent control) included per SB656.

THIS APPENDIX COMPLETELY REVISED AND REPLACED.

CALCULATED IMPACTS AT BUILDOUT (ug/m^3)

Wood-Burning Dominated Design Day	
Fireplaces	0.8
Stoves/Inserts	60.0
Road Dust	6.6
Tailpipe	11.0
Background	5.0
Total[2]	**83.4**

MITIGATED CALCULATED IMPACTS AT BUILDOUT (ug/m^3)

Wood-Burning Dominated Design Day	
Fireplaces	0.8
Stoves/Inserts	60.0
Road Dust	4.8
Tailpipe	8.0
Background	5.0
Total[2]	**78.7**

Road Dust-Dominated Design Day	
Fireplaces	0.5
Stoves/Inserts	34.6
Road Dust	122.5
Tailpipe	0.0
Background	5.0
	162.5

Road Dust-Dominated Design Day	
Fireplaces	0.5
Stoves/Inserts	34.6
Road Dust	89.6
Tailpipe	0.0
Background	5.0
	129.6

[2]The Federal 24 hour PM_{10} standard is 150 ug/m^3.

Table 6. Air Quality Model Impacts for the Project Alternative with 130,000 VMT

Vehicle Emissions

Unmitigated

Vehicle Miles Travelled	PM10 Emission Factor (g/vmt)[1]	PM10 Emissions (kg/day)
159,961	21.6	3455

Mitigated

Vehicle Miles Travelled	PM10 Emission Factor (g/vmt)[1]	PM10 Emissions (kg/day)
130,000	21.6	2808

[1]Assumes 40% control from street sweeping

Residential Wood Stove Emissions

Unmitigated

Wood Burning Appliance Type	Number	PM10 Emission Factor (g/day/stove)	PM10 Emissions (kg/day)
Fireplace-Visitor	50	266	7
Fireplace-Resident	6	308	1
Conventional Stove/Insert	26	285	4
Certified I Stove/Insert	177	171	15
Certified II Stove/Insert	7739	142.5	551

Mitigated

Number	PM10 Emission Factor (g/day/stove)	PM10 Emissions (kg/day)
50	266	7
6	308	1
26	285	4
177	171	15
7739	142.5	551

Mandatory curtailment (50 percent control) included per SB656.

CALCULATED IMPACTS AT BUILDOUT (ug/m³)

Wood-Burning Dominated Design Day	
Fireplaces	0.8
Stoves/Inserts	60.0
Road Dust	7.2
Tailpipe	12.1
Background	5.0
Total[1]	**85.1**

MITIGATED CALCULATED IMPACTS AT BUILDOUT (ug/m³)

Wood-Burning Dominated Design Day	
Fireplaces	0.8
Stoves/Inserts	60.0
Road Dust	5.9
Tailpipe	9.8
Background	5.0
Total[1]	**81.5**

Road Dust-Dominated Design Day	
Fireplaces	0.5
Stoves/Inserts	34.6
Road Dust	134.4
Tailpipe	0.0
Background	5.0
	174.5

Road Dust-Dominated Design Day	
Fireplaces	0.5
Stoves/Inserts	34.6
Road Dust	109.3
Tailpipe	0.0
Background	5.0
	149.3

[1]The Federal 24 hour PM_{10} standard is 150 ug/m³.

THIS APPENDIX COMPLETELY REVISED AND REPLACED.

APPENDIX D

NOISE TECHNICAL REPORT

ANALYSIS OF
EXISTING AND FUTURE NOISE LEVELS
TOWN OF MAMMOTH LAKES

PREPARED BY

BROWN-BUNTIN ASSOCIATES, INC.
VISALIA, CALIFORNIA

AUGUST 12, 2005
(Revised 9/1/05)

INTRODUCTION

The Town of Mammoth Lakes (Mammoth Lakes) is currently updating its general plan. Several of the comments that were received on the Draft Program Environmental Impact Report (PEIR) indicated that additional information on current and future noise levels experienced in the community should be included in the environmental documents. This report is intended to provide that supplemental information.

Appendix A provides definitions of the acoustical terminology used in this report. Unless otherwise stated, all sound levels reported in this analysis are A-weighted sound pressure levels in decibels (dB). A-weighting de-emphasizes the very low and very high frequencies of sound in a manner similar to the human ear. Most community noise standards utilize A-weighted sound levels, as they correlate well with public reaction to noise.

EXISTING CONDITIONS

Noise Sources:

Many of the noise sources in Mammoth Lakes are common to most communities. These include, for example, traffic noise and noise from commercial activities. However, due to skiing and other winter activities that occur within and adjacent to the urbanized areas of the community, there are important noise sources that are unique to Mammoth Lakes. These include noise related to removal of snow from streets, snowmaking, and avalanche control.

Both the common noise sources and sources that are more or less unique to the wintertime activities that occur in Mammoth Lakes are discussed below.

Background Noise Level Measurements:

The purpose of background noise level measurements is to determine the baseline or residual noise environment in a community at locations that are relatively unaffected by major noise sources, such as traffic. The measurements are usually conducted for 24 hours or more to sample the variation in noise levels that usually occurs during the day and night.

Background noise levels were measured for approximately three days during the July 4, 2005 holiday weekend at two residential locations in Mammoth Lakes. Measurements were conducted for approximately 17 hours at a third residential location. Because of equipment failure, a longer measurement was not possible. The three residences were the same or very close to the three residences where background noise levels were measured in the summer of 1995 as part of the data collection for the community's Noise Element Update. Figure 1 shows the locations of the background noise level measurement sites. Figures 2-4 show a comparison of hourly noise levels measured during the summer of 1995 compared to the summer of 2005. Table I compares the Day-Night Average Level (DNL) for 1995 and 2005 at the three locations.

Figure 1
Background Noise Level Measurement Locations -- July, 2005

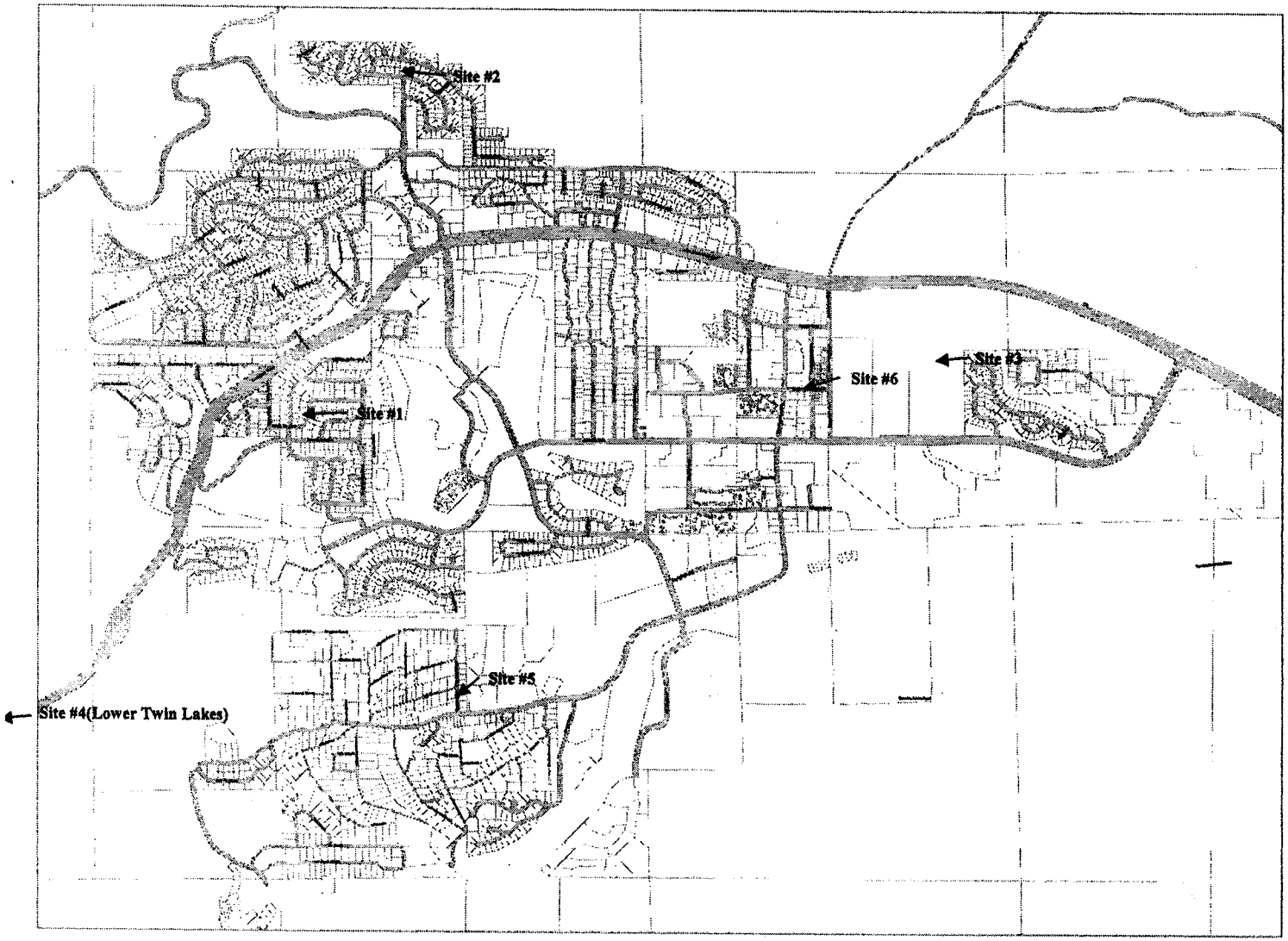


Figure 2
Background Noise Levels
107 Sugar Pine , 2005 and 1995
Site No. 1

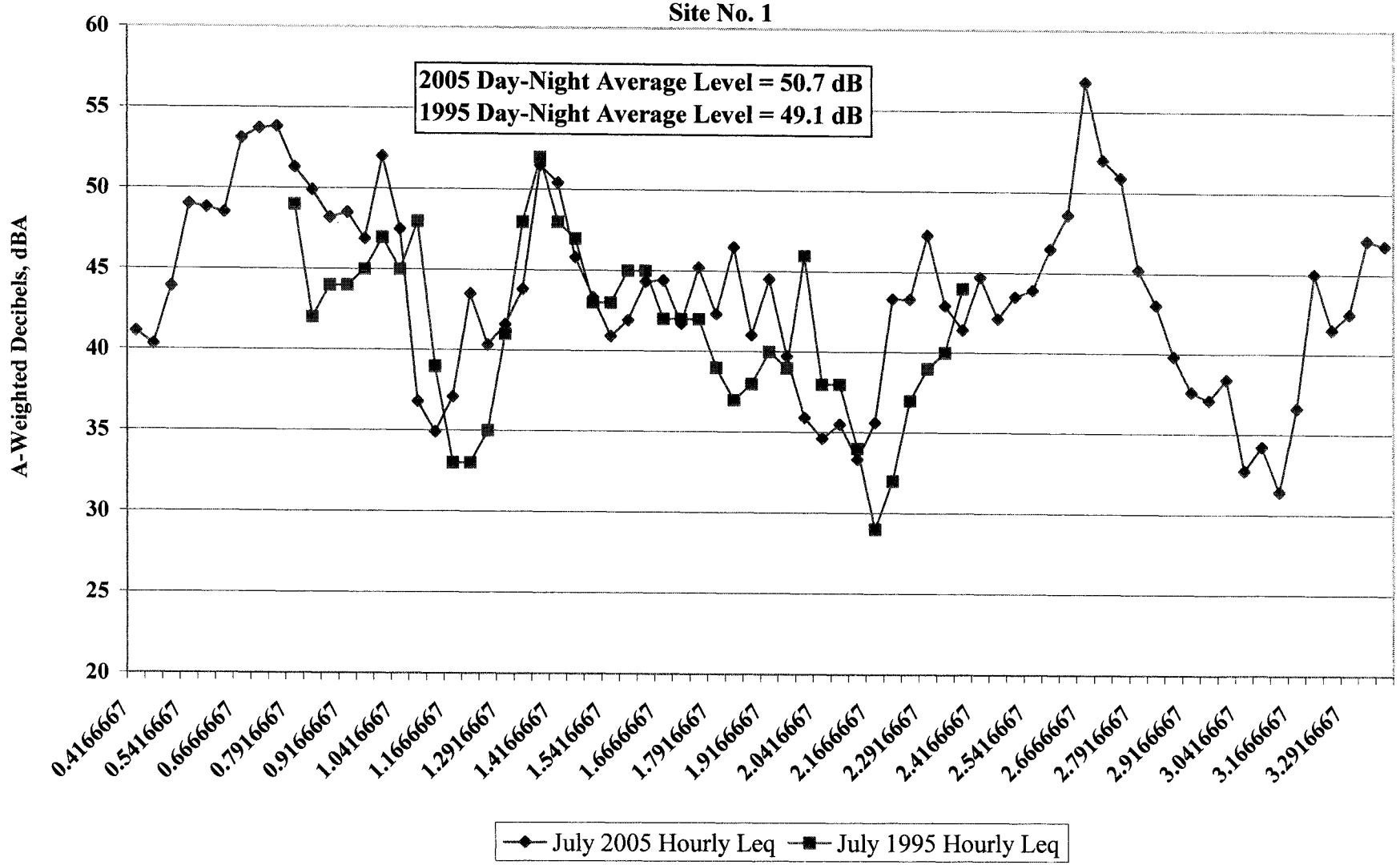


Figure 3
Background Noise Levels
286 Cortina (July 2005) - 394 Grindelwald (1995)
Site No. 2

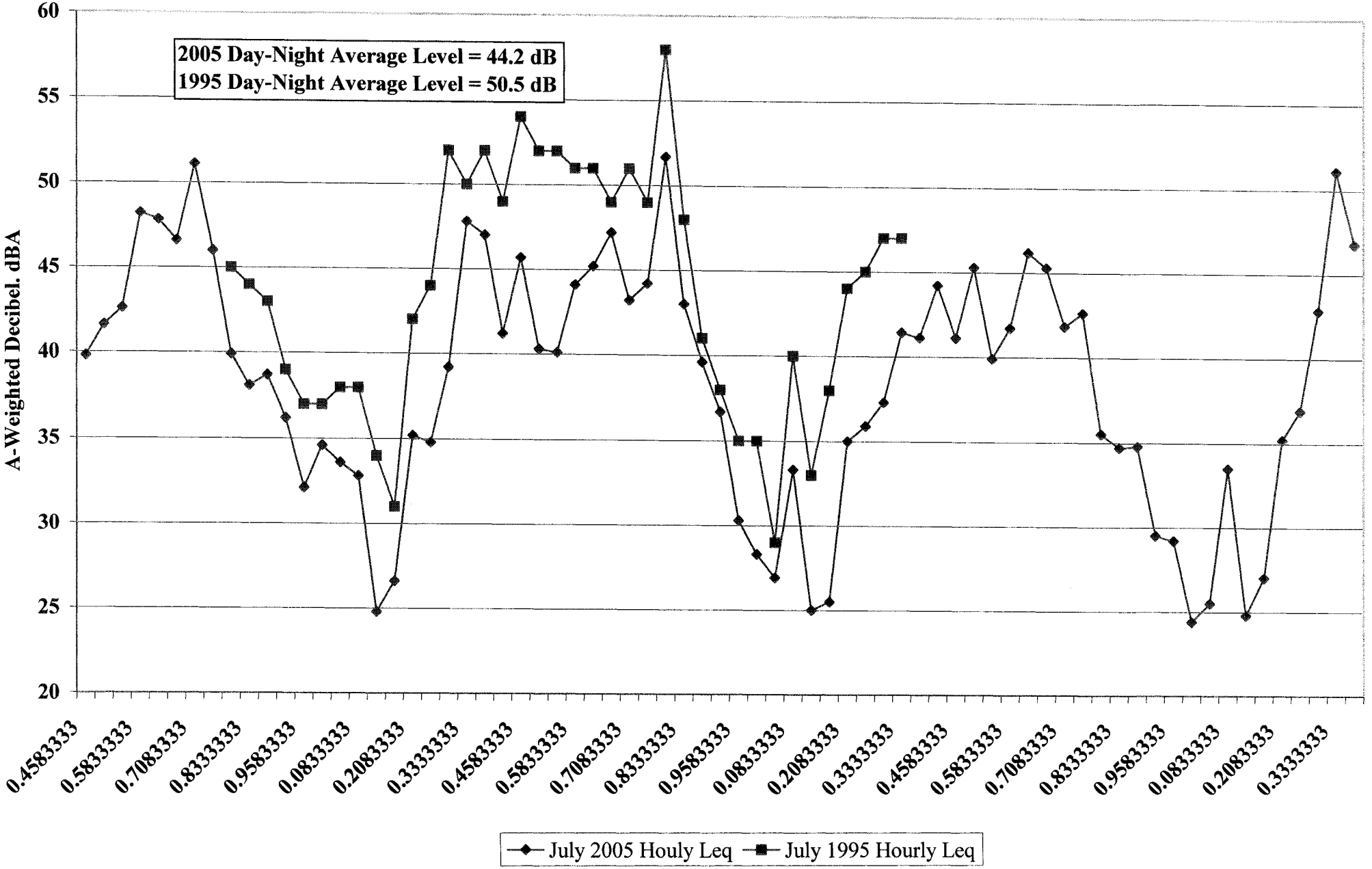


Figure 4
Background Noise Levels
323 Wagon Wheel/203 Trails End
Site No. 3

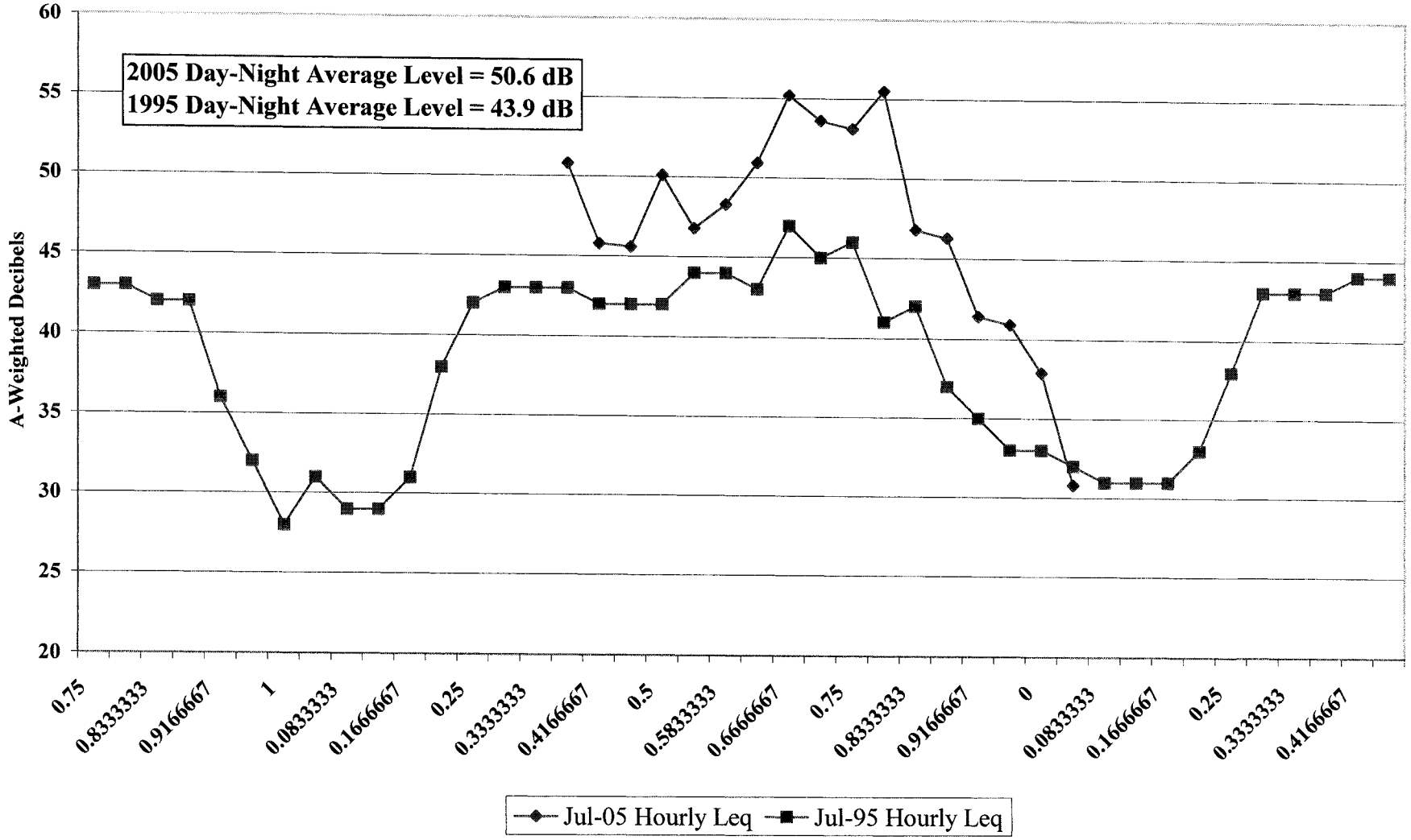


TABLE I

BACKGROUND NOISE LEVELS AT MAMMOTH LAKES RESIDENTIAL LOCATIONS

Site No./Location	July 1995 DNL, dB	July 2005 DNL, dB	Change
1/107 Sugar Pine	49.1	50.7	+1.6
2/286 Cortina Ct./394 Grindelwald Rd.	50.5	44.2	-6.3
3/323 Wagon Wheel/203 Trails End	43.9	50.6	+6.7
Source: Brown-Buntin Associates, Inc.			

In addition to the continuous measurements that were conducted through several days, short measurements were conducted at other locations in the community to characterize the background noise level environment. Table II describes noise levels at these locations.

TABLE II

SHORT BACKGROUND NOISE LEVEL MEASUREMENT RESULTS

Site No./Location	Date	Time	Noise Level, dBA		Sources
			Range	L_{eq}	
4/Lower Twin Lakes	7/3/05	11:20 a.m.	40-62	47	Traffic, voices
	7/3/05	2:30 p.m.	47-66	56	
	7/4/05	10:00 a.m.	40-72	54	
5/So. End Waterford Avenue	7/3/05	11:30 a.m.	52-55	53	Stream, generator
	7/3/05	3:00 p.m.	52-59	54	
	7/4/05	10:30 a.m.	45-64	53	Voices
6/Knoll Bet. Hospital & H.S.	7/3/05	12:10 p.m.	43-55	48	Wind
	7/3/05	3:30 p.m.	46-61	52	Wind & traffic
	7/4/05	11:00 a.m.	39-56	51	Wind & traffic
Source: Brown-Buntin Associates, Inc.					

Extensive conclusions about the meaning of the noise level changes from 1995 to 2005 should not be drawn since the measurements were for a few days and many factors can influence noise levels. However, the one conclusion that is obvious is that background noise levels in terms of the Day-Night Average Level at all locations were well below the 60 dB DNL criterion in both 1995 and 2005. It is generally acknowledged that community background noise levels below 60 dB DNL are fully compatible with residential uses.

The background noise level measurements that were conducted through the July 4th weekend (July 2-5) probably represent the busiest time period in Mammoth Lakes during the summer season. Hence, they represent near worst-case conditions from the standpoint of numbers of visitors in the community.

Specific Noise Sources:

Snow Making and Snow Grooming Devices

The Mammoth Lakes office of the United States Forest Service reports the following recently-collected source information, which are listed in Table III.

TABLE III

NOISE LEVELS FROM SNOWMAKING AND SNOW GROOMING DEVICES

Equipment	Distance	Noise Level, dBA	Notes
Piston Bully Groomer	100′	57-61	1200-1800 rpm
	200′	55-59	1200-1800 rpm
HKD Snow Gun	200′	68	In Front of Tower
	200′	73	90° From Tower
	200′	64	Behind Tower

Source: USFS

Avalanche Control Devices

The USFS reports a recent noise level measurement of 183 dBA at the gunner's location of a 105mm howitzer. This noise level measurement is not applicable to urbanized locations in Mammoth Lakes. Measurements conducted in 1995 at the west end of Meridian Boulevard from Gun #2 resulted in muzzle blast maximum (L_{max}) levels from 53-58 dBA and shell blast levels ranging from 71-79 dBA.

Snow Removal Devices

The following snow removal devices are used by Mammoth Lakes to clear snow from streets. Measurements were conducted July 5, 2005 in the community's equipment yard.

Equipment	Distance	Noise Level, dBA	
		Range	L_{eq}
Cat 966G Loader	50′	69-73	71
Snow Blower	50′	80-86	87
Trackless Sidewalk Sweeper & Blower	50′	85-86	85
Scraper	50′	86-89	87

Source: Brown-Buntin Associates, Inc.

Musical Events At The Village

Live amplified music was played at The Village on the evening of July 2, 2005. Sound level measurements and observations were made at several locations from about 7:00-8:00 p.m. to determine noise impacts from this type of entertainment. Following are the results of measurements/observations.

Location	Description
1. Condos @ Forest Trail & Hillside Dr.	Music not audible
2. Condos under construction about 200′ from rear of band	68-76 dBA; L_{eq} = 73 dBA 69-77 dBA; L_{eq} = 72 dBA
3. "Hillside Resort & Spa" construction site, opposite side Canyon Blvd.	56-64 dBA; L_{eq} = 60 dBA 56-63 dBA; L_{eq} = 59 dBA
4. Mammoth Fireside Condos	55-58 dBA; L_{eq} = 56 dBA 54-62 dBA; L_{eq} = 57 dBA
5. Forest Trail & Grindelwald	Music not audible
6. 286 Cortina Court	Music not audible Hourly L_{eq} Values:* 6:00 p.m. 46 dBA 7:00 p.m. 40 dBA 8:00 p.m. 38 dBA

Source: Brown-Buntin Associates, Inc.

*Background noise measurement site. Levels from July 2, 2005.

Traffic Noise

Existing traffic noise levels in Mammoth Lakes were determined by a combination of noise measurements and noise modeling. The FHWA's Highway Traffic Noise Prediction Model was used to calculate traffic noise levels based on peak hour Saturday afternoon traffic volumes. The peak hour volumes were converted to Annual Average Daily Traffic (AADT) volumes by applying a conversion factor, which was determined by LSC Transportation Consultants, Inc.

In addition to noise modeling, existing traffic noise levels were measured at several locations. Table IV lists traffic noise levels measured for 10-minute periods. Measured traffic noise levels are in terms of the energy average (L_{eq}) noise level for the 10-minute period. The purpose of Table IV is to show the variation in noise levels that occurs along roadways.

TABLE IV

MEASURED TRAFFIC NOISE LEVELS

Date	Time	Roadway	Distance From C/L	Measured L_{eq}, dBA
7/4/05	12:45 p.m.	SR203 @ Shiloh Inn	63′	65.1
7/5/05	1:00 p.m.	LK Mary Rd. @ Holden Valley Rd.	60′	65.4
7/5/05	1:30 p.m.	Minaret Rd. across from The Village	75′	58.4
7/5/05	2:30 p.m.	Meridian Rd. near Azimuth	75′	58.1
7/5/05	3:00 p.m.	Old Mammoth Rd. @ Ranch Rd.	48′	62.4

Source: Brown-Buntin Associates, Inc.

Table V shows year 2004 traffic noise levels in terms of the Day-Night Average Levels at a distance of 100 feet from road centers using the previously described FHWA Model.

TABLE V

EXISTING (2004) TRAFFIC NOISE LEVELS
IN TERMS OF DAY-NIGHT AVERAGE LEVEL (DNL)

Roadway	Segment	Road Classifications	DNL, dB @ 100'
SR203/Main	Meridian to Sierra Park	Arterial	59
	Sierra Park to Minaret	Arterial	61
	Minaret to Forest Trail	Arterial	59
	North of Forest Trail	Arterial	57
Lake Mary Rd	Minaret to Kelly	Collector	58
	East of Kelly	Collector	55
Meridian Blvd	SR203 to Commerce	Arterial	54
	Commerce to Old Mammoth	Arterial	59
	Old Mammoth to Azimuth	Arterial	58
	Azimuth to Minaret	Arterial	60
	East of Minaret	Collector	59
Old Mammoth Rd	SR203 to Meridian	Arterial	61
	Meridian to Chateau	Arterial	60
	Chateau to Minaret	Arterial	57
	East of Minaret	Collector	57
Minaret Rd	SR203 to Meridian	Arterial	58
	Meridian to Old Mammoth	Arterial	55
Forest Trail	North of Main	Collector	54
	East of Minaret	Collector	48
Canyon Blvd	Hillside to Lake Mary	Collector	57
Lakeview Blvd	East of Entry	Collector	53
	West of Entry	Collector	57
Kelly Road	South of Lake Mary	Collector	54
Center Street	South of Main	Local	53
Azimuth Drive	North of Meridian	Collector	52
	South of Meridian	Collector	57

Source: Brown-Buntin Associates, Inc.

Table V shows that at a few locations, existing traffic noise levels exceed 60 dB DNL at the 100 distance. At the two locations where existing traffic noise levels exceed 60 dB DNL, the adjoining uses are commercial. These uses have a higher noise level tolerance than residential uses.

FUTURE NOISE IMPACTS

The noise source that is most clearly related to future growth in the community is traffic noise. Traffic noise levels are directly correlated to projected future traffic volumes that are predicted in Mammoth Lakes, based on various growth assumptions. The previously discussed FHWA Traffic Noise Prediction Model was used to calculate traffic noise levels at a reference distance of 100 feet from road centerlines. The 100-foot setback represents the nearest receptors to the road. Receptors that are greater than 100 feet from road centers will be exposed to lower noise levels.

Table VI lists year 2024 traffic noise levels for the Proposed Action Alternative and year 2024 Alternatives 1, 2 and 4, based on AADT volumes for each alternative. The traffic analysis for the General Plan should be consulted for the full descriptions of these future alternatives. Truck proportions and the day/night traffic proportions that were used as inputs into the Model were derived from Caltrans data, file information from LSC Transportation Consultants, Inc. and from observations by Brown-Buntin Associates, Inc. (BBA). Traffic speeds were based on existing speed limits and BBA observations. The input assumptions are listed in Appendix B.

TABLE VI

FUTURE (2024) TRAFFIC NOISE LEVELS IN TERMS OF DAY-NIGHT AVERAGE LEVEL (DNL)

Roadway	Segment	Road Classification	DNL, dB @ 100'			
			Proposed Action Alt.	Alt. 1	Alt. 2	Alt. 3
SR203/Main	Meridian to Sierra Park	Arterial	62	62	61	61
	Sierra Park to Minaret	Arterial	63	63	62	63
	Minaret to Forest Trail	Arterial	61	61	60	60
	North of Forest Trail	Arterial	60	59	59	59
Lake Mary Rd	Minaret to Kelly	Collector	62	58	57	59
	East of Kelly	Collector	57	58	57	57
Meridian Blvd	SR203 to Commerce	Arterial	58	60	59	60
	Commerce to Old Mammoth	Arterial	62	62	60	61
	Old Mammoth to Azimuth	Arterial	60	60	59	60
	Azimuth to Minaret	Arterial	62	62	61	61
	East of Minaret	Collector	63	63	62	63
Old Mammoth Rd	SR203 to Meridian	Arterial	62	64	61	63
	Meridian to Chateau	Arterial	63	62	61	62
	Chateau to Minaret	Arterial	61	61	59	61
	East of Minaret	Collector	60	60	59	60
Minaret Rd	SR203 to Meridian	Arterial	61	61	60	61
	Meridian to Old Mammoth	Arterial	60	60	59	61
Forest Trail	North of Main	Collector	57	57	56	56
	East of Minaret	Collector	54	51	52	54
Canyon Blvd	Hillside to Lake Mary	Collector	60	60	61	60
Lakeview Blvd	East of Entry	Collector	56	56	55	55
	West of Entry	Collector	57	57	57	57
Kelly Road	South of Lake Mary	Collector	57	57	56	55
Center Street	South of Main	Local	57	57	55	56
Azimuth Drive	North of Meridian	Collector	55	55	53	55
	South of Meridian	Collector	59	59	58	59

Source: Brown-Buntin Associates, Inc.

Table VI shows that future traffic noise levels for the Proposed Action Alternative or the other alternatives will be very similar, usually varying by 0 to 1 dB. In some locations, the future traffic noise level will exceed 60 dB DNL at the 100-foot distance. Where noise-sensitive receptors (full-time occupancy residences) are located next to roads, there is a potential for adverse noise impacts if noise levels exceed 60 dB DNL. Whether there is an actual adverse impact depends on site-specific conditions. Local topography may shield residences at some locations, and the orientation, location and design of noise-sensitive areas (e.g., patios & backyards) may adequately mitigate noise impacts. Interior noise levels should be satisfactory (45 dB DNL or less) at all locations and for all alternatives. Normal construction practices that satisfy building codes will reduce exterior noise levels by 20-25 dB. This means that exterior noise levels up to 70 dB DNL will still provide interior noise levels no greater than 45 dB DNL, assuming windows and doors are closed.

Along most of the arterial streets, land uses are commercial or residential/commercial mixed uses. These uses have a higher tolerance for noise levels than true residential uses. Locations where there is a potential for adverse noise impacts for the Proposed Action Alternative, based on existing or possible future true residential uses, are shown in Figure 5.

ANALYSIS OF MITIGATION MEASURES

As described in the preceding discussion and as shown in Figure 5, there are some locations in Mammoth Lakes where there is a potential for adverse noise impacts due to traffic. The following mitigation measures will reduce significant impacts to less than significant levels.

1. Mixed commercial and residential uses have a higher tolerance for noise levels than true residential uses. Occupants (full or part-time) move into such locations for the convenience that such uses provide. They are fully aware and accept that by living next to or over commercial uses they are likely to experience higher noise levels than within a true residential setting. Mammoth Lakes should adopt a noise compatibility standard for 65 dB DNL for mixed residential/commercial uses. This criterion will provide adequate protection for this type of land use, and is more appropriate than the 60 dB DNL standard used for true residential uses.

2. For true residential settings with full-time occupancy, the current Mammoth Lakes 60 dB DNL compatibility standard is appropriate. When such uses are proposed in locations where there is a potential for future traffic noise levels to exceed 60 dB DNL, mitigation can be provided by the normal development review and building permit process currently utilized by Mammoth Lakes staff. If the roadway is blocked from view by topography or structures, noise levels will probably be reduced by 3 dB or more. Outdoor activity areas, such as patios and backyards, should be oriented or moved to take advantage of shielding provided by other parts of the structure. Solid patio or balcony walls that are 6 or 4 feet high, respectively, will reduce noise by 4 dB or more. For developments where a more in-depth analysis of noise impacts and abatement strategies is necessary, a site-specific acoustical analysis should be considered.

APPENDIX A

ACOUSTICAL TERMINOLOGY

APPENDIX A

ACOUSTICAL TERMINOLOGY

AMBIENT NOISE LEVEL: The composite of noise from all sources near and far. In this context, the ambient noise level constitutes the normal or existing level of environmental noise at a given location.

CNEL: Community Noise Equivalent Level. The average equivalent sound level during a 24-hour day, obtained after addition of approximately five decibels to sound levels in the evening from 7:00 p.m. to 10:00 p.m. and ten decibels to sound levels in the night before 7:00 a.m. and after 10:00 p.m.

DECIBEL, dB: A unit for describing the amplitude of sound, equal to 20 times the logarithm to the base 10 of the ratio of the pressure of the sound measured to the reference pressure, which is 20 micropascals (20 micronewtons per square meter).

DNL/L_{dn}: Day/Night Average Sound Level. The average equivalent sound level during a 24-hour day, obtained after addition of ten decibels to sound levels in the night after 10:00 p.m. and before 7:00 a.m.

L_{eq}: Equivalent Sound Level. The sound level containing the same total energy as a time varying signal over a given sample period. L_{eq} is typically computed over 1, 8 and 24-hour sample periods.

NOTE: The CNEL and DNL represent daily levels of noise exposure averaged on an annual basis, while L_{eq} represents the average noise exposure for a shorter time period, typically one hour.

L_{max}: The maximum noise level recorded during a noise event.

L_n: The sound level exceeded "n" percent of the time during a sample interval (L_{90}, L_{50}, L_{10}, etc.). For example, L_{10} equals the level exceeded 10 percent of the time.

ACOUSTICAL TERMINOLOGY

NOISE EXPOSURE CONTOURS: Lines drawn about a noise source indicating constant levels of noise exposure. CNEL and DNL contours are frequently utilized to describe community exposure to noise.

NOISE LEVEL REDUCTION (NLR): The noise reduction between indoor and outdoor environments or between two rooms that is the numerical difference, in decibels, of the average sound pressure levels in those areas or rooms. A measurement of "noise level reduction" combines the effect of the transmission loss performance of the structure plus the effect of acoustic absorption present in the receiving room.

SEL or SENEL: Sound Exposure Level or Single Event Noise Exposure Level. The level of noise accumulated during a single noise event, such as an aircraft overflight, with reference to a duration of one second. More specifically, it is the time-integrated A-weighted squared sound pressure for a stated time interval or event, based on a reference pressure of 20 micropascals and a reference duration of one second.

SOUND LEVEL: The sound pressure level in decibels as measured on a sound level meter using the A-weighting filter network. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the response of the human ear and gives good correlation with subjective reactions to noise.

SOUND TRANSMISSION CLASS (STC): The single-number rating of sound transmission loss for a construction element (window, door, etc.) over a frequency range where speech intelligibility largely occurs.

APPENDIX B

CALCULATION SHEETS

Appendix B-1

Brown Buntin Associates, Inc
FHWA-RD-77-108
Calculation Sheets
October 6, 2005

Project #:	05-056	**Contour Levels (dB)**	55	60	65	70	
Description:	Existing						
Ldn/Cnel:	Ldn						
Site Type:	Soft						

Segment	**Roadway Name**	**Segment Description**	**ADT**	**Day %**	**Eve %**	**Night %**	**Truck % Med**	**Truck % Hvy**	**Speed mph**	**Dist ft**
1	SR203/Main	Meridian to Sierra Park	7275	88		12	2.5	2.5	35	100
0		Sierra Park to Minaret	10922	88		12	2.5	2.5	35	100
0		Minaret to Forest Trail	8120	88		12	2.5	2.5	30	100
0		North of Forest Trail	5318	88		12	2.5	2.5	30	100
1	Lake Mary Rd	Minaret to Kelly	4882	88		12	2.5	2.5	35	100
0		East of Kelly	2454	88		12	2.5	2.5	35	100
1	Meridian Blvd	SR203 to Commerce	1575	88		12	2.5	2.5	40	100
0		Commerce to Old Mammoth	4909	88		12	2.5	2.5	40	100
0		Old Mammoth to Azimuth	4439	88		12	2.5	2.5	40	100
0		Azimuth to Minaret	6204	88		12	2.5	2.5	40	100
0		East of Minaret	4547	88		12	2.5	2.5	40	100
1	Old Mammoth Rd	SR203 to Meridian	8284	88		12	2.5	2.5	40	100
0		Meridian to Chateau	6539	88		12	2.5	2.5	40	100
0		Chateau to Minaret	2959	88		12	2.5	2.5	40	100
0		East of Minaret	3375	88		12	2.5	2.5	40	100
1	Minaret Rd	SR203 to Meridian	5645	88		12	2.5	2.5	35	100
0		Meridian to Old Mammoth	2754	88		12	2.5	2.5	35	100
1	Forest Trail	North of Main	2066	88		12	2.5	2.5	35	100
0		East of Minaret	512	88		12	2.5	2.5	35	100
1	Canyon Blvd	Hillside to Lake Mary	4527	88		12	2.5	2.5	35	100
2	Lakeview Blvd	East of Entry	1575	88		12	2.5	2.5	35	100
0		West of Entry	4384	88		12	2.5	2.5	35	100
1	Kelly Road	South of Lake Mary	2284	88		12	2.5	2.5	35	100
2	Center Street	South of Main	1677	88		12	2.5	2.5	35	100
3	Azimuth Drive	North of Meridian	1350	88		12	2.5	2.5	35	100
0		South of Meridian	3695	88		12	2.5	2.5	35	100
0						0				
0						0				

Appendix B-2

Brown Buntin Associates, Inc
FHWA-RD-77-108
Calculation Sheets

October 6, 2005

Project #: 05-056 **Contour Levels (dB)** 55 60 65 70
Descriptio: 2024 Proposed Action Alternative
Ldn/Cnel: Ldn
Site Type: Soft

Segment	Roadway Name	Segment Description	ADT	Day %	Eve %	Night %	Truck % Med	Truck % Hvy	Speed mph	Dist ft
1	SR203/Main	Meridian to Sierra Park	14093	88		12	2.5	2.5	35	100
0		Sierra Park to Minaret	16650	88		12	2.5	2.5	35	100
0		Minaret to Forest Trail	14209	88		12	2.5	2.5	30	100
0		North of Forest Trail	9989	88		12	2.5	2.5	30	100
1	Lake Mary Rd	Minaret to Kelly	13364	88		12	2.5	2.5	35	100
0		East of Kelly	4493	88		12	2.5	2.5	35	100
1	Meridian Blvd	SR203 to Commerce	4337	88		12	2.5	2.5	40	100
0		Commerce to Old Mammoth	9089	88		12	2.5	2.5	40	100
0		Old Mammoth to Azimuth	7043	88		12	2.5	2.5	40	100
0		Azimuth to Minaret	10568	88		12	2.5	2.5	40	100
0		East of Minaret	12995	88		12	2.5	2.5	40	100
1	Old Mammoth Rd	SR203 to Meridian	10445	88		12	2.5	2.5	40	100
0		Meridian to Chateau	11325	88		12	2.5	2.5	40	100
0		Chateau to Minaret	7336	88		12	2.5	2.5	40	100
0		East of Minaret	6464	88		12	2.5	2.5	40	100
1	Minaret Rd	SR203 to Meridian	10554	88		12	2.5	2.5	35	100
0		Meridian to Old Mammoth	8489	88		12	2.5	2.5	35	100
1	Forest Trail	North of Main	3852	88		12	2.5	2.5	35	100
0		East of Minaret	1868	88		12	2.5	2.5	35	100
1	Canyon Blvd	Hillside to Lake Mary	7943	88		12	2.5	2.5	35	100
2	Lakeview Blvd	East of Entry	3402	88		12	2.5	2.5	35	100
0		West of Entry	4384	88		12	2.5	2.5	35	100
1	Kelly Road	South of Lake Mary	4050	88		12	2.5	2.5	35	100
2	Center Street	South of Main	4282	88		12	2.5	2.5	35	100
3	Azimuth Drive	North of Meridian	2352	88		12	2.5	2.5	35	100
0		South of Meridian	7043	88		12	2.5	2.5	35	100
0						0				

Appendix B-3

Brown Buntin Associates, Inc
FHWA-RD-77-108
Calculation Sheets
October 6, 2005

Project #: 05-056 **Contour Levels (dB)** 55 60 65 70
Descriptio 2024 Alt 1
Ldn/Cnel: Ldn
Site Type: Soft

Segment	Roadway Name	Segment Description	ADT	Day %	Eve %	Night %	Truck % Med	Truck % Hvy	Speed mph	Dist ft
1	SR203/Main	Meridian to Sierra Park	13316	88		12	2.5	2.5	35	100
0		Sierra Park to Minaret	16145	88		12	2.5	2.5	35	100
0		Minaret to Forest Trail	13070	88		12	2.5	2.5	30	100
0		North of Forest Trail	9109	88		12	2.5	2.5	30	100
1	Lake Mary Rd	Minaret to Kelly	5775	88		12	2.5	2.5	35	100
0		East of Kelly	4807	88		12	2.5	2.5	35	100
1	Meridian Blvd	SR203 to Commerce	5761	88		12	2.5	2.5	40	100
0		Commerce to Old Mammoth	8993	88		12	2.5	2.5	40	100
0		Old Mammoth to Azimuth	6627	88		12	2.5	2.5	40	100
0		Azimuth to Minaret	10118	88		12	2.5	2.5	40	100
0		East of Minaret	12327	88		12	2.5	2.5	40	100
1	Old Mammoth Rd	SR203 to Meridian	14659	88		12	2.5	2.5	40	100
0		Meridian to Chateau	11086	88		12	2.5	2.5	40	100
0		Chateau to Minaret	7384	88		12	2.5	2.5	40	100
0		East of Minaret	6386	88		12	2.5	2.5	40	100
1	Minaret Rd	SR203 to Meridian	10227	88		12	2.5	2.5	35	100
0		Meridian to Old Mammoth	8509	88		12	2.5	2.5	35	100
1	Forest Trail	North of Main	4254	88		12	2.5	2.5	35	100
0		East of Minaret	927	88		12	2.5	2.5	35	100
1	Canyon Blvd	Hillside to Lake Mary	8134	88		12	2.5	2.5	35	100
2	Lakeview Blvd	East of Entry	3327	88		12	2.5	2.5	35	100
0		West of Entry	4622	88		12	2.5	2.5	35	100
1	Kelly Road	South of Lake Mary	4064	88		12	2.5	2.5	35	100
2	Center Street	South of Main	3947	88		12	2.5	2.5	35	100
3	Azimuth Drive	North of Meridian	2543	88		12	2.5	2.5	35	100
0		South of Meridian	6791	88		12	2.5	2.5	35	100
0						0				

Appendix B-4

Brown Buntin Associates, Inc
FHWA-RD-77-108
Calculation Sheets
October 6, 2005

Project #: 05-056 **Contour Levels (dB)** 55 60 65 70
Descriptio: 2024 Alt 2
Ldn/Cnel: Ldn
Site Type: Soft

Segment	Roadway Name	Segment Description	ADT	Day %	Eve %	Night %	Truck % Med	Truck % Hvy	Speed mph	Dist ft
1	SR203/Main	Meridian to Sierra Park	10278	88		12	2.5	2.5	35	100
0		Sierra Park to Minaret	13259.25	88		12	2.5	2.5	35	100
0		Minaret to Forest Trail	10963.13	88		12	2.5	2.5	30	100
0		North of Forest Trail	8467.875	88		12	2.5	2.5	30	100
1	Lake Mary Rd	Minaret to Kelly	4336.313	88		12	2.5	2.5	35	100
0		East of Kelly	3701.813	88		12	2.5	2.5	35	100
1	Meridian Blvd	SR203 to Commerce	5491.688	88		12	2.5	2.5	40	100
0		Commerce to Old Mammoth	6877.688	88		12	2.5	2.5	40	100
0		Old Mammoth to Azimuth	5486.625	88		12	2.5	2.5	40	100
0		Azimuth to Minaret	7813.125	88		12	2.5	2.5	40	100
0		East of Minaret	9081.563	88		12	2.5	2.5	40	100
1	Old Mammoth Rd	SR203 to Meridian	7823.813	88		12	2.5	2.5	40	100
0		Meridian to Chateau	8100	88		12	2.5	2.5	40	100
0		Chateau to Minaret	5236.313	88		12	2.5	2.5	40	100
0		East of Minaret	5113.125	88		12	2.5	2.5	40	100
1	Minaret Rd	SR203 to Meridian	7849.125	88		12	2.5	2.5	35	100
0		Meridian to Old Mammoth	6652.688	88		12	2.5	2.5	35	100
1	Forest Trail	North of Main	2930.063	88		12	2.5	2.5	35	100
0		East of Minaret	1344.375	88		12	2.5	2.5	35	100
1	Canyon Blvd	Hillside to Lake Mary	9419.063	88		12	2.5	2.5	35	100
2	Lakeview Blvd	East of Entry	2444.063	88		12	2.5	2.5	35	100
0		West of Entry	4367.25	88		12	2.5	2.5	35	100
1	Kelly Road	South of Lake Mary	3037.5	88		12	2.5	2.5	35	100
2	Center Street	South of Main	2853	88		12	2.5	2.5	35	100
3	Azimuth Drive	North of Meridian	1585.125	88		12	2.5	2.5	35	100
0		South of Meridian	4990.5	88		12	2.5	2.5	35	100

Appendix B-5

Brown Buntin Associates, Inc
FHWA-RD-77-108
Calculation Sheets
October 6, 2005

Project #: 05-056 **Contour Levels (dB)** 55 60 65 70
Description 2024 Alt 4
Ldn/Cnel: Ldn
Site Type: Soft

Segment	Roadway Name	Segment Description	ADT	Day %	Eve %	Night %	Truck % Med	Truck % Hvy	Speed mph	Dist ft
1	SR203/Main	Meridian to Sierra Park	11597	88		12	2.5	2.5	35	100
0		Sierra Park to Minaret	16568	88		12	2.5	2.5	35	100
0		Minaret to Forest Trail	12129	88		12	2.5	2.5	30	100
0		North of Forest Trail	8925	88		12	2.5	2.5	30	100
1	Lake Mary Rd	Minaret to Kelly	7152	88		12	2.5	2.5	35	100
0		East of Kelly	3934	88		12	2.5	2.5	35	100
1	Meridian Blvd	SR203 to Commerce	5836	88		12	2.5	2.5	40	100
0		Commerce to Old Mammoth	7902	88		12	2.5	2.5	40	100
0		Old Mammoth to Azimuth	5877	88		12	2.5	2.5	40	100
0		Azimuth to Minaret	8754	88		12	2.5	2.5	40	100
0		East of Minaret	11489	88		12	2.5	2.5	40	100
1	Old Mammoth Rd	SR203 to Meridian	13009	88		12	2.5	2.5	40	100
0		Meridian to Chateau	10118	88		12	2.5	2.5	40	100
0		Chateau to Minaret	7302	88		12	2.5	2.5	40	100
0		East of Minaret	6218	88		12	2.5	2.5	40	100
1	Minaret Rd	SR203 to Meridian	11550	88		12	2.5	2.5	35	100
0		Meridian to Old Mammoth	9266	88		12	2.5	2.5	35	100
1	Forest Trail	North of Main	3675	88		12	2.5	2.5	35	100
0		East of Minaret	1964	88		12	2.5	2.5	35	100
1	Canyon Blvd	Hillside to Lake Mary	7704	88		12	2.5	2.5	35	100
2	Lakeview Blvd	East of Entry	2475	88		12	2.5	2.5	35	100
0		West of Entry	4582	88		12	2.5	2.5	35	100
1	Kelly Road	South of Lake Mary	2550	88		12	2.5	2.5	35	100
2	Center Street	South of Main	2966	88		12	2.5	2.5	35	100
3	Azimuth Drive	North of Meridian	2407	88		12	2.5	2.5	35	100
0		South of Meridian	6886	88		12	2.5	2.5	35	100
0						0				
0						0				

APPENDIX E

WATER SUPPLY ASSESSMENTS

SB 610 Water Supply Assessment

For The

2006 Revised Snowcreek Master Plan

FINAL

Prepared by the Mammoth Community Water District

January 23, 2006

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Executive Summary

This water supply assessment covers the anticipated water demand associated with the Revised Snowcreek Master Plan Draft EIR. It covers the requirements of Senate Bill 610 that are described in Water Code section 10910 – 10915. This document was prepared referencing the District's 2005 Urban Water Management Plan and the water supply assessment that was prepared for the Town of Mammoth Lakes General Plan Update dated October 2005.

The District's projections herein rely on the following supplies to meet water demands in the future: existing groundwater supplies, existing surface water supplies, future groundwater well development, and recycled water. The District also anticipates utilizing techniques to reduce demands by implementing water conservation in drought periods in addition to ongoing water conservation education and rebate programs and continuing to pursue water loss reduction by replacing water main pipelines.

This water assessment has found that existing groundwater and surface water resources are insufficient to meet future anticipated water demands in multiple dry year conditions and in single dry year conditions. The development of additional groundwater supplies and the use of recycled water would create sufficient supplies to meet demands, including those from the Snowcreek Master Plan. The remaining small shortfalls seen after the implementation of these projects could be met through irrigation restrictions in drought years. There are uncertainties regarding the implementation of the future water supplies discussed in this assessment. As with the development of any water supply, the District will need to evaluate and respond to any environmental concerns associated with the projects, obtain any applicable governmental approvals, and address other considerations that may surround these projects. In addition, other currently undefined water supply projects may be used to replace and/or supplement those described in this assessment.

In conclusion, this water supply assessment shows that with the inclusion of several additional water supply projects, the District would have sufficient supplies through the next 20 years to meet the demands of the Snowcreek Master Plan in addition to other projected development in Mammoth Lakes.

Introduction

Senate Bill 610 (SB 610) requires that water supply assessments be furnished to local governments for inclusion in any environmental documentation for certain projects subject to the California Environmental Quality Act. The purpose of such an assessment is to determine if the water supplier will have sufficient supplies available during normal, dry, and multiple dry water years during a 20-year projection to meet the projected water demand of the proposed project, in addition to existing and other planned future uses.

The Town of Mammoth Lakes is planning to prepare an Environmental Impact Report for the proposed 2006 Revised Snowcreek Master Plan Project , which addresses the proposed build out of the Snowcreek Master Plan Area, or Snowcreek VII. The Town of Mammoth Lakes formally requested a SB 610 water supply assessment for this project in a letter dated December 18, 2006.

The 2006 Revised Snowcreek Master Plan Project EIR proposes to update the 1974 and 1981 EIRs for the Snowcreek Master Plan, which included a total of 2,368 residential units. A total of 1,141 of these units have already been constructed within the Master Plan area and the 2006 Project EIR proposes a slight reduction in the remaining units to be built, 1,050 instead of the original Master Plan that would have allowed for 1,227 units. The difference in proposed units between the original Master Plan and the 2006 Master Plan is 177 units. The original Snowcreek Master Plan also included 150,000 square feet of commercial space and the Revised Snowcreek Master Plan proposes to reduce this number to 75,000 square feet. The 1,227 remaining residential units and 150,000 square feet of commercial associated with original Snowcreek Master Plan were included in the Town of Mammoth Lakes 2005 General Plan Update, which was used in the preparation of the District's 2005 Urban Water Management Plan (UWMP). For this reason, the unit counts and demand projections used in the 2005 UWMP were used to prepare this water supply assessment.

In addition to the residential units described above, the Snowcreek Master Plan also includes the addition of nine holes of golf course that are located outside of the District's service area. The developer has stated that it would prefer to utilize recycled water for irrigation of the nine holes. However, the alternatives of utilizing an existing private well or another source of groundwater have also been discussed. The District is only required to assess the portion of the project that is within the service area, but the source of irrigation water utilized for the golf course addition could adversely affect the District's groundwater supplies and the availability of groundwater to serve new development. Future demand projections (i.e. those developed for the 2005 Urban Water Management Plan) do not include any potential demands from the additional nine holes discussed in the Snowcreek Master Plan.

The Snowcreek Master Plan may be considered a project under SB 610 because it appears to fit the definition of a "project" under Water Code section 10912 (a) (7). This section states that a "project" means a development that would result in the water demand equivalent to or greater than the amount of water required by a 500 dwelling unit project. Thus, using the District's historical meter record, 500 dwelling units, where a dwelling unit is considered equivalent to an EDU or single family home, would result in about 140 acre-feet of demand annually. Since the demand from the projected development associated with the Snowcreek Master Plan results in an estimated 229 acre-feet (see table below), it can be considered a project under the Water Code section described above. This project also could be considered a "specific plan" that only requires the water supply analysis as described in Government Code section 65352.5 and Government Code section 65453 (a). However, since the Town has requested a SB 610 analysis, the District has prepared this document.

Table 1: Snowcreek Master Plan estimated water demands

Unit Type	Unit Count	Gallons Per Day	Annual Gallons	Annual AF
Residential				
Condominium	850	144,500	52,742,500	161.86
Condo-Hotel	400	40,000	14,600,000	44.81
Non Residential (sq ft)				
Market/General Store	3,500	45	16,000	0.05
Nature Center	900	45	16,000	0.05
Outfitter Cabin	1,700	Outside of MCWD Service Area		
Swim Club	8,000	3,480	1,270,200	3.90
Golf Shop	3,000	45	16,000	0.05
Meeting Rooms	25,000	3,125	1,140,625	3.50
Spa/Health Center	12,900	5,612	2,048,198	6.29
Restaurant	10,000	5,800	2,117,000	6.50
Retail Shops	10,000	1,500	547,500	1.68
		204,152	**74,514,023**	**229**

The District updated its Urban Water Management Plan in December of 2005 to include proposed development associated with the Town of Mammoth Lakes 2005 General Plan Update. While the current updates to the Town General Plan are an ongoing process, it represents the best, most current information regarding potential future development in the community. For this reason, the District included the unit counts in the Draft General Plan Update EIR dated October 2005 in the preparation of its 2005 UWMP. In addition, since the original Snowcreek Master Plan was included both in the Town General Plan and in the 2005 UWMP and the development projected to occur under the 2006 Snowcreek Master Plan (2,191dwelling units) is less than the development projected under the original Snowcreek Master Plan (2,368 dwelling units), it can be assumed that the development figures used to prepare the 2005 UWMP essentially included the 2006 Revised Snowcreek Master Plan.

The District prepared a SB 610 water supply assessment for the Town of Mammoth Lakes General Plan update in the fall of 2004 with amendments in September and November 2005. This document, as well as the 2005 UWMP, was used as a reference for the preparation of this water supply assessment. The District's Board of Directors approved this completed water supply assessment prepared pursuant to Water Code Section 10910 at special meeting held on January 16, 2007.

Documenting Water Supply

Water Code section 10910 (d) and (e) states that a water supply assessment must identify and quantify existing and planned sources of water available to the water supplier in 5-year increments for a 20-year projection. The following information regarding existing and planned sources of water is taken from the District's 2005 Urban Water Management Plan with updates through 2006.

Table 2: Existing water supplies

Annual amounts of water for each entitlement and right under normal year conditions

Supply	Acre-Feet per Year	Entitlement	Right	Ever Used
Local surface	2760	X		Yes
Groundwater	4000		X	Yes

Note: While the District currently has surface water rights that total a maximum of 2,760 acre-feet annually, the bypass flow requirements that the District operates under have not been permanently established and the final bypass requirements that are eventually established could potentially result in less surface water being available to the District. In addition, the volume of groundwater noted in this table is the maximum amount of groundwater that the District has projected to pump in any given year and does not necessarily represent the safe yield of the aquifer.

Surface Water

The District currently has the right, through two licenses and one permit, to divert a total of 2,760 acre-feet of water annually from Lake Mary, located in the Mammoth Lakes Basin. The authorized amount of water that the District can divert under its surface water rights are set at a maximum instantaneous diversion of 5.039 cubic feet per second (cfs) and a maximum annual diversion of 2,760 acre-feet (AF). As part of this total, the District is allowed to store 606 acre-feet from April 1 to June 30 and an additional 54 acre-feet from September 1 to September 30 of each year.

The District's water rights are restricted by several management constraints that influence the amount of surface water that can be diverted. These include the bypass flow requirements in Mammoth Creek and lake level management of Lake Mary. The primary influence upon the amount of water that the District may store or divert are the bypass flow requirements in Mammoth Creek that are included as part of the District's water rights. The District measures Mammoth Creek flows at its Old Mammoth Road gage located near Mammoth Creek Park. The District is only allowed to directly divert natural flows entering Lake Mary and divert natural flows to storage when the flows, as measured at the Old Mammoth Road gage, exceed the bypass flow requirements. When the flows at the District's Old Mammoth Road gage are equal to or less than the bypass

flow requirements, no water may be directly diverted or diverted to storage, and the District must bypass all incoming flows to Lake Mary.

While the District must currently operate under the bypass flow requirements, there is potential for these requirements to become modified in the future due to their temporary nature. The District is currently preparing an EIR that evaluates the environmental effects of the proposed bypass flow requirements for Mammoth Creek. The outcome of this EIR and the resulting decision by the State Water Resources Control Board could modify the existing temporary bypass flows to a different regime that could result in less surface water being available to the District.

Surface water supply volumes used in the preparation of this water supply assessment assume that the existing bypass flow requirements will remain as they are currently established. Potential reductions in surface water supplies in the future are a possibility, but the amount of these reductions is currently unknown.

Table 3: Past, Current, Projected Water Supplies

Water Supply Sources	**1995**	**2000**	**2006 (Actual)**	**2006 (Projected Maximum)**	**2010**	**2015**	**2020**	**2025**
Lake Mary	1725	1971	2159	2760	2760	2760	2760	2760
Well #1	47	19	297	500	500	500	500	500
GWTP #1	890	672	528	2000	2000	2000	2000	2000
GWTP #2	230	574	241	1500	1500	1500	1500	1500
Future Wells						1000	1000	1000
Recycled Water					360	360	360	360
Total	**2892**	**3236**	**3225**	**6760**	**7120**	**8120**	**8120**	**8120**

Units of Measure: acre-feet per year
Note: Projected water supplies (2006 to 2025) represent maximum supplies that may be available in normal water years. Actual water supplies in 1995, 2000, and 2006 represent supplies that were made available to the community based upon demands. Groundwater pumpage reflects the metered amount of water pumped from individual wells, which tends to vary slightly from the flow measured through the treatment plants.

Future Water Sources

The District has identified groundwater as being a significant source of future water supplies for the community. These supplies would be extracted from either the Mammoth Basin watershed or the Dry Creek Basin watershed to the north of the Mammoth Basin. Additional groundwater production wells in the Mammoth Basin

would require environmental review and hydrogeology analysis to ensure that additional volumes of water can be safely extracted from the basin. Well development in the Dry Creek Basin would also require environmental review and hydrogeology analysis prior to utilizing this water source. The District has budgeted $14,755,000 through 2025 for the development of these sources.

The District also has identified recycled water as an additional water supply source for the community, which would primarily serve large turf irrigators, such as golf courses and parks. The 2006 Recycled Water Distribution Project EIR addresses Sierra Star Golf Course, Snowcreek Golf Course, and Shady Rest Park (operated by the Town of Mammoth Lakes) as customers for this project. The District will be considering the certification of a final EIR at its February 15, 2007, meeting and has budgeted over $10,000,000 through 2010 for the development of this project.

More detailed information regarding future water supplies are included on page 19 of this assessment.

Groundwater

Water sources that will serve the project include groundwater; therefore, according to Water Code section 10910 (f) detailed groundwater information must be included in the water supply assessment. The following information is taken from the District's 2005 Urban Water Management Plan.

The District completed a Groundwater Management Plan (GWMP) in 2005 that describes a monitoring and operation plan for the long-term use of local groundwater and surface water resources. The intent of the GWMP is to ensure that groundwater resources are managed in a manner that ensures sufficient, high quality groundwater resources while minimizing potential environmental impacts. The GWMP was adopted by the District Board of Directors in July 2005.

The District pumps groundwater from the Mammoth Basin watershed, which is located within the Long Valley Groundwater Basin identified by the Department of Water Resources as part of the South Lahontan Hydrologic Region. The Mammoth Basin is located on the eastern side of the Sierra Nevada Mountain Range. Surface elevations range from a high of about 12,000 feet at Mammoth Crest to 7,000 feet at the downstream easterly extremity. Mammoth Basin is the watershed of Mammoth Creek and is bounded on the south by the drainage divide of Convict Creek; on the west by the Mammoth Crest; on the north by the drainage divide of Dry Creek; and on the east extending along the watershed of Hot Creek. The area of the Mammoth Basin is about 71 square miles and extends approximately 13 miles west to east and 9 miles north to south.

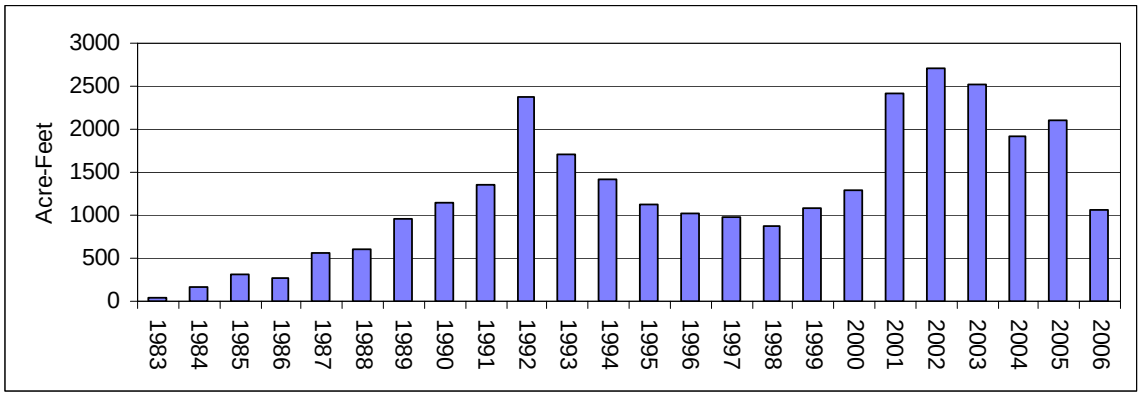
Elevated areas on the north and west that are comprised largely of extrusive igneous rocks generally form the Mammoth Basin; a central trough filled with alluvial and glacial

debris; and an abrupt southern flank of igneous intrusive and metamorphic rocks. The central trough area opens and drains to the east to the Owens River and Lake Crowley.

The Mammoth Basin has not been adjudicated or identified by DWR as being over drafted. In order to prevent the basin from being over drafted, the District maintains an extensive groundwater and surface water monitoring system. Groundwater levels are monitored in 8 production wells and in 15 shallow and deep monitor wells. Water level sensors are located on all production wells and are connected to the District's supervisory control and data acquisition (SCADA) system to allow for continuous monitoring. Surface water levels and flow rates are monitored at twelve locations throughout the basin watershed. The District prepares an annual groundwater monitoring report that provides an evaluation of groundwater level, surface flow, and water quality monitoring data accumulated throughout the year.

During the past 5-year period (2002 to 2006) the District pumped a total of 10,327 acre-feet of groundwater, averaging 2,065 acre-feet per year. The maximum historic volume pumped occurred in 2002 and amounted to 2,717 acre-feet. Groundwater was pumped from the District's eight (8) production wells located within the boundaries of the District's service area serving the Town of Mammoth Lakes. Production volumes of groundwater in any one year are dependent on the type of precipitation year experienced, the consequent availability of surface water, and the amount of demand from the community. The following graph shows annual groundwater volumes provided to District customers.

Figure 1: Annual volume of drinking water produced from District production wells 1983-2006



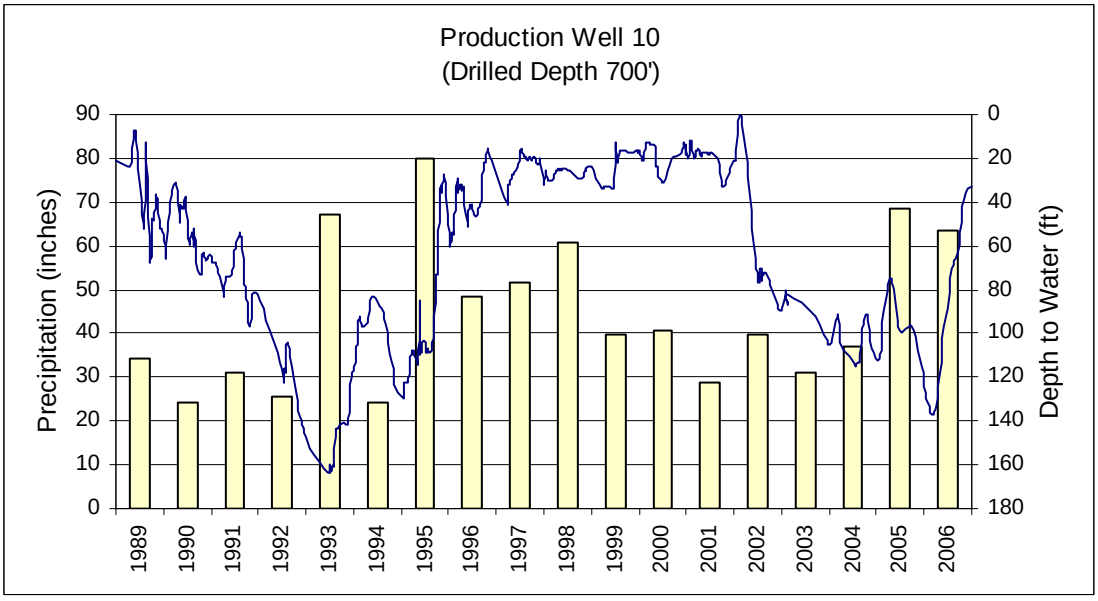
The following table shows detailed volumes of water pumped from each well over the past five years.

Table 4: Historical volumes (acre-feet) of groundwater pumped from individual production wells

Well No.	2002	2003	2004	2005	2006
1	132	184	71	188	297
6	184	454	347	554	1
10	1086	602	500	577	135
15	592	807	381	244	390
16	141	107	239	55	0
17	310	172	138	100	229
18	77	114	58	226	1
20	196	80	187	167	13
Total	2719	2520	1921	2111	1066
Note: Groundwater pumpage reflects the metered amount of water pumped from individual wells, which tends to vary slightly from the flow measured through the treatment plants.					

During dry-year periods, groundwater levels within the Mammoth Basin tend to decrease due to increased pumping and less recharge. During normal and above-normal precipitation years, groundwater levels increase and tend to recover after two years of normal precipitation. The following graph depicts historical groundwater levels in one of the District's production wells and shows the variability of groundwater levels based on pumping and type of recharge year.

Figure 2: Variability of groundwater levels in a District production well



Future groundwater production rates have been projected based on community growth projections and on type of climatic conditions. The following tables describe projected volumes of groundwater that will be pumped under normal and multiple dry-year water year conditions.

Table 5: Groundwater pumping projections (acre-feet) to meet demands in a normal water year

Well No.	2010	2015	2020	2025
1	146	200	74	38
6	200	300	400	500
10	300	300	400	500
15	300	300	400	500
16	0	0	0	0
17	200	300	400	500
18	0	0	0	0
20	200	210	200	100
Future Well(s)	0	0	0	0
Total	1346	1610	1874	2138
Note: Groundwater projections based on utilizing 2760 ac-ft of surface water in normal year to meet projected demand				

Table 6: Groundwater pumping projections (acre-feet) to meet demands in multiple dry year conditions

Well No.	2010	2015	2020	2025
1	161	256	325	356
6	311	415	475	506
10	500	726	960	991
15	336	440	500	531
16	135	139	199	230
17	231	335	395	426
18	28	41	92	123
20	150	154	214	245
Future Well(s)	**0**	**0**	**0**	**406**
Total	1852	2506	3160	3814
Note: Groundwater projections based on utilizing 1084 ac-ft of surface water in multiple dry years to meet projected demand. The volume of 1084 ac-ft is derived from the actual available surface water that could have been available in 1992, the last year of a six-year drought and assumes existing bypass flow requirements. If the District's bypass flow requirements were revert to those set forth in the District's water right permit, there would be substantial reductions in the availability of surface water available to the District in multiple dry years, which would increase the need for additional groundwater supplies.				

As indicated by groundwater pumping projections for the future, the volume of groundwater currently available from existing wells is insufficient to meet the total demand under multiple dry-year conditions as the community nears build-out in the year 2025. However, the District currently supplements its groundwater supplies with surface water and may be supplementing existing well supplies with additional production wells in the future. A study conducted for the Mammoth Community Water District ("Investigation of Groundwater Production Impacts on Surface Water Discharge and Spring Flow", Wildermuth Environmental, Inc. November 2003) indicates that a total volume of 3800 acre-feet annually could be pumped from the Mammoth Basin during a three-year dry period.

Documenting Projected Demand

The projected water demand associated with the Snowcreek Master Plan was accounted for in the District's most recently adopted Urban Water Management Plan (UWMP) dated December 2005. Thus, according to Water Code section 10910 (c) (2), the analysis of water demand for the proposed project may be incorporated from the UWMP. The following table describes past, current, and future water demands from the District's Urban Water Management Plan.

Table 7: Past, current, and projected water use (acre-feet)

Water Use Sector	**2000**	**2005**	**2010**	**2015**	**2020**	**2025**
Single Family Residential	515	549	586	623	659	696
Condominium	961	948	960	973	985	997
Multi-Family Residential	144	140	211	282	353	424
Commercial/Industrial/ Public	217	257	374	469	565	660
Motel / Hotel	112	111	304	496	689	881
Public Sector	170	296	Included in commercial	Included in commercial	Included in commercial	Included in commercial
Golf Course**	297	263	400	400	400	400
Other*	53	107	80	80	80	80
Unaccounted	486	752	760	760	760	760
Total	**2955**	**3423**	**3674**	**4082**	**4490**	**4898**

Note: Existing hotel/motel water-use sector includes only those units that are separately metered and does not include units that share water meters with commercial. Commercial includes mixed uses such as restaurants, condo/hotel, retail, etc. Public sector is included in the commercial water-use sector for future projections for consistency with data from the Town of Mammoth Lakes General Plan EIR (2005).
*Other = treatment plant process water, fire fighting, line cleaning, etc.
** Golf course water use based on existing demand from Sierra Star and Snowcreek Golf Courses. This value may be reduced by recycled water use in the future.
Groundwater data in this table is based upon metered flows from the District's groundwater treatment plants, which varies slightly from amounts measured from individual wells.

Documenting Dry-Year Supply

The Mammoth Community Water District's existing sources of water supply consist of surface water and groundwater, both derived from the Mammoth Basin watershed. The area is susceptible to drought and both of these sources of supply are impacted to various degrees. Surface water supplies are immediately impacted following a drought season whereas groundwater supplies tend to be affected by an extended drought period of several years.

Over the past thirty years, below average precipitation conditions have been experienced 50% of the years. In 30% of the years, seasons with less than 70% of average precipitation have been experienced.

Table 8 provides water supply volumes for average, single dry, and multiple dry water years based on current supplies.

Table 8: Existing water supply reliability

			Multiple Dry Years			
Supply	**Normal Water Year**	**Single Dry Water Year**	**Year 1**	**Year 2**	**Year 3**	**Year 4**
Projected Surface	2760	0	1780	1500	1100	1084
Projected Wells	4000	3410	3410	3408	3408	3408
Projected Total	**6760**	**3410**	**5190**	**4908**	**4508**	**4492**

Units of Measure: acre-feet per year
Note: While the District currently has surface water rights that total a maximum of 2,760 acre-feet annually, the bypass flow requirements that the District operates under have not been permanently established and the final bypass requirements that are eventually established could potentially result in less surface water being available to the District.

The following table describes how each water year type was derived.

Table 9: Basis of water year data

Water Year Type	Year(s) Data is Based Upon	Base Year(s)	Historical Sequence
Normal Water Year	Normal water year based upon 10% deviation from April 1 average snowpack of 43 inches, or 38.7 to 47.3 inches on April 1. Normal water years have historically occurred about every nine years, or seven times in the last 62 years. Surface water supplies are based upon the maximum quantity of surface water available through the District's surface water rights.	1997 1996 1984 1971 1954 1949 1946	Every nine years
Single Dry Water Year	Single dry years are generally considered the lowest annual runoff for a watershed since the water-year beginning in 1903. For the Mammoth watershed, the year with the lowest April 1 snowpack is 12.3 inches of snow water equivalent on April 1, 1977. Groundwater data is based upon driest year that production wells were in use (1992 for wells #1, 6, 10, and 15 and 2001 for wells #16, 17, 18, and 20).	1977 1992 2001	
Multiple Dry Water Years	Multiple dry years are generally considered the lowest average runoff for a consecutive multiple year period (three years or more) for a watershed since 1903. The driest multiple year period in the Mammoth watershed was the six-year period from 1987 to 1992, which averaged 28.7 inches of snow water content at Mammoth Pass.	1987 through 1992	

Is the Projected Water Supply Sufficient or Insufficient for the Proposed Project?

In comparing projected future water demand estimates with current supply data, it is projected that water supply deficiencies would occur after the first year of a multiple year drought and in single dry year conditions. The following table compares current supply and future demands in normal, single dry and multiple dry years. This table shows that shortfalls in supply would occur if the District were to continue to utilize existing water supplies to meet demands at build out of the community, including the Snowcreek Master Plan (SMP).

Table 10: Comparison of current supply and demand for normal, single dry, and multiple dry years

Current Supply			**Multiple Dry Water Years**			
	Average/ Normal Water Year	**Single Dry Water Year**	**Year 1**	**Year 2**	**Year 3**	**Year 4**
Supply Total	6760	3410	5190	4908	4508	4492
Demand Total (without SMP)	4669	4669	4669	4669	4669	4669
Difference (without SMP)	**2091**	**-1259**	**521**	**239**	**-161**	**-177**
Demand Total (including SMP)	4898	4898	4898	4898	4898	4898
Difference (including SMP)	**1862**	**-1488**	**292**	**10**	**-390**	**-406**
Units of Measure: Acre-feet per year						

As can be seen by the above supply versus demand comparison table, the current available water supply is considered insufficient to meet demands from build-out of the community during dry water years. Deficiencies of over 1000 acre-feet would occur in a single dry year, which is considered the lowest historical runoff for the watershed. However, this shortfall in supply would likely be reduced through landscape watering restrictions, which have historically reduced demands by 25% during summer irrigation periods. These landscape restrictions are part of the District's water shortage contingency plans, which are included in the District's 2005 UWMP. The extent of the insufficiency in multiple dry years depends on the duration of dry year periods, but would generally occur after the first year of a multiple year drought. It should also be noted that demands from the Snowcreek Master Plan (SMP) increase the amount of deficiency of existing supplies in single dry and multiple dry year conditions, but not to a significant extent.

Table 11 describes future supply projections with demand totals anticipated at build out of the community according to the 2005 Town of Mammoth Lakes General Plan. These demand projections include the SMP. Supply projections are based upon planned future well development and the use of recycled water in the community.

Table 11: Comparison of 20-year projection of supply and demand for normal, single dry, and multiple dry years
(Includes Recycled Water Use and Future Wells)

2025 Supply			**Multiple Dry Water Years**			
	Normal Water Year	**Single Dry Water Year**	**Year 1**	**Year 2**	**Year 3**	**Year 4**
Supply Totals	8120	4770	6550	6268	5868	5852
Demand Totals (without SMP)	4669	4669	4669	4669	4669	4669
Difference (without SMP)	**3451**	**101**	**1881**	**1599**	**1199**	**1183**
Demand Totals (including SMP)	4898	4898	4898	4898	4898	4898
Difference (including SMP)	**3222**	**-128**	**1652**	**1370**	**970**	**954**
Units of Measure: Acre-feet per year *Note: The supply totals on this table assume 1000 acre-feet of future groundwater well water and about 400 acre-feet of recycled water would be utilized in normal water years*						

The analysis of future demand included in the District's Urban Water Management Plan shows that sufficient supplies should be available in the future during normal and multiple dry year scenarios assuming recycled water use, future well development, and existing bypass flow requirements for Mammoth Creek. There are uncertainties regarding the implementation of each of these water supplies. As with the development of any water supply, the District will need to evaluate and respond to any environmental concerns associated with the projects, obtain any applicable governmental approvals, and address other considerations that may surround these projects. In addition, other currently undefined water supply projects may be used to replace and/or supplement those described in this assessment. The District is also currently working on a loss reduction program and the demand savings, estimated at a loss rate of 10 to 15%, from this program are not included in this table. It should again be noted that shortfalls seen in this table in single dry years would be met through landscape watering restrictions, which have historically reduced demands by 25% during summer irrigation periods.

Plan for Acquiring Additional Future Water Supplies

Under Water Code 10911 it is required, that if, as a result of its assessment, the public water system concludes that its water supplies are, or will be, insufficient, the public water system shall provide to the city or county its plans for acquiring additional water supplies. Since existing supplies are insufficient and future water supplies still result in a shortfall in single dry years, the District has developed the following plans regarding implementation of water conservation measures, use of recycled water, and development of new supplies.

Implementation of Water Conservation Measures

Estimated Total Costs and Proposed Method of Financing

Reductions in water use would affect District revenues during the months of June through September. It is estimated that the decrease in revenue during this period would amount to approximately $300,000 to $600,000 depending upon the level of restrictions implemented. The District maintains an operating reserve in its budget to compensate for conditions, such as lost revenue due to emergencies.

Federal, State, and Local Permits, Approvals or Entitlements

Water conservation measures are included in the District's Water Code. Therefore, the implementation of measures, such as landscape irrigation restrictions, would occur by action of the Board of Directors.

Source of Supply

In 1992, the District implemented water restrictions that included limiting landscape irrigation to 3 days per week. This restriction resulted in an average reduction in water demand of 25% for the irrigation period of June through September. At build-out of the community under the 2005 General Plan, the projected savings from implementation of water conservation measures amounts to about 500 acre-feet annually.

Estimated Timeframes for Implementation

Projections of available water supply are prepared each year after final snowpack measurements are made on April 1. At that time, if projections indicate possible water supply insufficiencies, the District's Board of Directors may declare the existence or threatened existence of a drought and may then implement any level of restrictions as deemed necessary.

Utilization of Recycled Water

Estimated Total Costs and Proposed Method of Financing

The total estimated cost of a recycled water project for the purpose of golf course irrigation amounts to approximately $11,000,000. This project would provide the capability to produce 1.55 million gallons per day of recycled water. The Mammoth Mountain Ski Area (Sierra Star Golf Course) has already paid a connection fee of $1,040,000 for their portion of recycled water once it is made available. The remaining costs of the project would be paid through additional connection fees and through the District's water capital expansion program budget. The District has also calculated a preliminary rate for recycled water, which would cover the operating and maintenance costs, as well as for facility and equipment depreciation. This rate amounts to $1.55 per 1,000 gallons.

Federal, State, and Local Permits, Approvals or Entitlements

Permits that would be required to provide recycled water for irrigation include a waste discharge permit from the Regional Water Quality Control Board and a design and use permit from the State Department of Health Services.

Source of Supply

The source of supply would come from the District's wastewater treatment facility. Although the facility can produce recycled water, there are some upgrades necessary to meet current State Department of Health standards which upgrades would be capable of producing up to 1.55 million gallons per day of recycled water. Parallel recycled water pipelines would be installed from the wastewater treatment plant to the Sierra Star Golf Course and the Snowcreek Golf Course. A third pipeline would be installed from the wastewater treatment plant to Shady Rest Park.

The District currently supplies untreated groundwater for irrigation of the Snowcreek and Sierra Star Golf Courses and supplies potable water to Shady Rest Park. The volume of groundwater supplied to the Sierra Star Golf Course over the past seven years (2000 to 2006) has averaged 238 acre-feet per year. The volume of groundwater supplied to the Snowcreek Golf Course over the past seven years has averaged 85 acre-feet per year. Water supplied to Shady Rest Park over the past four years averaged about 30 acre-feet per year. The maximum water supplied to these locations in dry water years has totaled about 440 acre-feet.

The Recycled Water Project plans for providing recycled water to both golf courses and Shady Rest Park. Recycled water use at Shady Rest Park and Sierra Star Golf Course would result in a direct offset of potable water. Recycled water provided to the Snowcreek Golf Course would be provided to a portion of the existing nine holes and possibly the entire additional nine holes planned for development. Recycled water provided to the additional nine holes planned at the Snowcreek Golf Course would not

offset any current demands for potable water. Overall, it is anticipated that the amount of potable water that could be made available through the implementation of this project is about 400 acre-feet annually. However, depending upon customer demands, the recycled water project could potentially supply about 550 acre-feet annually to large turf irrigators in the community during the summer irrigation season.

As stated previously in this assessment, demands from the additional nine holes proposed in the Snowcreek Master Plan have not been included in demand projections in the District's Urban Water Management Plan or this water supply assessment since this area is outside of the District's service area. While the developer has stated a preference for utilizing recycled water, it is still an uncertain supply source. If the developer chooses to utilize either the District's groundwater supplies or private groundwater supplies within the Mammoth Basin, it could adversely affect the District's supply, influence demand projections, and could cause a reduction in potable water available to the community.

Estimated Timeframes for Implementation

It is currently estimated that the total project would take three construction seasons to fully complete. Therefore, recycled water is projected to be available for use by the summer of 2010.

Water System Loss Reduction

Estimated Total Costs and Proposed Method of Financing

This project is budgeted for approximately $2,300,000 per year over the next 8 years. The District funds water line replacement projects through its capital replacement program, which is derived from primarily property tax revenues.

Federal, State, and Local Permits, Approvals or Entitlements

Local permits are required for the excavation of pipelines in the public roadways.

Source of Supply

The District has been implementing an aggressive main water pipeline replacement program to replace old leaking water pipes since 2001. Over the past several years, an average of 10,000 feet of pipeline per year have been replaced. As a result of the completion of this replacement work, the District expects to achieve a reduction in water loss within the system of approximately 300 acre-feet.

Estimated Timeframes for Implementation

It is estimated that replacement of existing old pipelines in the entire system will occur over the next 8-year period. As stated above, approximately 10,000 feet of pipeline per year will be replaced.

Development of New Supplies

Estimated Total Costs and Proposed Method of Financing

Development of new groundwater supplies in the Dry Creek watershed and/or the Mammoth Basin are projected to cost approximately $14,755,000. Both of these projects are budgeted in the District capital expansion fund, which is funded by new water connection charges.

Federal, State, and Local Permits, Approvals or Entitlements

These projects would require permits and approvals from the State Department of Health Services and the U.S. Forest Service where potential well sites are located on federal land. This project also would require both State of California and federal environmental review.

Source of Supply

Overall, depending upon supplies needed, about 1,000 acre-feet of additional groundwater supplies may be developed in the future from either the Mammoth Basin watershed or the Dry Creek watershed. Volumes of groundwater projected to be available from the Dry Creek watershed are estimated at 1,500 acre-feet per year during normal years and 1,245 acre-feet per year during multiple dry year periods.

The District is evaluating whether or not there is additional water available to be pumped from the Mammoth Basin without causing environmental impacts. Continued monitoring of the Mammoth Basin over the next two years should provide sufficient data to evaluate the potential of additional groundwater that could be safely pumped from the basin.

Estimated Timeframes for Implementation

Evaluation of the potential for increased withdrawal from the Mammoth Basin should be completed within two years. Potential groundwater extraction from the Dry Creek watershed is currently budgeted to begin within the five-year period commencing in 2014.

Summary of Additional Water Supplies

Table 12: Summary of future water supply projects

Project Name	Demand Reduction (acre-feet)	Supply Increase (acre-feet)	Projected Completion Date
Recycled Water Project		400 acre-feet	2010 (depends upon customer commitments)
Water Conservation	About 500 acre-feet at build out with irrigation restriction enforced		N/A
Water Pipeline Replacement (reduce water losses)	10-15% loss rate goal (about 300 ac-ft at build out)		Ongoing, full implementation anticipated by 2011
New groundwater development		1000 ac-ft (or amount needed to meet demands)	As needed

Conclusion

This water supply assessment shows that with the inclusion of several additional water supply projects, the District would have sufficient supplies through the next 20 years to meet the demands of the Snowcreek Master Plan in addition to other projected development in Mammoth Lakes. However, as noted in this assessment, there are uncertainties regarding the implementation of these additional supplies. It is essential that additional water supplies are developed and demand reductions are utilized to their full potential to ensure that future demands can be met, especially in dry year conditions.

MAMMOTH COMMUNITY WATER DISTRICT
WATER ASSESSMENT AMENDMENT
TOWN OF MAMMOTH LAKES GENERAL PLAN UPDATE
NOVEMBER 4, 2005
(Revised to reflect correction in Table 2)

In September 2004, the Mammoth Community Water District (District) prepared a water assessment in response to preparation of a general plan update by the Town of Mammoth Lakes (Town). The general plan update included four (4) project alternatives that involved varying degrees of growth planned for the community, with the "resort alternative" identified as the project action alternative. The associated water demands for the project alternatives had not been accounted for in the District's Urban Water Management Plan and therefore a water assessment was prepared. It was determined in the assessment that there was not sufficient water available with existing supplies under dry year conditions, and alternatives were identified to meet the supply deficiencies.

In response to agency and community comments received on the general plan update environmental impact report (EIR), the Town made the decision to modify the general plan update and revise the previously prepared EIR. A Notice of Preparation of a Revised Draft Environmental Impact Report was prepared and issued on August 15, 2005.

The modified general plan update included a new proposed project alternative that involved changes to population data and number of residential and commercial units to be completed at build-out of the community, in addition to other changes.

The change in proposed residential and commercial units constitutes a change in projected water demand information provided in response to the previous project alternatives. Also, after receiving comments on the water assessment document, the District further evaluated its water supply and demand calculations and has developed more detailed information that provides greater clarity on supply and demand issues.

In response to the additional information provided in the modified updated general plan regarding a new proposed project alternative, and additional water supply and demand data developed, the District is providing this amendment as a supplement to its previously submitted water assessment.

Documenting Project Demand

The original water assessment presented a table on page 7 that described past, current, and projected water use that included water demand caused by the project alternatives. The following Table 1 has been modified to include water demand from the new proposed project alternative (listed as Alternative 5").

Table 1
Past, Current, and Projected Water Use (acre-feet)
Includes Water Demand Caused by Project Alternatives

Water Use Sector	**1992**	**1995**	**2001**	**2005**	**2010**	**2015**	**2020**
Single Family	329	393	602	637	687	710	715
Condominium	678	805	1190	1251	1298	1298	1312
Multi-Family	98	88	150	234	365	374	374
Commercial	206	218	250	315	379	444	497
Motel/Hotel	117	120	104	142	245	369	386
Public Sector	100	107	218	262	328	410	513
Golf Course*	21	23	208	141	141	141	141
Other**	74	100	60	65	70	75	80
Unaccounted	942	787	505	570	661	721	760
Current Total	**2565**	**2641**	**3287**	**3617**	**4174**	**4542**	**4778**
Alternative 1 No Project				170	178	187	196
New Total				3787	4352	4729	4974
Alternative 2 Workforce/AH				563	591	621	652
New Total				4180	4765	5163	5430
Alternative 3 Resort Alternative				618	649	681	715
New Total				4235	4823	5223	5493
Alternative 4 Reduced Development				-235	-247	-259	-272
New Total				3382	3927	4283	4506
Alternative 5 New Proposed				***-163***	***-203***	***-254***	***-317***
New Total				***3454***	***3971***	***4288***	***4461***

* Existing Snowcreek Golf Course (9 holes) pursuant to water rights agreement.
** Other = treatment plant process water, fire fighting, line cleaning, etc.

Water demand for the new proposed project alternative was calculated using a proposed peak population at one time of 60,700 and the following total unit counts at build-out as provided by the Town.

Unit Type	Total
Single Family	2,481 units
Multi-Family	1,794 units
Condominium	6,617 units
Resort/Specific Plan Lodging	2,413 units
Commercial Lodging	1,454 units
USFS Lodging	330 units
Resort Commercial	405,000 square feet
General Commercial	895,000 square feet

Sufficiency of Water Supply for Proposed Project

The original water assessment presented a table on page 11 that compared water supply and demand for normal, single dry, and multiple dry years. This table has been modified to represent the water demand for the new proposed alternative 5 and is presented below as Table 2.

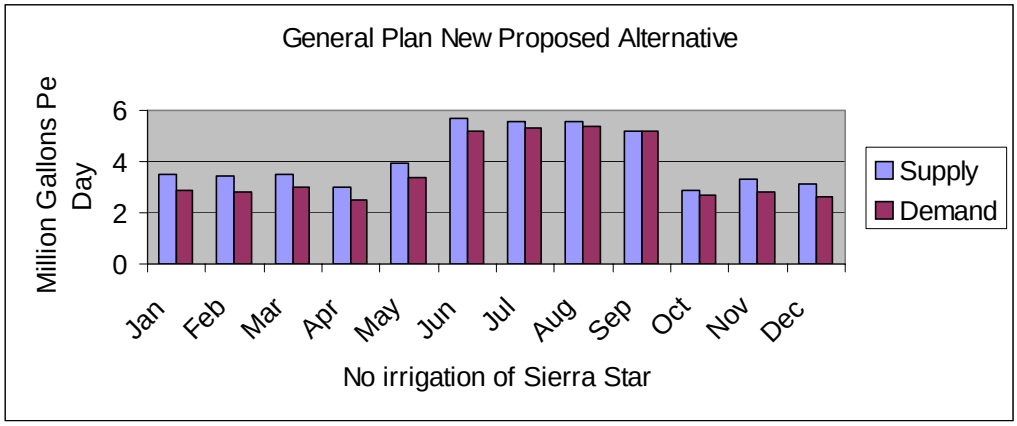
Table 2
Comparison of Current Supply and Demand in Acre-Feet for Normal, Single Dry, and Multiple Dry Years

Supply and Demand	Normal Year	Single Dry Year	Two Dry Years	Three Dry Years
Existing Supply Total	6760	5083	4534	4492
Existing Demand Total	4778	4778	4778	4778
Surplus or (Deficiency)	1982	305	(244)	(286)
No Project Alternative Demand Total	4974	4974	4974	4974
Surplus or (Deficiency)	1786	109	(440)	(482)
Workforce Alternative Demand Total	5430	5430	5430	5430
Surplus or (Deficiency)	1330	(347)	(896)	(938)
Resort Alternative Demand Total	5493	5493	5493	5493
Surplus or (Deficiency)	1267	(410)	(959)	(1001)
Reduced Development Alternative Demand Total	4506	4506	4506	4506
Surplus or (Deficiency)	2254	577	28	(14)
New Proposed Alternative Demand Total	***4461***	***4461***	***4461***	***4461***
Surplus or (Deficiency)	***2299***	***622***	***73***	***31***

As seen by the supply versus demand comparison above, the current available water supply under a three dry year period shows a surplus of 31 acre-feet per year. In addition, at two dry years a surplus of only 73 acre-feet is shown, which provides a minimal margin for error in these projections.

Additional detailed analysis of water supply versus demand has recently been performed by the District to evaluate potential impacts on a monthly basis. The following Chart 1 shows the impacts of projected demand on water supply for each month of the year under multiple dry year periods.

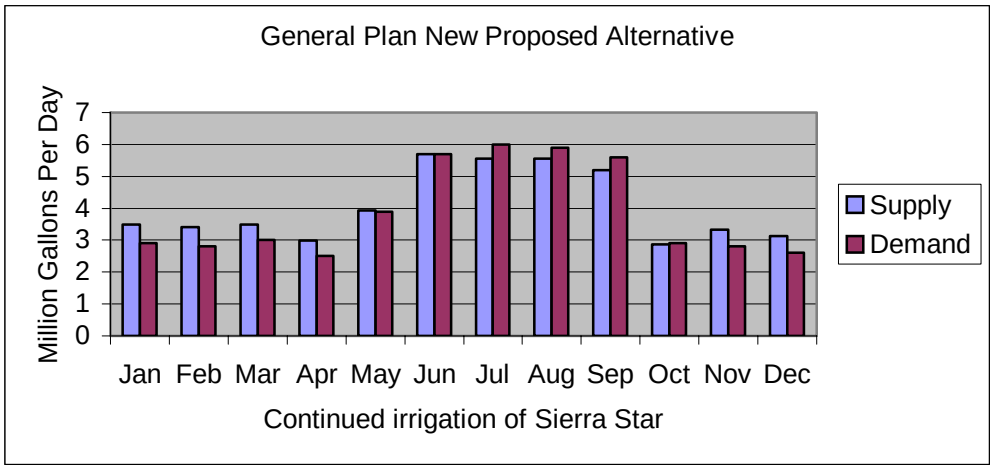
Chart 1



As can be seen in the chart, a surplus of available water during the irrigation months of July through September is marginal. It should also be noted that this comparison does not include continued delivery of District groundwater supplies to the Sierra Golf Course for irrigation as is now occurring. The reason for not including Sierra Star Golf Course irrigation in this chart has to do with the anticipated future use of recycled water at this site, which would off-set potable water use.

The following Chart 2 shows the impacts at build-out of continuing with deliveries of District groundwater supplies for golf course irrigation. This scenario could occur if, for some currently unforeseen reason, the District is unable to follow through with plans to provide recycled water to the Sierra Star Golf Course and other large turf irrigators in Mammoth Lakes. An EIR for this project is currently being prepared and the District has yet to receive permitting for the project.

Chart 2



Comparing water supply versus demand on a monthly basis points out the importance of providing recycled water for golf course irrigation and pursuing the alternatives to meet water supply deficiencies identified in the original water assessment document.

Conclusion

The original water assessment did not conclude that water supplies are sufficient to meet the projected water demand associated with the original proposed project (Draft General Plan Update), and additional information has become available subsequent to the preparation of the original assessment. It therefore has been determined that the original assessment be amended to include the updated information provided above. See California Water Code Section 10910(h).

APPENDIX F

TRAFFIC STUDY

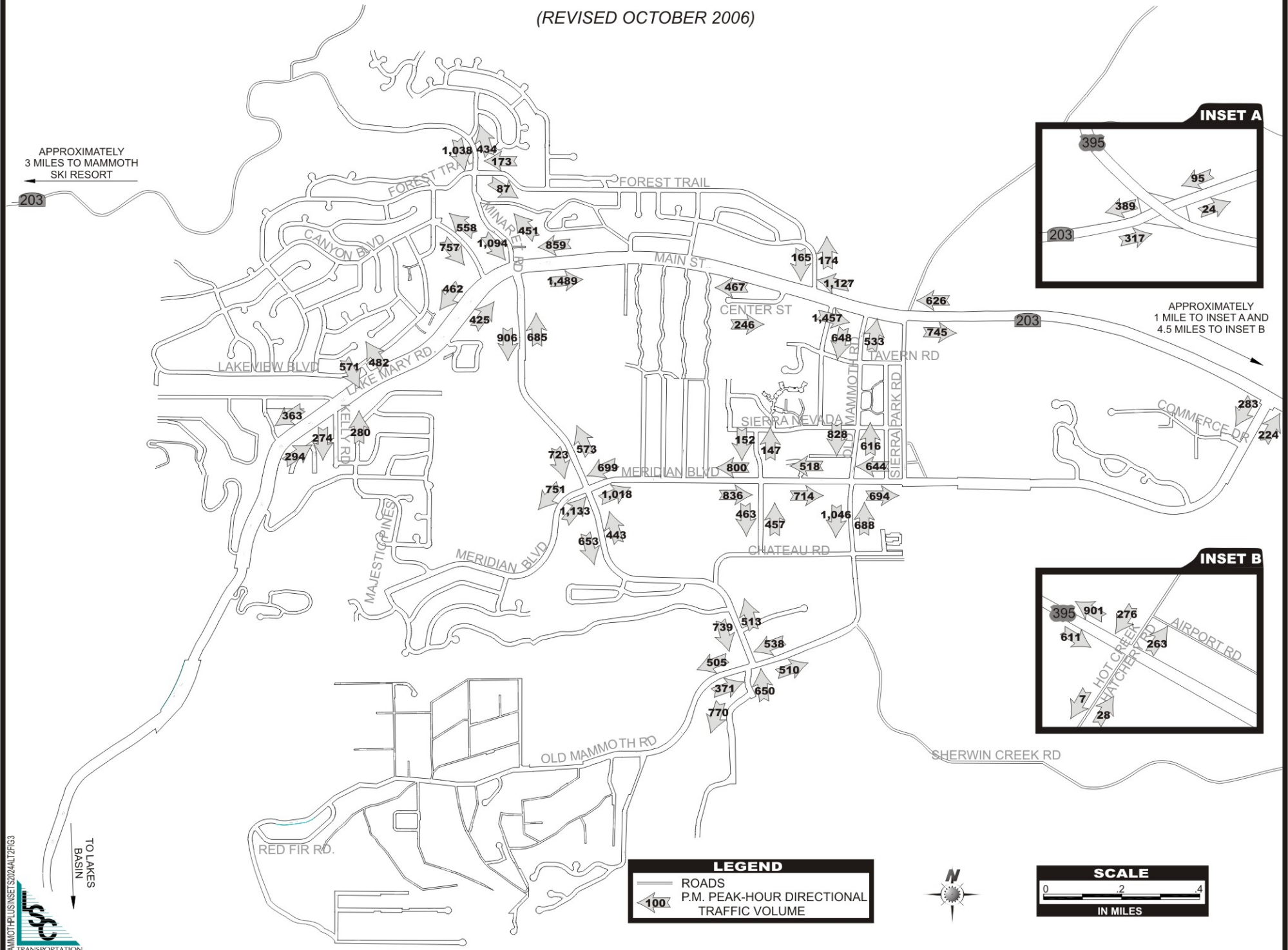
Mammoth Lakes General Plan
Revisions to Traffic Analysis

October 2006

FIGURE A

2024 PROPOSED GENERAL PLAN WINTER SATURDAY PM PEAK-HOUR VOLUMES PER DIRECTION

(REVISED OCTOBER 2006)



Model Land Uses
For Alternatives
By Transportation Analysis Zone (TAZ)

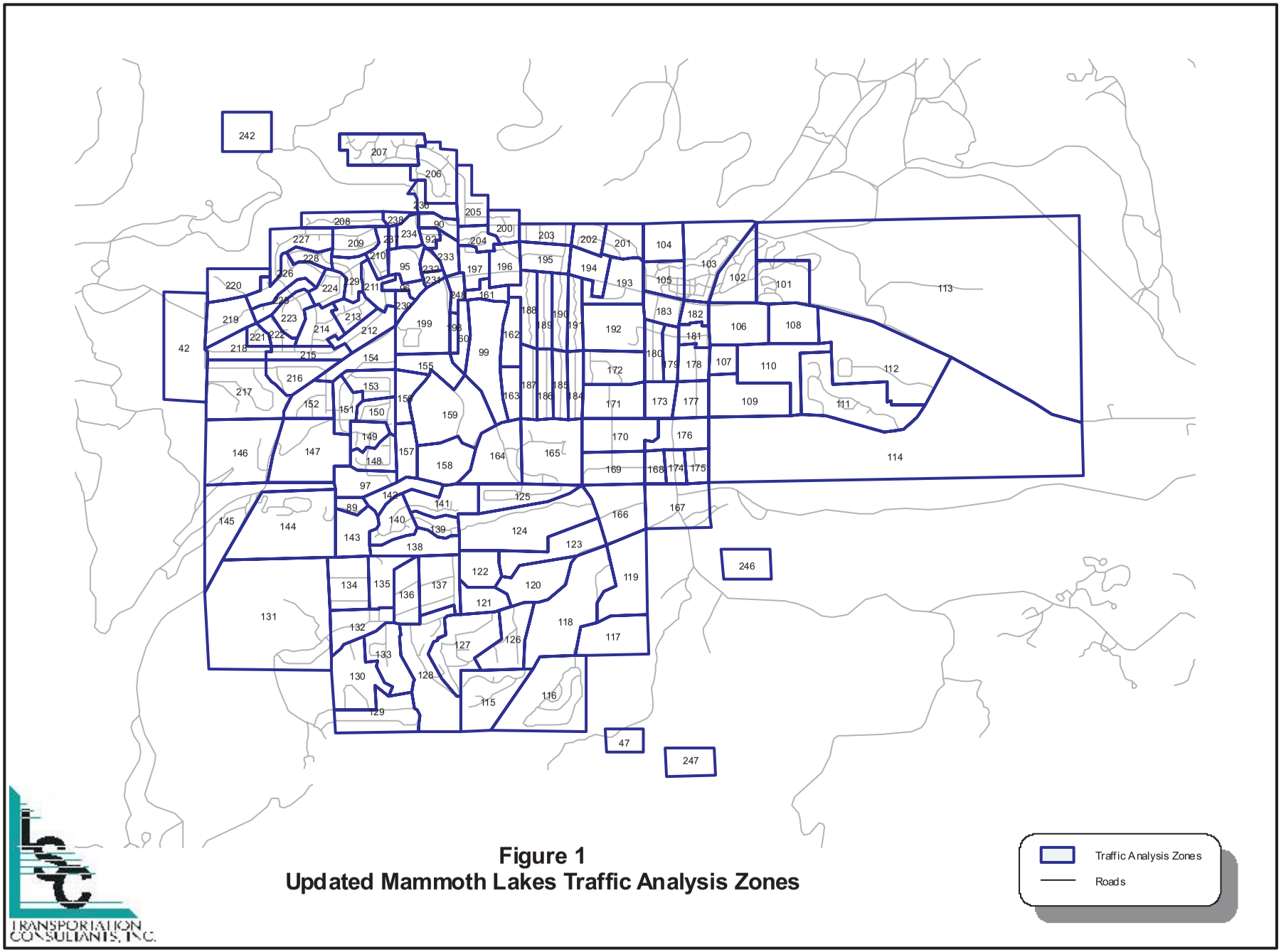


Figure 1
Updated Mammoth Lakes Traffic Analysis Zones

Traffic Analysis Zones
Roads

TRANSPORTATION CONSULTANTS, INC.

Table A: Alternative 5: Proposed Project Alternative (Page 1 of 2)

TAZ	1 Residential Low Density (SF) - Resident	2 Residential Medium Density (SF) - Resident	3 Residential High Density (MF) - Resident	4 Mobile Home Park - Resident	5 Residential Low Density (SF) - Visitor	6 Residential Medium Density (SF) - Visitor	7 Residential High Density (MF) - Visitor	10 Lodging (Hotel) Visitor	11 Resort Hotel - Visitor	12 Retail/Comm'l & Town Offices (ACRES)	13 Retail/Commercial	21 Light Industrial	23 Public Utility	31 Public School	32 High School	33 College	34 Hospital	36 Post Office	37 Church	39 Downhill Skiing-Employees	40 Downhill Skiing-Skiers	41 Cross-country Skiing/Snowmobiling
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	400	6,000	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
89	0	0	0	0	0	0	400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
90	0	0	0	0	0	0	0	0	280	0	0	0	0	0	0	0	0	0	0	0	0	0
91	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
92	0	0	0	0	0	0	0	0	104	0	0	0	0	0	0	0	0	0	0	0	0	0
93	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
94	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
95	0	0	0	0	0	0	0	0	712	0	63	0	0	0	0	0	0	0	0	400	6,000	0
96	0	0	0	0	0	0	0	0	221	0	0	0	0	0	0	0	0	0	0	0	0	0
97	0	0	0	0	0	90	0	0	0	0	4	0	0	0	0	0	0	0	0	63	6,000	0
98	0	0	0	0	0	0	0	0	213	0	0	0	0	0	0	0	0	0	0	1,300	6,000	0
99	0	0	0	0	0	0	210	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
102	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	264
103	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
106	0	0	0	0	0	0	187	0	0	8	8	0	0	0	0	0	0	0	0	0	0	0
107	0	0	0	0	0	0	0	0	0	0	18	0	0	0	0	0	21	0	0	0	0	0
108	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
109	0	0	0	0	0	0	0	0	0	0	0	0	0	20	11	0	0	0	0	0	0	0
110	0	0	0	0	0	0	0	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0
111	0	77	0	0	0	30	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0
112	0	0	0	0	0	0	0	0	0	0	0	36	0	0	0	0	0	0	0	0	0	0
114	0	0	450	0	0	0	0	0	0	0	47	20	36	3	0	500	0	0	0	0	0	0
115	25	0	0	0	24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
116	0	72	0	0	0	216	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
117	0	0	0	0	0	0	348	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
118	0	0	0	0	0	120	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
119	0	0	0	0	0	0	1,045	0	0	0	150	0	0	0	0	0	0	0	0	0	0	0
120	0	100	0	40	0	72	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
121	0	70	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
122	0	40	0	0	0	134	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
124	0	70	0	0	0	248	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
125	0	22	0	0	0	36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
126	19	0	58	40	20	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0
127	25	0	30	0	29	0	6	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
128	30	25	0	0	24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
129	30	0	0	0	23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
130	29	0	0	0	21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
131	20	0	0	0	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
132	18	0	0	0	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
133	17	0	0	0	9	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
134	23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
135	26	0	0	0	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
136	26	0	0	0	13	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
137	28	7	0	0	28	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
138	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
139	0	12	0	0	0	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
140	0	45	30	0	0	13	54	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
141	0	16	6	0	0	30	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
142	0	0	84	0	0	0	170	0	0	0	35	0	0	0	0	0	0	0	0	0	0	0
143	1	0	5	0	0	0	110	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
144	0	36	0	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
145	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
146	10	0	34	0	17	3	37	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
148	0	14	0	0	0	37	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
149	0	3	0	0	0	27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
150	0	22	0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
151	0	27	0	0	0	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
152	0	19	36	0	0	21	45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
153	0	26	0	0	0	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
154	0	5	65	0	0	10	43	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
155	0	0	0	0	0	0	54	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
156	0	0	0	0	0	0	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
157	0	0	0	0	0	0	46	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
158	0	0	4	0	0	0	36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
159	0	0	0	0	0	0	700	0	0	0	80	0	0	0	0	0	0	0	0	0	0	543
160	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
161	0	0	0	0	0	0	76	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
162	0	0	144	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
163	0	0	0	0	0	0	80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
164	7	59	0	0	0	87	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
165	0	0	14	0	0	56	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
166	0	0	170	0	0	0	170	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
168	0	0	46	0	0	0	70	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
169	0	0	48	0	0	0	130	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
170	0	0	109	40	0	0	144	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
171	0	0	145	0	0	0	214	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
172	0	0	69	0	0	0	59	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table A: Alternative 5: Proposed Project Alternative (Page 2 of 2)

TAZ	1 Residential Low Density (SF) - Resident	2 Residential Medium Density (SF) - Resident	3 Residential High Density (MF) - Resident	4 Mobile Home Park - Resident	5 Residential Low Density (SF) - Visitor	6 Residential Medium Density (SF) - Visitor	7 Residential High Density (MF) - Visitor	10 Lodging (Hotel) - Visitor	11 Resort Hotel - Visitor	12 Retail/Comm'l & Town Offices (ACRES)	13 Retail/Commercial	21 Light Industrial	23 Public Utility	31 Public School	32 High School	33 College	34 Hospital	36 Post Office	37 Church	39 Downhill Skiing-Employees	40 Downhill Skiing-Skiers	41 Cross-country Skiing/Snowmobiling
173	0	0	81	0	0	0	146	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
174	0	0	0	0	0	0	0	48	0	5	0	0	0	0	0	0	0	0	0	0	0	0
175	0	0	60	0	0	10	0	0	0	4	0	0	1	0	0	0	0	0	0	0	0	0
176	0	0	0	0	0	0	0	0	0	15	0	0	0	0	0	0	0	0	0	0	0	0
177	0	0	30	0	0	0	0	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0
178	0	0	45	0	0	0	165	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
179	0	0	0	0	0	0	0	160	0	4	0	0	0	0	0	0	0	0	0	0	0	0
180	0	0	100	0	0	30	42	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0
181	0	0	30	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0
182	0	0	10	0	0	0	0	72	0	4	0	0	0	0	0	0	0	0	0	0	0	0
183	0	0	30	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0
184	0	19	40	0	0	0	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
185	0	10	23	0	0	0	27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
186	0	28	26	0	0	0	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
187	0	18	120	0	0	8	180	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
188	0	10	40	0	0	0	17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
189	0	12	31	0	0	0	17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
190	0	15	36	0	0	0	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
191	0	17	30	0	0	0	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
192	23	420	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
193	0	0	0	0	0	0	0	32	0	0	14	0	0	0	0	0	0	0	0	0	0	0
194	0	0	0	0	0	0	0	191	0	12	0	0	0	0	0	0	0	12,500	0	0	0	0
195	0	0	50	0	0	0	0	357	0	2	0	0	0	0	0	0	0	0	0	0	0	0
196	0	0	0	0	0	0	0	106	0	2	0	0	0	0	0	0	0	0	0	0	0	0
197	0	0	0	0	0	0	0	560	0	1	0	0	0	0	0	0	0	0	0	0	0	0
198	0	0	0	0	0	0	0	0	86	0	0	0	0	0	0	0	0	0	0	0	0	0
199	0	10	10	0	0	9	9	0	742	0	50	0	0	0	0	0	0	0	0	0	0	0
200	0	14	0	0	0	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
201	0	23	0	0	0	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
202	0	24	0	0	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
203	0	44	0	0	0	23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
204	0	38	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
205	0	31	0	0	0	23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
206	0	49	0	0	0	43	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
207	0	54	0	0	0	45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
208	0	23	0	0	0	29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
209	0	18	0	0	0	34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
210	0	8	12	0	0	1	27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
211	0	0	59	0	0	0	83	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
212	0	0	120	0	0	0	81	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
213	0	25	0	0	0	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
214	0	23	0	0	0	26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
215	0	5	50	0	0	9	70	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
216	10	0	30	0	0	8	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
217	30	41	4	0	6	44	90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
218	0	4	17	0	0	0	152	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
219	0	0	12	0	0	0	256	27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
220	0	0	18	0	0	0	169	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
221	0	4	0	0	0	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
222	0	7	0	0	0	32	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
223	0	26	0	0	0	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
224	0	14	0	0	0	29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
225	0	11	0	0	0	36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
226	0	32	0	0	0	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
227	0	20	0	0	0	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
228	0	14	0	0	0	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
229	0	19	0	0	0	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
230	0	0	20	0	0	0	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
231	0	0	0	0	0	0	0	0	81	0	10	0	0	0	0	0	0	0	0	0	0	0
232	0	0	0	0	0	0	0	0	129	1	0	0	0	0	0	0	0	0	0	0	0	0
233	0	0	0	0	0	0	0	0	338	0	0	0	0	0	0	0	0	0	0	0	0	0
234	0	0	0	0	0	0	0	0	448	0	65	0	0	0	0	0	0	0	0	0	0	0
235	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
236	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0
237	0	0	0	0	0	0	0	0	29	0	0	0	0	0	0	0	0	0	0	0	0	0
238	0	0	16	0	0	0	32	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
239	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
240	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
241	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
242	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
244	0	0	0	0	0	0	0	0	117	0	0	0	0	0	0	0	0	0	0	18	0	0
246	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
247	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
248	0	0	62	0	0	0	0	79	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	**397**	**1,897**	**2,759**	**120**	**261**	**1,954**	**6,218**	**1,646**	**3,500**	**88**	**544**	**60**	**38**	**23**	**36**	**500**	**21**	**12,500**	**3**	**2,181**	**24,000**	**807**

Table B: Alternative 1: No Project Alternative/1987 General Plan Build Out (Page 1 of 2)

TAZ	1 Residential Low Density (SF) - Resident	2 Residential Medium Density (SF) - Resident	3 Residential High Density (MF) - Resident	4 Mobile Home Park - Resident	5 Residential Low Density (SF) - Visitor	6 Residential Medium Density (SF) - Visitor	7 Residential High Density (MF) - Visitor	10 Lodging (Hotel) Visitor	11 Resort Hotel - Visitor	12 Retail/Comm'l & Town Offices (ACRES)	13 Retail/Commercial	21 Light Industrial	23 Public Utility	31 Public School	32 High School	33 College	34 Hospital	36 Post Office	37 Church	39 Downhill Skiing-Employees	40 Downhill Skiing-Skiers	41 Cross-country Skiing/Snowmobiling
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	400	6,000	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
89	0	0	0	0	0	0	179	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
90	0	0	0	0	0	0	0	0	280	0	0	0	0	0	0	0	0	0	0	0	0	0
91	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
92	0	0	0	0	0	0	0	0	104	0	0	0	0	0	0	0	0	0	0	0	0	0
93	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
94	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
95	0	0	0	0	0	0	0	0	712	3	60	0	0	0	0	0	0	0	0	400	6,000	0
96	0	0	0	0	0	0	0	0	221	0	0	0	0	0	0	0	0	0	0	0	0	0
97	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	63	6,000	0
98	0	0	0	0	0	0	0	0	213	0	0	0	0	0	0	0	0	0	0	1,300	6,000	0
99	0	0	0	0	0	0	210	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
102	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	264
103	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
106	0	0	0	0	0	0	187	0	0	0	8	0	0	0	0	0	0	0	3	0	0	0
107	0	0	0	0	0	0	0	0	0	0	18	0	0	0	0	0	21	0	0	0	0	0
108	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
109	0	0	0	0	0	0	0	0	0	0	0	0	0	20	11	0	0	0	0	0	0	0
110	0	0	0	0	0	0	0	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0
111	0	77	0	0	0	30	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0
112	0	0	0	0	0	0	0	0	0	0	0	62	0	0	0	0	0	0	0	0	0	0
114	0	0	450	0	0	0	0	0	0	0	47	20	36	3	0	500	0	0	0	0	0	0
115	25	0	0	0	24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
116	0	72	0	0	0	216	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
117	0	0	0	0	0	0	348	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
118	0	0	0	0	0	120	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
119	0	0	0	0	0	0	1,045	0	0	0	150	0	0	0	0	0	0	0	0	0	0	0
120	0	100	0	40	0	72	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
121	0	70	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
122	0	40	0	0	0	134	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
124	0	70	0	0	0	248	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
125	0	22	0	0	0	36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
126	19	0	58	40	20	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0
127	25	0	30	0	29	0	6	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
128	30	25	0	0	24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
129	30	0	0	0	23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
130	29	0	0	0	21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
131	20	0	0	0	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
132	18	0	0	0	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
133	17	0	0	0	9	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
134	23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
135	26	0	0	0	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
136	26	0	0	0	13	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
137	28	7	0	0	28	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
138	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
139	0	12	0	0	0	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
140	0	45	30	0	0	13	54	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
141	0	16	6	0	0	30	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
142	0	0	84	0	0	0	170	0	0	0	35	0	0	0	0	0	0	0	0	0	0	0
143	1	0	5	0	0	0	110	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
144	0	36	0	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
145	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
146	10	0	34	0	17	3	37	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
148	0	14	0	0	0	37	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
149	0	3	0	0	0	27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
150	0	22	0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
151	0	27	0	0	0	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
152	0	19	36	0	0	21	45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
153	0	26	0	0	0	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
154	0	5	65	0	0	10	43	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
155	0	0	0	0	0	0	54	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
156	0	0	0	0	0	0	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
157	0	0	0	0	0	0	46	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
158	0	0	4	0	0	0	36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
159	0	0	0	0	0	0	700	0	0	0	80	0	0	0	0	0	0	0	0	0	0	543
160	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
161	0	0	0	0	0	0	76	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
162	0	0	144	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
163	0	0	0	0	0	0	80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
164	7	59	0	0	0	87	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
165	0	0	14	0	0	56	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
166	0	0	170	0	0	0	170	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
168	0	0	46	0	0	0	70	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
169	0	0	48	0	0	0	130	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
170	0	0	109	40	0	0	144	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
171	0	0	145	0	0	0	214	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
172	0	0	69	0	0	0	59	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table B: Alternative 1: No Project Alternative/1987 General Plan Build Out (Page 2 of 2)

	1	2	3	4	5	6	7	10	11	12	13	21	23	31	32	33	34	36	37	39	40	41
TAZ	Residential Low Density (SF) - Resident	Residential Medium Density (SF) - Resident	Residential High Density (MF) - Resident	Mobile Home Park - Resident	Residential Low Density (SF) - Visitor	Residential Medium Density (SF) - Visitor	Residential High Density (MF) - Visitor	Lodging (Hotel) - Visitor	Resort Hotel - Visitor	Retail/Comm'l & Town Offices (ACRES)	Retail/Commercial	Light Industrial	Public Utility	Public School	High School	College	Hospital	Post Office	Church	Downhill Skiing-Employees	Downhill Skiing-Skiers	Cross-country Skiing/Snowmobiling
173	0	0	81	0	0	0	146	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
174	0	0	0	0	0	0	0	48	0	5	0	0	0	0	0	0	0	0	0	0	0	0
175	0	0	60	0	0	10	0	0	0	4	0	0	1	0	0	0	0	0	0	0	0	0
176	0	0	0	0	0	0	0	0	0	15	0	0	0	0	0	0	0	0	0	0	0	0
177	0	0	30	0	0	0	0	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0
178	0	0	45	0	0	0	165	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
179	0	0	0	0	0	0	0	160	0	4	0	0	0	0	0	0	0	0	0	0	0	0
180	0	0	100	0	0	30	42	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0
181	0	0	30	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0
182	0	0	10	0	0	0	0	72	0	4	0	0	0	0	0	0	0	0	0	0	0	0
183	0	0	30	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0
184	0	19	40	0	0	0	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
185	0	10	23	0	0	0	27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
186	0	28	26	0	0	0	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
187	0	18	120	0	0	8	180	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
188	0	10	40	0	0	0	17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
189	0	12	31	0	0	0	17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
190	0	15	36	0	0	0	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
191	0	17	30	0	0	0	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
192	23	420	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
193	0	0	0	0	0	0	0	32	0	0	14	0	0	0	0	0	0	0	0	0	0	0
194	0	0	0	0	0	0	0	191	0	12	0	0	0	0	0	0	0	12,500	0	0	0	0
195	0	0	50	0	0	0	0	357	0	2	0	0	0	0	0	0	0	0	0	0	0	0
196	0	0	0	0	0	0	0	106	0	2	0	0	0	0	0	0	0	0	0	0	0	0
197	0	0	0	0	0	0	0	560	0	1	0	0	0	0	0	0	0	0	0	0	0	0
198	0	0	0	0	0	0	0	0	86	0	0	0	0	0	0	0	0	0	0	0	0	0
199	0	10	10	0	0	9	9	0	542	0	50	0	0	0	0	0	0	0	0	0	0	0
200	0	14	0	0	0	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
201	0	23	0	0	0	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
202	0	24	0	0	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
203	0	44	0	0	0	23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
204	0	38	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
205	0	31	0	0	0	23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
206	0	49	0	0	0	43	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
207	0	54	0	0	0	45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
208	0	23	0	0	0	29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
209	0	18	0	0	0	34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
210	0	8	12	0	0	1	27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
211	0	0	59	0	0	0	83	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
212	0	0	120	0	0	0	81	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
213	0	25	0	0	0	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
214	0	23	0	0	0	26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
215	0	5	50	0	0	9	70	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
216	10	0	30	0	0	8	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
217	30	41	4	0	6	44	90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
218	0	4	17	0	0	0	152	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
219	0	0	12	0	0	0	256	27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
220	0	0	18	0	0	0	169	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
221	0	4	0	0	0	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
222	0	7	0	0	0	32	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
223	0	26	0	0	0	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
224	0	14	0	0	0	29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
225	0	11	0	0	0	36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
226	0	32	0	0	0	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
227	0	20	0	0	0	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
228	0	14	0	0	0	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
229	0	19	0	0	0	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
230	0	0	20	0	0	0	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
231	0	0	0	0	0	0	0	0	81	0	10	0	0	0	0	0	0	0	0	0	0	0
232	0	0	0	0	0	0	0	0	129	1	0	0	0	0	0	0	0	0	0	0	0	0
233	0	0	0	0	0	0	0	0	338	0	0	0	0	0	0	0	0	0	0	0	0	0
234	0	0	0	0	0	0	0	0	448	0	65	0	0	0	0	0	0	0	0	0	0	0
235	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
236	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	1	0	0	0
237	0	0	0	0	0	0	0	0	29	0	0	0	0	0	0	0	0	0	0	0	0	0
238	0	0	16	0	0	0	32	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
239	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
240	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
241	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
242	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
244	0	0	0	0	0	0	0	0	117	0	0	0	0	0	0	0	0	0	0	18	0	0
246	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
247	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
248	0	0	62	0	0	0	0	79	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	**397**	**1,897**	**2,759**	**120**	**261**	**1,864**	**5,997**	**1,646**	**3,300**	**78**	**544**	**86**	**38**	**23**	**36**	**500**	**21**	**12,500**	**7**	**2,181**	**24,000**	**807**

Table C: Alternative 2: Workforce/Affordable Housing Alternative (Page 2 of 2)

TAZ	1 Residential Low Density (SF) - Resident	2 Residential Medium Density (SF) - Resident	3 Residential High Density (MF) - Resident	4 Mobile Home Park - Resident	5 Residential Low Density (SF) - Visitor	6 Residential Medium Density (SF) - Visitor	7 Residential High Density (MF) - Visitor	10 Lodging (Hotel) - Visitor	11 Resort Hotel - Visitor	12 Retail/Comm'l & Town Offices (ACRES)	13 Retail/Commercial	21 Light Industrial	23 Public Utility	31 Public School	32 High School	33 College	34 Hospital	36 Post Office	37 Church	39 Downhill Skiing-Employees	40 Downhill Skiing-Skiers	41 Cross-country Skiing/Snowmobiling
173	0	0	0	0	0	16	0	0	0	13	0	0	0	0	0	0	0	0	0	0	0	0
174	0	0	30	0	0	16	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0
175	0	0	45	0	0	16	165	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
176	0	0	0	0	0	16	0	160	0	4	0	0	0	0	0	0	0	0	0	0	0	0
177	0	0	100	0	0	46	42	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0
178	0	0	30	0	0	16	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0
179	0	0	10	0	0	16	0	72	0	4	0	0	0	0	0	0	0	0	0	0	0	0
180	0	0	30	0	0	16	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0
181	0	44	40	0	0	28	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
182	0	40	23	0	0	28	27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
183	0	57	26	0	0	28	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
184	0	48	120	0	0	36	180	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
185	0	44	40	0	0	28	17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
186	0	36	31	0	0	28	17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
187	0	41	36	0	0	28	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
188	0	47	30	0	0	28	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
189	34	420	0	0	0	32	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
190	0	0	0	0	0	16	0	32	0	0	14	0	0	0	0	0	0	0	0	0	0	0
191	0	0	0	0	0	0	0	191	0	12	0	0	0	0	0	0	0	12,500	0	0	0	0
192	0	0	50	0	0	0	0	357	0	2	0	0	0	0	0	0	0	0	0	0	0	0
193	0	0	0	0	0	0	0	106	0	2	0	0	0	0	0	0	0	0	0	0	0	0
194	0	0	0	0	0	0	0	560	0	1	0	0	0	0	0	0	0	0	0	0	0	0
195	0	0	0	0	0	0	0	0	86	0	0	0	0	0	0	0	0	0	0	0	0	0
196	11	10	10	0	0	37	9	0	542	0	50	0	0	0	0	0	0	0	0	0	0	0
197	11	14	0	0	0	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
198	11	23	0	0	0	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
199	11	24	0	0	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
200	11	44	0	0	0	23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
201	11	38	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
202	11	31	0	0	0	23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
203	11	49	0	0	0	43	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
204	11	54	0	0	0	45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
205	11	23	0	0	0	29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
206	11	18	0	0	0	34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
207	11	8	12	0	0	29	27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
208	11	0	59	0	0	28	83	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
209	0	0	120	0	0	28	81	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
210	11	25	0	0	0	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
211	11	23	0	0	0	26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
212	11	5	50	0	0	37	70	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
213	10	0	30	0	0	36	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
214	41	41	4	0	6	72	420	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
215	11	4	17	0	0	28	152	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
216	0	0	12	0	0	28	256	27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
217	0	0	18	0	0	28	169	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
218	11	4	0	0	0	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
219	11	7	0	0	0	32	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
220	11	26	0	0	0	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
221	11	14	0	0	0	29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
222	11	11	0	0	0	36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
223	11	32	0	0	0	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
224	11	20	0	0	0	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
225	11	14	0	0	0	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
226	11	19	0	0	0	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
227	0	0	20	0	0	28	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
228	0	0	0	0	0	0	0	0	81	0	10	0	0	0	0	0	0	0	0	0	0	0
229	0	0	0	0	0	0	0	0	129	1	0	0	0	0	0	0	0	0	0	0	0	0
230	0	0	0	0	0	0	0	0	338	3	0	0	0	0	0	0	0	0	0	0	0	0
231	0	0	0	0	0	0	0	0	448	0	65	0	0	0	0	0	0	0	0	0	0	0
232	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
233	0	0	0	0	0	229	0	0	0	0	3	0	0	0	0	0	0	0	1	0	0	0
234	0	0	0	0	0	0	0	0	29	0	0	0	0	0	0	0	0	0	0	0	0	0
235	0	0	16	0	0	28	32	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
236	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
237	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
238	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
239	0	0	0	0	0	0	0	0	213	0	0	0	0	0	0	0	0	0	0	1,300	6,000	0
240	0	0	0	0	0	0	0	0	117	0	0	0	0	0	0	0	0	0	0	0	0	0
241	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
242	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
244	0	0	62	0	0	0	0	79	0	0	0	0	0	0	0	0	0	0	0	0	0	0
246	602	671	1,080	180	255	3,459	4,376	84	1,377	0	355	66	37	23	36	500	21	0	6	842	16,000	807
247	371	1,358	1,212	0	6	1,615	2,081	1,632	1,983	72	142	0	1	0	0	0	0	12,500	1	1,300	6,000	0
248	973	2,029	2,292	180	261	5,074	6,457	1,716	3,360	72	497	66	38	23	36	500	21	12,500	7	2,142	22,000	807
TOTAL	**2,920**	**6,089**	**6,738**	**544**	**788**	**15,190**	**19,232**	**5,110**	**10,091**	**220**	**1,503**	**220**	**137**	**100**	**140**	**1,533**	**97**	**37,536**	**58**	**6,465**	**66,040**	**2,462**

Table C: Alternative 2: Workforce/Affordable Housing Alternative (Page 1 of 2)

TAZ	1 Residential Low Density (SF) - Resident	2 Residential Medium Density (SF) - Resident	3 Residential High Density (MF) - Resident	4 Mobile Home Park - Resident	5 Residential Low Density (SF) - Visitor	6 Residential Medium Density (SF) - Visitor	7 Residential High Density (MF) - Visitor	10 Lodging (Hotel) Visitor	11 Resort Hotel - Visitor	12 Retail/Comm'l & Town Offices (ACRES)	13 Retail/Commercial	21 Light Industrial	23 Public Utility	31 Public School	32 High School	33 College	34 Hospital	36 Post Office	37 Church	39 Downhill Skiing-Employees	40 Downhill Skiing-Skiers	41 Cross-country Skiing/Snowmobiling
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	400	6,000	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
89	0	0	0	0	0	28	179	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
90	0	0	0	0	0	0	0	0	280	0	40	0	0	0	0	0	0	0	0	0	0	0
91	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
92	0	0	0	0	0	0	0	0	104	0	20	0	0	0	0	0	0	0	0	0	0	0
93	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
94	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
95	0	0	0	0	0	0	0	0	712	0	0	0	0	0	0	0	0	0	0	400	6,000	0
96	0	0	0	0	0	0	0	0	221	0	0	0	0	0	0	0	0	0	0	0	0	0
97	0	0	0	0	0	28	0	0	0	0	4	0	0	0	0	0	0	0	0	42	4,000	0
98	0	0	0	60	0	0	0	70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
99	0	0	0	0	0	28	210	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
102	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	264
103	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
106	0	0	0	0	0	229	227	0	0	0	8	0	0	0	0	0	0	0	3	0	0	0
107	0	0	0	0	0	229	0	0	0	0	18	0	0	0	0	0	21	0	0	0	0	0
108	0	0	0	0	0	0	0	0	0	0	0	0	0	20	11	0	0	0	0	0	0	0
109	0	0	0	0	0	0	0	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0
110	11	77	0	0	0	72	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0
111	0	0	0	0	0	220	0	0	0	0	0	62	0	0	0	0	0	0	0	0	0	0
112	0	0	0	0	0	229	0	0	0	0	0	0	36	3	0	500	0	0	0	0	0	0
114	36	0	0	0	24	0	0	0	60	0	0	0	0	0	0	0	0	0	0	0	0	0
115	0	72	0	0	0	244	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
116	0	0	0	0	0	28	348	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
117	0	0	0	0	0	148	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
118	0	0	0	0	0	28	1,045	0	0	0	150	0	0	0	0	0	0	0	0	0	0	0
119	0	100	0	40	0	100	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
120	0	70	0	0	0	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
121	0	40	0	0	0	162	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
122	0	70	0	0	0	276	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
124	11	22	0	0	0	36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
125	30	0	58	40	20	28	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0
126	36	0	30	0	29	28	6	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
127	41	25	0	0	24	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
128	41	0	0	0	23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
129	40	0	0	0	21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
130	31	0	0	0	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
131	29	0	0	0	18	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
132	28	0	0	0	9	28	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
133	34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
134	31	0	0	0	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
135	31	0	0	0	13	28	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
136	34	7	0	0	28	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
137	11	0	0	0	0	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
138	11	12	0	0	0	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
139	11	45	30	0	0	13	54	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
140	11	16	6	0	0	58	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
141	0	0	84	0	0	28	170	0	0	0	35	0	0	0	0	0	0	0	0	0	0	0
142	0	0	0	0	0	28	200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
143	0	36	0	0	0	36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
144	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
145	10	0	34	0	17	31	37	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
146	11	14	0	0	0	37	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
148	11	3	0	0	0	27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
149	11	22	0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
150	11	27	0	0	0	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
151	11	19	36	0	0	49	45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
152	11	26	0	0	0	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
153	11	5	65	0	0	38	43	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
154	0	0	0	0	0	28	54	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
155	0	0	0	0	0	28	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
156	0	0	0	0	0	28	46	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
157	0	0	4	0	0	28	36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
158	0	0	0	0	0	28	700	0	0	0	80	0	0	0	0	0	0	0	0	0	0	543
159	0	0	0	0	0	31	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
160	0	0	0	0	0	28	76	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
161	0	0	144	0	0	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
162	0	0	0	0	0	28	80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
163	7	-37	0	0	0	183	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
164	0	0	2	0	0	84	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
165	0	0	170	0	0	28	170	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
166	0	0	46	0	0	28	70	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
168	0	0	48	0	0	28	130	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
169	0	0	109	40	0	28	144	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
170	0	0	145	0	0	28	214	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
171	0	0	69	0	0	28	59	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
172	1	2	3	4	5	6	7	10	11	12	13	21	23	31	32	33	34	36	37	39	40	41

Table D: Alternative 4: Reduced Development Alternative (Page 1 of 2)

TAZ	1 Residential Low Density (SF) - Resident	2 Residential Medium Density (SF) - Resident	3 Residential High Density (MF) - Resident	4 Mobile Home Park - Resident	5 Residential Low Density (SF) - Visitor	6 Residential Medium Density (SF) - Visitor	7 Residential High Density (MF) - Visitor	10 Lodging (Hotel) Visitor	11 Resort Hotel - Visitor	12 Retail/Comm'l & Town Offices (ACRES)	13 Retail/Commercial	21 Light Industrial	23 Public Utility	31 Public School	32 High School	33 College	34 Hospital	36 Post Office	37 Church	39 Downhill Skiing-Employees	40 Downhill Skiing-Skiers	41 Cross-country Skiing/Snowmobiling
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	400	6,000	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
89	0	0	0	0	0	0	179	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
90	0	0	0	0	0	0	0	0	155	0	40	0	0	0	0	0	0	0	0	0	0	0
91	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
92	0	0	0	0	0	0	0	0	104	0	20	0	0	0	0	0	0	0	0	0	0	0
93	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
94	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
95	0	0	0	0	0	0	0	0	462	0	0	0	0	0	0	0	0	0	0	400	6,000	0
96	0	0	0	0	0	0	0	0	96	0	0	0	0	0	0	0	0	0	0	0	0	0
97	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	63	6,000	0
98	0	0	0	0	0	0	0	0	213	0	0	0	0	0	0	0	0	0	0	1,300	6,000	0
99	0	0	0	0	0	0	210	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
102	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	264
103	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
106	0	0	0	0	0	0	118	0	0	0	8	0	0	0	0	0	0	0	3	0	0	0
107	0	0	0	0	0	0	0	0	0	0	18	0	0	0	0	0	21	0	0	0	0	0
108	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
109	0	0	0	0	0	0	0	0	0	0	0	0	0	20	11	0	0	0	0	0	0	0
110	0	0	0	0	0	0	0	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0
111	0	77	0	0	0	30	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0
112	0	0	0	0	0	0	0	0	0	0	0	62	0	0	0	0	0	0	0	0	0	0
114	0	0	0	0	0	0	0	0	0	0	0	0	36	3	0	500	0	0	0	0	0	0
115	25	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
116	0	72	0	0	0	199	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
117	0	0	0	0	0	0	331	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
118	0	0	0	0	0	103	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
119	0	0	0	0	0	0	903	0	0	0	230	0	0	0	0	0	0	0	0	0	0	0
120	0	100	0	40	0	55	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
121	0	53	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
122	0	23	0	0	0	134	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
124	0	70	0	0	0	231	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
125	0	22	0	0	0	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
126	19	0	41	40	20	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0
127	25	0	30	0	12	0	6	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
128	30	25	0	0	24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
129	30	0	0	0	23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
130	29	0	0	0	21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
131	20	0	0	0	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
132	18	0	0	0	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
133	5	0	0	0	4	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
134	23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
135	20	0	0	0	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
136	26	0	0	0	13	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
137	23	7	0	0	28	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
138	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
139	0	12	0	0	0	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
140	0	45	30	0	0	13	54	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
141	0	16	6	0	0	30	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
142	0	0	84	0	0	0	170	0	0	0	35	0	0	0	0	0	0	0	0	0	0	0
143	1	0	5	0	0	0	110	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
144	0	44	0	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
145	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
146	10	0	34	0	17	3	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
148	0	14	0	0	0	37	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
149	0	3	0	0	0	27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
150	0	22	0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
151	0	27	0	0	0	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
152	0	19	36	0	0	21	21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
153	0	26	0	0	0	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
154	0	5	65	0	0	10	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
155	0	0	0	0	0	0	37	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
156	0	0	0	0	0	0	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
157	0	0	0	0	0	0	29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
158	0	0	4	0	0	0	36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
159	0	0	0	0	0	0	683	0	0	0	80	0	0	0	0	0	0	0	0	0	0	543
160	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
161	0	0	0	0	0	0	59	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
162	0	0	127	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
163	0	0	0	0	0	0	80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
164	7	59	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
165	0	0	14	0	0	56	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
166	0	0	170	0	0	0	153	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
168	0	0	46	0	0	0	70	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
169	0	0	48	0	0	0	130	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
170	0	0	109	40	0	0	144	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
171	0	0	145	0	0	0	214	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
172	0	0	69	0	0	0	59	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table D: Alternative 4: Reduced Development Alternative (Page 2 of 2)

	1	2	3	4	5	6	7	10	11	12	13	21	23	31	32	33	34	36	37	39	40	41
TAZ	Residential Low Density (SF) - Resident	Residential Medium Density (SF) - Resident	Residential High Density (MF) - Resident	Mobile Home Park - Resident	Residential Low Density (SF) - Visitor	Residential Medium Density (SF) - Visitor	Residential High Density (MF) - Visitor	Lodging (Hotel) - Visitor	Resort Hotel - Visitor	Retail/Comm'l & Town Offices (ACRES)	Retail/Commercial	Light Industrial	Public Utility	Public School	High School	College	Hospital	Post Office	Church	Downhill Skiing-Employees	Downhill Skiing-Skiers	Cross-country Skiing/Snowmobiling
173	0	0	81	0	0	0	146	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
174	0	0	0	0	0	0	0	48	0	4	0	0	0	0	0	0	0	0	0	0	0	0
175	0	0	60	0	0	10	0	0	0	3	0	0	1	0	0	0	0	0	0	0	0	0
176	0	0	0	0	0	0	0	0	0	13	0	0	0	0	0	0	0	0	0	0	0	0
177	0	0	30	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0
178	0	0	45	0	0	0	165	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
179	0	0	0	0	0	0	0	160	0	4	0	0	0	0	0	0	0	0	0	0	0	0
180	0	0	100	0	0	30	42	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0
181	0	0	30	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0
182	0	0	10	0	0	0	0	72	0	4	0	0	0	0	0	0	0	0	0	0	0	0
183	0	0	30	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0
184	0	21	23	0	0	0	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
185	0	17	6	0	0	0	27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
186	0	34	9	0	0	0	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
187	0	18	120	0	0	8	180	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
188	0	21	23	0	0	0	17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
189	0	13	14	0	0	0	17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
190	0	18	19	0	0	0	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
191	0	24	13	0	0	0	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
192	34	380	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
193	0	0	0	0	0	0	0	32	0	0	14	0	0	0	0	0	0	0	0	0	0	0
194	0	0	0	0	0	0	0	191	0	12	0	0	0	0	0	0	0	12,500	0	0	0	0
195	0	0	50	0	0	0	0	357	0	2	0	0	0	0	0	0	0	0	0	0	0	0
196	0	0	0	0	0	0	0	106	0	2	0	0	0	0	0	0	0	0	0	0	0	0
197	0	0	16	0	0	30	42	82	0	1	0	0	0	0	0	0	0	0	0	0	0	0
198	0	0	0	0	0	0	0	0	86	0	0	0	0	0	0	0	0	0	0	0	0	0
199	0	10	10	0	0	9	9	0	275	0	50	0	0	0	0	0	0	0	0	0	0	0
200	0	14	0	0	0	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
201	0	23	0	0	0	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
202	0	24	0	0	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
203	0	44	0	0	0	23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
204	0	38	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
205	0	31	0	0	0	23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
206	0	49	0	0	0	43	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
207	0	54	0	0	0	45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
208	0	23	0	0	0	29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
209	0	18	0	0	0	34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
210	0	8	12	0	0	1	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
211	0	0	59	0	0	0	83	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
212	0	0	120	0	0	0	81	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
213	0	25	0	0	0	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
214	0	23	0	0	0	26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
215	0	5	50	0	0	9	70	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
216	10	0	7	0	0	8	83	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
217	30	41	4	0	6	44	90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
218	0	4	17	0	0	0	152	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
219	0	0	12	0	0	0	256	27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
220	0	0	18	0	0	0	169	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
221	0	4	0	0	0	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
222	0	7	0	0	0	32	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
223	0	26	0	0	0	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
224	0	14	0	0	0	29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
225	0	11	0	0	0	36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
226	0	32	0	0	0	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
227	0	20	0	0	0	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
228	0	14	0	0	0	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
229	0	19	0	0	0	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
230	0	0	20	0	0	0	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
231	0	0	0	0	0	0	0	0	81	0	10	0	0	0	0	0	0	0	0	0	0	0
232	0	0	0	0	0	0	0	0	129	0	5	0	0	0	0	0	0	0	0	0	0	0
233	0	0	0	0	0	0	0	0	88	3	0	0	0	0	0	0	0	0	0	0	0	0
234	0	0	0	0	0	0	0	0	198	0	65	0	0	0	0	0	0	0	0	0	0	0
235	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
236	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	1	0	0	0
237	0	0	0	0	0	0	0	0	29	0	0	0	0	0	0	0	0	0	0	0	0	0
238	0	0	16	0	0	0	37	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
239	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
240	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
241	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
242	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
244	0	0	0	0	0	0	0	0	117	0	0	0	0	0	0	0	0	0	0	0	0	0
246	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
247	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
248	0	0	62	0	0	0	0	79	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	**385**	**1,868**	**2,149**	**120**	**222**	**1,728**	**5,597**	**1,168**	**2,033**	**70**	**582**	**66**	**38**	**23**	**36**	**500**	**21**	**12,500**	**7**	**2,163**	**24,000**	**807**

Revised LOS Calculations

The calculation sheets are on file at Town Hall

Revised Vehicle Miles Traveled (VMT)
For Draft General Plan Update

Town of Mammoth Lakes Estimated 2004 and 2024 Vehicle Miles of Travel on Study Roadway Segments

Segment	Description	Length (Miles)	Revised 2004		Revised ALT 1	
			ADT	VMT	ADT	VMT
Main Street Segment 1	Between Meridian and Sierra Park	1.03	5,983	6,163	8,498	8,753
Main Street Segment 2	Between Sierra Park and Old Mammoth	0.12	8,733	1,048	11,775	1,413
Main Street Segment 3	Between Old Mammoth and Mono	0.48	17,298	8,303	22,452	10,777
Main Street Segment 3	Between Mono and Minaret	0.45	15,896	7,153	21,856	9,835
Lake Mary Road (Old Main Street Segment 5)	Between Minaret and Lakeview	0.49	7,216	3,536	10,322	5,058
Lake Mary Road Segment 1	Between Lakeview and Juniper	0.46	1,789	823	3,493	1,607
Lake Mary Road Segment 2	South of Juniper	1.20	145	174	1,138	1,365
Meridian Boulevard Segment 1	SR 203 to Sierra Park	1.09	1,751	1,909	4,363	4,756
Meridian Boulevard Segment 2	Sierra Park to Old Mammoth	0.14	4,071	570	6,507	911
Meridian Boulevard Segment 3	Old Mammoth to Minaret	0.58	8,079	4,686	12,016	6,969
Meridian Boulevard Segment 4	Minaret to Majestic Pines	0.66	5,811	3,835	11,808	7,793
Old Mammoth Road Segment 1	Main to Meridian	0.45	12,489	5,620	18,431	8,294
Old Mammoth Road Segment 2	Meridian to Sherwin Creek	0.36	7,381	2,657	13,267	4,776
Old Mammoth Road Segment 3	Sherwin to Minaret	0.29	5,000	1,450	10,590	3,071
Old Mammoth Road Segment 4	Minaret to Club	0.47	4,234	1,990	8,036	3,777
Old Mammoth Road Segment 5	Club Drive to Waterford	0.26	2,465	641	4,865	1,265
Old Mammoth Road Segment 6	West of Sherwin	0.71	1,018	723	2,272	1,613
Forest Trail	Entire Length of Road	1.06	742	786	2,493	2,643
Canyon Boulevard	Lake Mary to Lakeview	0.32	4,625	1,480	10,003	3,201
Lakeview Drive	Canyon to Davison	0.93	2,469	2,296	3,589	3,338
Kelly Road and Majestic Pines	Lake Mary to Meridian	0.60	1,492	895	2,538	1,523
SR 203 Segment 1 (Minaret North of Main)	Lake Mary to Forest Trail	0.26	11,712	3,045	13,431	3,492
SR 203 Segment 2	Forest Trail to 1.0 Mile North	1.00	6,475	6,475	7,241	7,241
Minaret Road Segment 1	Main to Meridian	0.64	6,983	4,469	14,522	9,294
Minaret Road Segment 2	Meridian to Chateau	0.51	4,049	2,065	11,220	5,722
Minaret Road Segment 3	Chateau to Old Mammoth	0.21	4,829	1,014	15,676	3,292
Fairway Drive	Immediately South of Old Mammoth	0.13	1,885	245	16,069	2,089
TOTAL VMT				74,051		123,868

Previous ALT 1 VMT	154,471
Previous Proposed GP VMT	159,961
Estimated Revised Proposed GP VMT	128,270

Revised Vehicle Miles Traveled (VMT)
For Project Alternatives

Town of Mammoth Lakes Estimated 2004 and 2024 Vehicle Miles of Travel on Study Roadway Segments

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Lake Mary Road Segment 2	South of Juniper	1.20	145	174	1,138	1,365
Meridian Boulevard Segment 1	SR 203 to Sierra Park	1.09	1,751	1,909	4,363	4,756
Meridian Boulevard Segment 2	Sierra Park to Old Mammoth	0.14	4,071	570	6,507	911
Meridian Boulevard Segment 3	Old Mammoth to Minaret	0.58	8,079	4,686	12,016	6,969
Meridian Boulevard Segment 4	Minaret to Majestic Pines	0.66	5,811	3,835	11,808	7,793
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Fairway Drive	Immediately South of Old Mammoth	0.13	1,885	245	16,069	2,089
TOTAL VMT				74,051		123,868

Previous ALT 1 (Existing General Plan) VMT	154,471
Estimated Revised ALT 1 (Existing General Plan) VMT	123,868
Previous Proposed GP VMT	159,961
Estimated Revised Proposed GP VMT	128,270
Previous ALT 2 (Workforce Housing) VMT	157,575
Estimated Revised ALT 2 (Workforce Housing) VMT	126,357
Previous ALT 4 (Reduced) VMT	145,745
Estimated Revised ALT 4 (Reduced) VMT	116,871

Mammoth Lakes General Plan - Proposed Action Alternative Analysis

LSC Transportation Consultants, Inc.
August 17, 2005

Introduction

The Town of Mammoth Lakes' TranPlan Traffic Model, which was last updated by LSC in 2004, was used as the basis of the traffic analysis for the Mammoth Lakes General Plan Proposed Action Alternative. It should be noted that any community-wide traffic model is a planning level "tool" and necessarily reflects a simplification of the roadway network, individual property access, and land uses. Detailed evaluation of individual roadway elements based upon specific project site plans, therefore, may yield differing results. The model, however, is more than adequate for purposes of overall planning for Mammoth Lakes transportation network, and meets or exceeds the standards of the traffic engineering profession.

The land use assumptions for all alternatives evaluated were provided by the Town of Mammoth Lakes Planning staff. It is assumed under this alternative (as was for the first four alternatives) that the maximum allowable density is built on currently undeveloped parcels. In addition, the proposed General Plan allows density transfers under special cases where the density transfer would provide a benefit to the Town. However, the level of density transfers that may occur in the future is unpredictable and would be subject to a separate environmental review. Therefore, the impact of potential density transfers is not analyzed in this document.

LOS Analysis Assumptions

The following assumptions were used in the LOS analysis:

1. Available turning-movement count data within the Town of Mammoth Lakes is relatively limited, and was not all collected during the Town's specified design period. As a result, adjustments were made to the actual count data, where available, to develop a set of design volumes reflecting the design period. One key factor in LOS analysis is the "peak-hour factor," which represents the variation in traffic activity over the course of the peak hour. Using actual count data to estimate peak hour factors is not appropriate in this circumstance (as these factors will change with future development) and some general assumptions regarding appropriate peak-hour factors were required. Based upon a review of available count data, it was assumed that the peak-hour factor along Main Street from Old Mammoth Road to Lake Mary Road and along Old Mammoth Road from Main Street to Meridian is 0.95. A peak-hour factor of 0.90 was assumed for all other intersections.

2. As the model represent winter Saturday peak-hour conditions, 2024 weekday peak-hour conditions were estimated by taking existing weekday traffic volumes provided by the Town of Mammoth Lakes and factoring them by the growth rate identified by the model. The resultant winter Saturday P.M. peak-hour traffic volumes are shown in Table A and Figure 1.

3. The capacity of the roadways within Mammoth Lakes were estimated as follows:

   - A base capacity of 1,600 vehicles per hour was assumed. This figure is slightly lower than is typically observed in urban areas, representing the reduction in effective capacity that results from both visitor drivers that are unfamiliar with the area as well as the impacts of winter driving conditions. It is consistent with observed capacity in the Tahoe Region, which is similarly affected by visitor drivers and winter weather conditions.

   - According to Chapter 10 (Urban Street Concepts) of the Highway Capacity Manual (TRB, 2000), the default directional lane split for roadways with two lanes per direction is 52.5 percent in one lane and 47.5 percent in the other. Therefore, as no recent count data was available to determine the actual lane split, for roadways with more than one lane in each direction, it was assumed that one lane would carry 52.5 percent of the directional traffic, while the second lane would carry 47.5 percent.

   - Reductions to roadway capacity were made as required on individual segments, to account for the presence of pedestrian crossings, on-street parking maneuvers, vehicles searching for parking spaces, and conflicting driveway turning movements.

   - The resulting roadway capacities are shown in Table B. Please note, however, that the roadway capacities applied in this study are for planning purposes only and are only based upon estimated effects of pedestrians, parking maneuvers, and driveway turning-movement conflicts.

LOS Thresholds

Consistent with adopted Town standards and the Mammoth Lake-Yosemite Valley Airport Traffic Impact Study (LSA, August, 2001), the Town of Mammoth Lakes staff directed LSC to apply the following LOS thresholds:

- For Signalized Intersections: *Total intersection LOS D or better must be maintained. Therefore, if a signalized intersection is found to operate at a total intersection LOS E or F, it is assumed mitigation is required.* It is assumed that this same threshold applies to roundabouts.

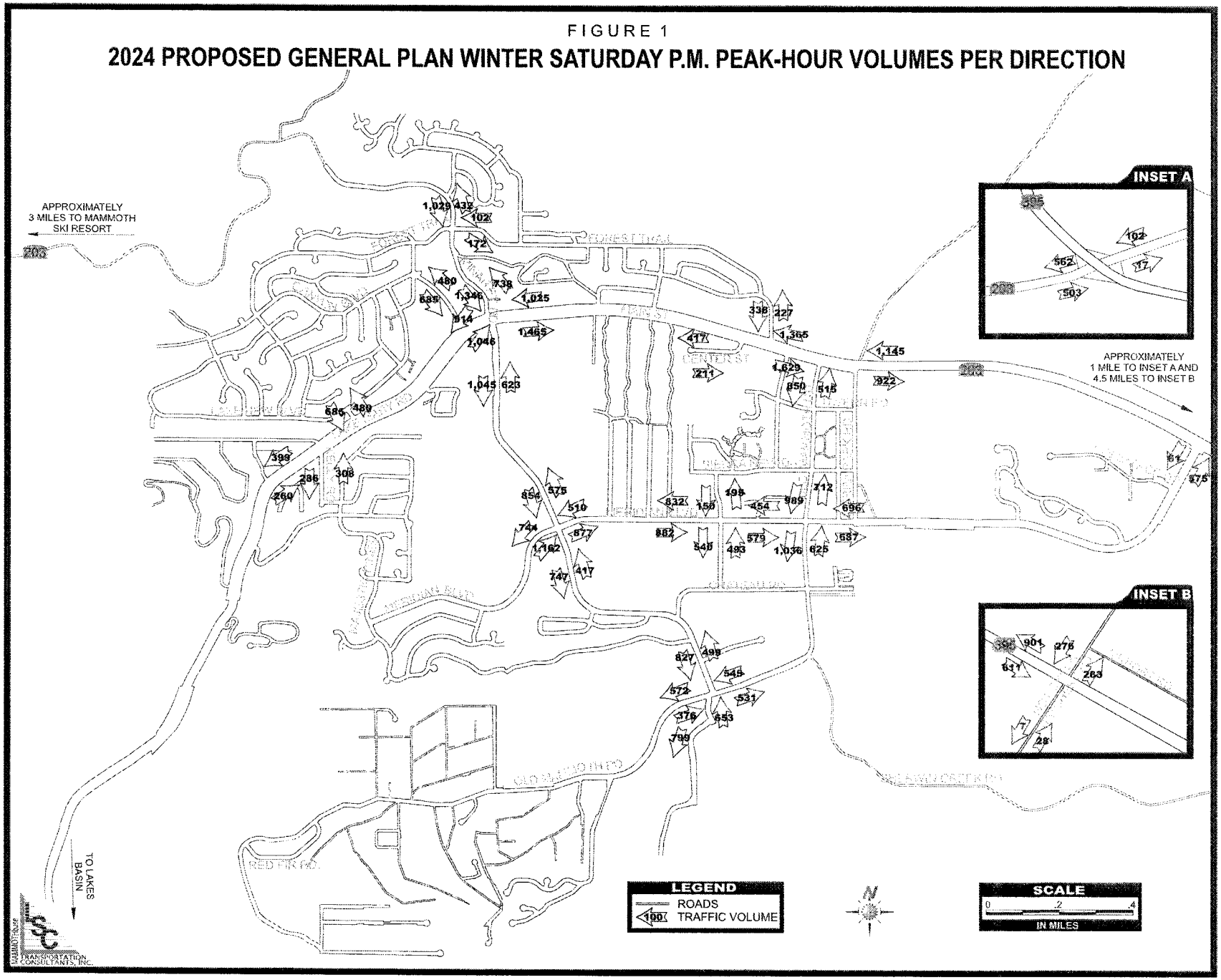
TABLE A: 2024 Alternative 5 Winter Saturday P.M. Peak-Hour Design Turning-Movement Volumes

Node	North/South	East/West	Northbound			Southbound			Eastbound			Westbound			Total
			LT	T	RT	LT	T	RT	LT	T	RT	LT	T	RT	
2276	Kelly	Lake Mary	82	0	226	0	0	0	0	203	57	229	317	0	1,114
2256	Lakeview	Lake Mary	0	0	.0	228	0	366	293	136	0	0	180	190	1,393
2162	Canyon	Lake Mary	0	0	0	648	0	37	25	398	0	0	459	455	2,022
2163	Center	Main	137	9	65	46	4	38	79	1068	316	97	1025	30	2,914
2151	Minaret	Main	155	296	172	719	451	176	101	574	415	179	505	341	4,084
2168	Forest Trail	Main	21	3	37	295	5	38	43	1297	33	22	1162	181	3,137
2179	Old Mammoth	Main	365	0	150	0	0	0	0	711	698	160	689	0	2,773
2184	Sierra Park	Main	11	0	136	0	0	0	0	786	7	201	944	0	2,085
2264	Meridian	Main WB	521	0	0	0	0	0	0	0	0	50	512	0	1,083
2273	Meridian	Main EB	0	521	73	0	50	0	0	430	375	0	0	0	1,449
2291	US 395 NB	Main/SR 203	281	0	0	0	0	0	165	17	0	0	102	0	565
2314	US 395 SB	Main/SR 203	0	0	0	0	0	179	0	182	321	0	383	0	1,065
2195	Majestic Pines	Meridian	0	0	0	175	0	101	142	740	0	0	341	206	1,705
2349	Old Mammoth	Meridian	30	405	190	224	608	157	149	273	157	271	267	158	2,889
2347	Sierra Park	Meridian	0	1	0	35	0	6	20	351	0	0	526	8	947
2028	Minaret	Forest Trail	312	248	33	10	663	356	180	129	335	31	63	8	2,368
2450	Minaret	Old Mammoth	62	357	234	98	469	260	123	199	54	276	250	19	2,401
2364	Minaret	Meridian	154	241	22	219	460	175	252	636	274	13	415	82	2,943
none	US 395 NB	Hot Creek Fish Hatchery	2	683	112	0	0	0	20	151	0	0	78	198	1,244
none	US 395 SB	Hot Creek Fish Hatchery	0	0	0	151	455	5	0	20	8	78	2	0	719
2350	Azimuth	Meridian	296	85	112	21	82	47	83	481	318	140	489	27	2,181

Mammoth Model TM Volumes.wb3

FIGURE 1

2024 PROPOSED GENERAL PLAN WINTER SATURDAY P.M. PEAK-HOUR VOLUMES PER DIRECTION



- For Unsignalized Intersections: Approach intersection LOS D or better must be maintained. For example, if the minor street approach at an unsignalized two-way stop-controlled intersection operates at LOS E or F, then mitigation is required.

  However, under this policy, the LOS threshold at unsignalized intersections can be easily exceeded when only a few vehicles experience a delay greater than 50 seconds (such as at a driveway serving a few homes that accesses onto a busy street). Furthermore, application of this threshold would substantially increase the frequency that failure of intersections is identified, along with the need for intersection improvements. Many jurisdictions (particularly resort communities where peak conditions occur over a relatively small proportion of the entire year) have chosen to adopt unsignalized intersection LOS standards that allow greater delay on low-volume approaches. Therefore, for purposes of this analysis, a LOS deficiency is assumed to occur at an unsignalized intersection only if an individual minor street movement operates at LOS E or F and total minor approach delay exceeds 4 vehicle-hours for a single lane approach and 5 vehicle-hours for a multi-lane approach.

The Manual of Uniform Traffic Control Devices (MUTCD) (Federal Highways Administration, 2003), the most recent MUTCD document, is commonly used as the guide to the appropriate installation of traffic signals. Eight warrants for traffic signals are cited in Section 4-C of the MUTCD. Table C indicates the degree to which those unsignalized intersections with worst movement LOS exceeding LOS standards meet the MUTCD peak-hour signal warrant (Warrant 3). This evaluation was conducted using the Traffix Software Package. The peak-hour signal warrant is typically the first warrant to be met as traffic activity levels increase. If the peak-hour warrant is not met, it is unlikely that any of the seven other warrants are met. Therefore, in the case that the peak-hour signal warrant is not met, a traffic signal is not usually recommended, unless high pedestrian activity or accident rates exist at the intersection. While a similar formal "warrant" system has not been established for roundabouts, roundabouts are generally not considered to be appropriate unless traffic signal warrants are met.

Table B: Roadway Capacity Summary

#	Roadway Segment		2024 Proposed Action Alternative		
		Capacity (Vehicles per Hour per Peak Direction)	Vehicles Per Hour Per Lane	Volume/ Capacity (Note 1)	Capacity Exceeded?
1	Main Street Immediately East of Sierra Park Road	2,600	1,145	0.44	No
2	Main Street Immediately West of Old Mammoth Road	2,600	1,629	0.63	No
3	Main Street Immediately East of Minaret Road	2,600	1,465	0.56	No
4	Lake Mary Road Immediately West of Canyon Boulevard	1,600	496	0.31	No
5	Lake Mary Road Immediately West of Kelly Road	1,600	399	0.25	No
6	Minaret Road Immediately North of Forest Trail	1,600	1,029	0.64	No
7	Minaret Road – Main Street to Forest Trail	1,300	1,346	**1.04**	**Yes**
8	Minaret Road Immediately South of Main Street	1,600	1,045	0.65	No
9	Minaret Road Immediately North of Meridian Boulevard	1,600	854	0.53	No
10	Minaret Road Immediately South of Meridian Boulevard	1,600	747	0.47	No
11	Minaret Road Immediately North of Old Mammoth Road	1,600	827	0.52	No
12	Old Mammoth Road Immediately South of Main Street	1,600	858	0.54	No
13	Old Mammoth Road Immediately South of Meridian Boulevard	1,600	1,036	0.65	No
14	Old Mammoth Road Immediately East of Minaret Road	1,300	545	0.42	No
15	Old Mammoth Road Immediately West of Minaret Road	1,300	572	0.44	No
16	Meridian Boulevard Immediately South of Main Street	1,600	575	0.36	No
17	Meridian Boulevard Immediately East of Minaret Road	2,600	877	0.34	No
18	Meridian Boulevard Immediately West of Minaret Road	2,600	1,162	0.45	No

Table B: Roadway Capacity Summary (continued)					
#	Roadway Segment		2024 Proposed Action Alternative		
		Capacity (Vehicles per Hour per Peak Direction)	Vehicles Per Hour Per Lane	Volume/ Capacity (Note 1)	Capacity Exceeded?
19	Forest Trail Immediately North of Main Street	800	338	0.42	No
20	Forest Trail Immediately East of Minaret Road	800	172	0.22	No
21	Fairway Drive Immediately South of Old Mammoth Road	1,000	799	0.80	No
22	Lakeview Drive Immediately North of Lake Mary Road	800	685	0.86	No
23	Kelly Road Immediately South of Lake Mary Road	800	308	0.39	No
24	Center Street Immediately South of Main Street	800	417	0.52	No
25	Canyon Boulevard Immediately North of Lake Mary Road	1,000	685	0.69	No
26	Azimuth Road Immediately North of Meridian Boulevard	800	195	0.24	No
27	Azimuth Road Immediately South of Meridian Boulevard	800	540	0.68	No
28	US 395 Immediately South of SR 203	2,700	901	0.33	No
29	SR 203 Immediately West of US 395	2,700	562	0.21	No
30	Hot Creek Hatchery Road Immediately West of US 395	1,600	28	0.02	No
31	Hot Creek Hatchery Road Immediately East of US 395	1,600	276	0.17	No
32	SR 203 Immediately East of US 395	1,000	102	0.10	No

Table C: Peak-Hour Signal Warrant Analysis

Bold Text Indicates Peak-Hour Signal Warrant is Met				
	Intersection		**Unmitigated Traffic Control**	
#	**North/South**	**East/West**	**Control**	**2024 Proposed Action Alternative**
1	Kelly	Lake Mary	Two-Way Stop Controlled	No
2	Lakeview	Lake Mary	Two-Way Stop Controlled	**Yes**
4	Center	Main	Two-Way Stop Controlled	**Yes**
6	Forest Trail	Main	Two-Way Stop Controlled	**Yes**
9	Meridian	Main WB	Two-Way Stop Controlled	**Yes**
10	Meridian	Main EB	Two-Way Stop Controlled	**Yes**
11	US 395 NB	Main/SR 203	Two-Way Stop Controlled	No
13	Majestic Pines	Meridian	Two-Way Stop Controlled	**Yes**
16	Minaret	Forest Trail	Two-Way Stop Controlled	**Yes**
17	Minaret	Old Mammoth	Two-Way Stop Controlled	**Yes**
19	US 395 NB	Hot Creek Fish Hatchery	Two-Way Stop Controlled	No
21	Azimuth	Meridian	Two-Way Stop Controlled	**Yes**

** Based upon weekday analysis.

2024 Intersection LOS Impacts

The intersection LOS was calculated using the Traffix Software Package (Version 7.6). Roundabout LOS is analyzed using the aaSIDRA Software Package. The winter Saturday peak-hour LOS is summarized in Table D.

Under the Proposed Action Alternative, the following intersections were identified to exceed LOS thresholds:

- Lake Mary Road/Lakeview Road
- Main Street/Center Street
- Minaret Road/Main Street
- Main Street/Forest Trail
- Main Street Westbound/Meridian Boulevard
- Main Street Eastbound/Meridian Boulevard
- Meridian Boulevard/Majestic Pines Drive
- Minaret Road/Forest Trail
- Minaret Road/Old Mammoth Road
- Azimuth Road/Meridian Boulevard

Table D: Winter Saturday Intersection LOS Summary

Bold Text Indicates LOS Threshold Exceeded					
#	Intersection		Unmitigated Traffic Control	Approach	2024 Proposed Action Alternative
1	Kelly	Lake Mary	Two-Way Stop Controlled	Northbound Westbound	E A
2	Lakeview	Lake Mary	Two-Way Stop Controlled	Southbound Eastbound	**F** A
3	Canyon	Lake Mary	Traffic Signal	Total Intersection	B
4	Center	Main	Two-Way Stop Controlled	Northbound Southbound Eastbound Westbound	**F** F B C
5	Minaret	Main	Traffic Signal	Total Intersection	**F**
6	Forest Trail	Main	Two-Way Stop Controlled	Northbound Southbound Eastbound Westbound	D **F** C B
7	Old Mammoth	Main	Traffic Signal	Total Intersection	B
8	Sierra Park	Main	Two-Way Stop Controlled	Northbound Westbound	C B
9	Meridian	Main WB	Two-Way Stop Controlled	Northbound Westbound	**F** A
10	Meridian	Main EB	Two-Way Stop Controlled	Northbound Southbound	**F** C
11	US 395 NB	Main/SR 203	Two-Way Stop Controlled	Northbound Eastbound	D A
12	US 395 SB	Main/SR 203	Two-Way Stop Controlled	Southbound	B
13	Majestic Pines	Meridian	Two-Way Stop Controlled	Southbound Eastbound	**F** A
14	Old Mammoth	Meridian	Traffic Signal	Total Intersection	C
15	Sierra Park	Meridian	4-Way Stop-Controlled	Northbound Southbound Eastbound Westbound	A A B B

Table D: Winter Saturday Intersection LOS Summary (continued)

#	Intersection		Unmitigated Traffic Control	Approach	2024 Proposed Action Alternative
16	Minaret	Forest Trail	Two-Way Stop Controlled	Northbound	C
				Southbound	A
				Eastbound	**F**
				Westbound	**F**
17	Minaret	Old Mammoth	Two-Way Stop Controlled	Northbound	**F**
				Southbound	**F**
				Eastbound	A
				Westbound	A
18	Minaret	Meridian	Traffic Signal	Total Intersection	D
19	US 395 NB	Hot Creek Fish Hatchery	Two-Way Stop Controlled	Northbound	A
				Eastbound	E
				Westbound	C
20	US 395 SB	Hot Creek Fish Hatchery	Two-Way Stop Controlled	Southbound	A
				Eastbound	C
				Westbound	C
21	Azimuth	Meridian	Two-Way Stop Controlled	Northbound	**F**
				Southbound	**F**
				Eastbound	A
				Westbound	B

Roadway Capacity Impacts

As Table B indicates, the roadway capacity of Minaret Road between Main Street and Forest Trail would be exceeded under the Proposed Action Alternative. The capacity of no other roadways are forecast to be exceeded.

Mitigation Measures

Potential mitigation measures for each intersection are described below. LSC's recommended improvement for each is also provided.

Lakeview Road/Lake Mary Road

The southbound approach to this intersection exceeds LOS thresholds under the Proposed Action Alternative. Provision of separate southbound left and right-turn lanes and a westbound acceleration lane along Lake Mary Road (to accommodate two-stage left turns from Lakeview Drive to Lake Mary Road) would mitigate the southbound approach LOS to LOS D.

Main Street/Center Street

The northbound approach at this intersection exceeds the LOS thresholds under the Proposed Action Alternative. The provision of additional northbound turn lanes does not improve LOS such that LOS thresholds are no longer exceeded. In order to avoid future LOS deficiencies, a traffic signal or roundabout could be constructed. A traffic signal would be warranted and would operate at LOS C under build out of the Proposed Action Alternative at this location. Alternatively, a dual lane roundabout with single-lane northbound and southbound approaches, a 75-foot island diameter, a 32-foot circulating width, and a 139-foot inscribed circle diameter would operate at LOS B under all alternatives. In addition to addressing the LOS deficiency, provision of a signal or a roundabout would greatly improve Main Street pedestrian crossing conditions.

Minaret Road/Main Street Intersection

This signalized intersection falls from an adequate LOS C condition in 2004 to operate at a LOS F under the Proposed Action Alternative. The provision of protected left-turn phasing on all approaches and eastbound right-turn overlap signal phasing at the existing signal would mitigate LOS impacts at this intersection. With these improvements, the intersection would operate at LOS D.

Main Street/Forest Trail Intersection

While operating acceptably under 2004 conditions, the southbound approach at the Main Street/Forest Trail intersection exceeds the LOS thresholds in 2004 under the Proposed Action Alternative. The provision of additional lanes, however, would not

mitigate the LOS deficiencies. Therefore, there are three primary potential mitigation measures for this LOS deficiency: construct a roundabout, construct a traffic signal, or prohibit left turns out of the southbound minor street approach.

While prohibiting left turns at this intersection would inconvenience drivers, constructing a roundabout or traffic signal would actually encourage drivers to use Forest Trail as a cut-through route, as the delay of the southbound approach would be greatly reduced. Prohibiting southbound left-turns, on the other hand, would only slightly inconvenience drivers by requiring them to drive to the Center Street intersection to turn around (which could potentially be aided through the provision of a roundabout at Center Street). However, this inconvenience may work to lessen the exiting Forest Trail cut-through problem, thereby having a beneficial impact to Town-wide circulation. The prohibition of southbound left-turn movements at the intersection would result in a worst approach LOS of D upon build out of the Proposed Action Plan.

Main Street/Meridian Boulevard

Because Main Street is a divided roadway at its intersection with Meridian Boulevard with a substantial median, the intersection of Main Street and Meridian Boulevard operates as two separate intersections. While operating at a relatively good LOS B in 2004, the northbound approach at the Main Street Eastbound/Meridian Boulevard intersection and the northbound approach at the Main Street Westbound/Meridian Boulevard intersection exceeds LOS thresholds in 2024 under the Proposed Action Alternative.

In the case that a traffic signal is built at both intersections, they would need to be coordinated in order to ensure that queues at the northern intersection would not form back into the southern intersection. Traffic signals would operate at a LOS B. Alternatively, one roundabout could be constructed that combined the two intersections. A dual-lane roundabout with single-lane northbound and southbound approaches, an 85-foot island diameter, a 32-foot circulating width, and a 149-foot inscribed circle diameter would operate at LOS A upon build out of the Proposed Action Alternative.

Majestic Pines/Meridian Boulevard Intersection

While it operates at a relatively good LOS B under 2004 conditions, the southbound approach at the Majestic Pines/Meridian Boulevard intersection exceeds LOS standards in 2024 under the Proposed Action Alternative. The provision of additional turns lanes would not mitigate LOS impacts at this intersection. If a traffic signal was constructed at this intersection, it would operate at LOS B or better. Meridian Boulevard could also be reduced to one lane in each direction in addition to constructing a single-lane roundabout with a 60-foot island diameter and a 20-foot circulating width. This roundabout would operate at LOS A. The installation of a traffic signal would not require any widening of the roadway.

Minaret Road/Forest Trail Intersection

This intersection will exceed LOS thresholds under build out of the Proposed Action Alternative. However, as the current plan is to construct a roundabout at the intersection, the construction of a roundabout is considered the preferable mitigation. If the roundabout is constructed as currently designed in the PSR, the intersection would operate at a LOS B upon build out of the Proposed Action Alternative, as evaluated by aaSIDRA.

Minaret Road/Old Mammoth Road Intersection

While this intersection provides adequate LOS in 2004 conditions, it fails significantly under the Proposed Action Alternative. Due to the high volume of traffic that is expected on all four approaches upon build out of any of the General Plan alternatives, a roundabout or traffic signal is recommended. If a traffic signal is installed, the following improvements would be required for the Proposed Action Alternative, which would result in an intersection LOS D:

- Construct a traffic signal with protected left-turn phasing.
- Construct a separate northbound left-turn lane and a northbound through/right shared lane (remove left/through and right-turn lanes).
- Construct separate southbound left, through, and right-turn lanes (remove left/through/right shared).

Alternatively, if a roundabout with a 75-foot island diameter, 20-foot circulating width, and 16-foot entry width is constructed, it would operate at LOS C.

Meridian Boulevard/Azimuth Drive

This intersection is forecast to exceed LOS thresholds on the northbound and southbound approaches upon build out of the Proposed Action Alternative. This impact can be mitigated by constructing a traffic signal or roundabout. If a roundabout with a 60-foot island diameter, 20-foot circulating width, and 15-foot entry lanes was constructed, the intersection would operate at a LOS B or better under all 2024 scenarios. The intersection would operate at LOS D if a traffic signal with split phasing on all approaches was built in addition to a separate northbound left-turn lane.

Roadway Capacity Impact Mitigation

The only roadway segment that is forecast to exceed its capacity upon build out of the Proposed Action Alternative is Minaret Road between Main Street and Forest Trail. By 2024 traffic levels are forecast to exceed capacity by approximately 4 percent. This condition could be mitigated by effectively increasing the capacity of the roadway through elimination of on-street parking, provision of traffic control for pedestrian crossing activity during peak periods, or both. Another option would be to reduce the density of land uses developed adjacent to the roadway segment.

Mammoth Lakes Transportation Model
Level of Service (LOS) Analysis

The purpose of this memorandum is to present the results of a preliminary LOS analysis for use in the Mammoth Lakes General Plan EIR and the development of the Town of Mammoth Lakes Capital Improvement Program. This LOS analysis analyzes intersection LOS resulting at 20 key intersections under 2004 conditions and upon build out of the four General Plan Land Use alternatives. This analysis also compares the existing and forecasted peak-hour volumes along key roadway segments to each segments estimated capacity to identify any future roadway link deficiencies. First, the LOS that would result upon implementation of Mammoth Lakes General Plan Alternative 1, 2, or 4 without any future roadway improvements is presented. Each intersection or roadway segment that has been identified to exceed LOS thresholds upon build out of any of this alternatives is then identified and potential mitigation measures are discussed. We have provided our recommendations but would encourage the Town to review the potential mitigation measures and provide comments as to which mitigation measures they think are most appropriate.

LOS Analysis Assumptions

The following assumptions were used in the LOS analysis:

1. All LOS and capacity analyses presented in this memorandum are based upon Winter Saturday P.M. peak-hour conditions.

2. The lane configuration assumed in the intersection LOS analysis is shown in Figure 1.

3. Available turning-movement count data within the Town of Mammoth Lakes is relatively limited. In addition, adjustments were made to the actual count data, where available, to develop a set of design volumes. Therefore, as using actual count data to estimate peak hour factors is not appropriate in this circumstance and some general assumptions regarding appropriate peak-hour factors were required. Based upon a review of available count data, it was assumed that the peak-hour factor along Main Street from Old Mammoth Road to Lake Mary Road and along Old Mammoth Road from Main Street to Meridian is 0.95. A peak-hour factor of 0.90 was assumed for all other intersections.

4. The capacity of the roadways within Mammoth Lakes were estimated as follows:

    - A base saturation flow rate of 1,600 vehicles per hour was assumed.

    - For roadways with more than one lane in each direction, it was assumed that one lane would carry 60 percent of the directional traffic, while the second lane would carry 40 percent.

- Reductions to each capacity were made to account for the presence of pedestrian crossings, on street parking maneuvers, vehicles searching for parking spaces, and conflicting driveway turning movements.

- The resulting roadway capacities are shown in Table 1. Please note, however, that the roadway capacities applied in this study are for planning purposes only and are only based upon estimated effects of pedestrians, parking maneuvers, and driveway turning-movement conflicts.

UNMITIGATED LOS RESULTS

The unmitigted intersection LOS was calculated using the Traffix Software Package (Version 7.6) and is summarized in Table 2. Consistent with the Mammoth Lake-Yosemite Valley Airport Traffic Impact Study (LSA, August, 2001), the Town of Mammoth Lakes staff has directed us to apply the following LOS thresholds:

- For Signalized Intersections: Total intersection LOS D or better must be maintained. Therefore, if a signalized intersection is found to operate at a total intersection LOS E or F, it is assumed mitigation is required. *It is assumed that this same threshold applies to roundabouts.*

- For Unsignalized Intersections: Approach intersection LOS D or better must be maintained. For example, if the minor street approach at an unsignalized two-way stop-controlled intersection operates at LOS E or F, then mitigation is required.

However, under this policy, the LOS threshold at unsignalized intersections can be easily exceeded when only a few vehicles experience a delay greater than 50 seconds. Furthermore, application of this threshold would substantially increase the frequency that failure of intersections is identified, along with the need for intersection improvements. Similar to the LOS policy the Town of Truckee is planning to adopt as a part of their General Plan update, we suggest that the Town of Mammoth Lakes revise their thresholds of significance to only find a deficiency if an individual minor street movement operates at LOS E or F and total minor approach delay exceeds 4 vehicle-hours for a single lane approach and 5 vehicle-hours for a multi-lane approach. This policy has the advantage of being relatively easy to calculate, as well as to explain to the public. For example it could be summarized as "A deficiency is only found for a side street with two approach lanes when the average number of cars waiting at the stop sign exceeds five over the peak hour".

The Manual of Uniform Traffic Control Devices (MUTCD) (Federal Highways Administration, 2003) is the most recent MUTCD document published by the Federal Highway Administration. Eight warrants for traffic signals are cited in Section 4-C of the MUTCD. Table 3 indicates the degree to which unsignalized intersections with worst movement LOS exceeding LOS standards meet the MUTCD peak-hour signal warrant (Warrant 3), which was evaluated using the Traffix Software Package. The peak-hour signal warrant is typically the first warrant to be met as traffic activity levels increase. If the peak-hour warrant is not met, it is unlikely that any of the seven other warrants are met. Therefore, in the case that the peak-hour signal warrant is not met, a traffic signal

is not usually recommended, unless high pedestrian activity or accident rates exist at the intersection.

2004 Conditions

As shown in Table 2, under the 2004 conditions, only the Minaret Road/Forest Trail intersection is identified to exceed LOS thresholds. A roundabout is currently proposed for this intersection, which, if constructed as currently proposed, would operate at LOS A under the 2004 condition. In addition, as shown in Table 1, all roadways are operating below capacity.

2024 Conditions

Intersection LOS

Under **all** 2024 alternative conditions, the following intersections were identified to exceed LOS thresholds:

- Lake Mary Road/Lakeview Road
- Main Street/Center Street
- Minaret Road/Main Street
- Main Street/Forest Trail
- Main Street Eastbound/Meridian Boulevard
- Minaret Road/Forest Trail
- Minaret Road/Old Mammoth Road

Under Alternative 1, LOS thresholds are also exceeded at the following intersections:

- Lake Mary Road/Kelly Road
- Main Street Westbound/Meridian Boulevard
- US 395 Northbound/SR 203
- Meridian Boulevard/Majestic Pines Drive

Under Alternative 2, LOS thresholds are also exceeded at the following intersections:

- Lake Mary Road/Kelly Road
- Main Street Westbound/Meridian Boulevard
- Meridian Boulevard/Majestic Pines Drive

Under Alternative 4, LOS thresholds are also exceeded at the following intersections:

- Minaret Road/Meridian Boulevard

The comparison of the LOS impacts resulting from each alternative indicates that Alternative 4 results in the least intersection LOS impact.

2024 Roadway Capacity Impacts

As Table 1 indicates, the roadway capacity of Minaret Road immediately north of Main Street would be exceed under Alternative 2 and the peak-hour volume along Minaret Road north of Forest Trail will be approaching the roadway capacity. However, the peak-hour volumes along this section of roadway would be approaching the roadway capacity under Alternatives 1. No other roadway capacities are forecast to be exceeded.

POTENTIAL MITIGATION MEASURES TO 2024 INTERSECTION LOS IMPACTS

The potential mitigation measures for each intersection are described below. LSC's recommended improvement is also provided.

Kelly Road/Lake Mary Road

The northbound approach at this intersection is forecast to exceed LOS thresholds upon build out of Alternatives 1, and 2. However, by providing a separate northbound right turn lane, the approach LOS would improve to a LOS D or better under Alternatives 1 and 2, thereby mitigating LOS impacts.

Recommended Mitigation: Provide separate northbound left-turn and right-turn lanes along the Kelly Road approach.

Lakeview Road/Lake Mary Road

The southbound approach to this intersection exceeds LOS thresholds under Alternatives 1, 2, and 4. Provision of separate southbound left and right-turn lanes, separate eastbound left-turn lanes, and a westbound acceleration lane along Lake Mary Road (to accommodate two-stage left turns from Lakeview Drive to Lake Mary Road) would mitigate intersection LOS impacts for Alternative 1, 2, and 4.

Recommended Mitigation: Convert Lakeview Road to a one-way northbound roadway.

Main Street/Center Street

The northbound approach at this intersection exceeds the LOS thresholds under Alternatives 1, 2, and 4. The provision of additional northbound turn lanes does not improve LOS under any of the alternatives such that LOS thresholds are no longer exceeded. In order to avoid future LOS deficiencies, a traffic signal or roundabout could be constructed. A traffic signal would operate at LOS C or better under build out of all alternatives at this location. A dual lane roundabout with single-lane northbound and southbound approaches, an 86-foot island diameter, a 32-foot circulating width, and a 150-foot inscribed circle diameter would operate at LOS A under all alternatives.

A roundabout at this location would have many advantages over a traffic signal, such as:

- A roundabout would result in shorter traffic queues on all approach streets.
- During off-peak hours, the roundabout would be more able to adapt to changing traffic volumes, thereby significantly reducing off peak delays and air pollutant emissions.
- Studies have shown that roundabouts reduce injury crashes at intersections that were previously signalized.
- Southbound left-turn movements at the Main Street/Forest Trail intersection could be prohibited if a roundabout is provided at the Main Street/Center Street intersection as U-turns would be easy to make at the roundabout. Of course, U-turns could be made at a traffic signal, if provided, although the presence of U-turns have more impact on a signal's capacity than a roundabouts.

The primary disadvantage associated with constructing a roundabout at this location is that it would require Caltrans approval. Given the Town's past and current difficulty in acquiring Caltrans approval at the Minaret Road/Forest Trail roundabout, the Town may decide not to pursue roundabouts on state highways.

Recommended Mitigation: Construct traffic signal or roundabout at Main Street/Center Street intersection.

Minaret Road/Main Street Intersection

This signalized intersection operates at a LOS E under Alternative 1 and LOS F under Alternative 2, and 4. The following improvements would be required under each alternative in order to mitigate LOS impacts:

- Alternative 1 - Provide eastbound right-turn overlap signal phasing.
- Alternative 2 - Provide protected left-turn phasing on all approaches.
- Alternative 4 - Provide protected left-turn phasing on all approaches and eastbound right-turn overlap signal phasing.

With these improvements, the intersection would operate at LOS D or better under all alternatives.

Recommended Mitigation: Change signal phasing to provide protected left-turn phasing and/or overlap right-turn phasing.

Main Street/Forest Trail Intersection

The southbound approach at the Main Street/Forest Trail intersection exceeds the LOS thresholds under all alternatives. The provision of additional lanes, however, will not mitigate the LOS deficiencies. Therefore, there are three primary potential mitigation measures for this LOS deficiency: construct a roundabout, construct a traffic signal, or prohibit left turns out of the southbound minor street approach.

A traffic signal would operate at LOS C or better under all alternatives. A dual lane roundabout with single-lane northbound and southbound approaches, an 86-foot island diameter, a 32-foot circulating width, and a 150-foot inscribed circle diameter

would operate at LOS B or better under all alternatives. Prohibiting southbound left turns at this intersection would result in a southbound approach LOS of C or better under all alternatives.

While prohibiting left turns at this intersection would inconvenience drivers, constructing a roundabout or traffic signal would actually encourage drivers to use Forest Trail as a cut-through route, as the delay of the southbound approach would be greatly reduced. Prohibiting southbound left-turns, on the other hand, would only slightly inconvenience drivers by requiring them to drive the College Street intersection to turn around. However, this inconvenience may work to lessen the exiting Forest Trail cut-through problem, thereby having a beneficial impact to Town-wide circulation.

Recommended Mitigation: Prohibit southbound left turns out of Forest Trail onto Main Street.

Main Street/Meridian Boulevard

Because Main Street is a divided roadway at its intersection with Meridian Boulevard, the intersection of Main Street and Meridian Boulevard operates as two separate intersections. However, the northbound approach at the Main Street Eastbound/Meridian Boulevard intersection exceeds LOS thresholds under all 2024 alternatives. In addition, the northbound approach at the Main Street Westbound/Meridian Boulevard intersection exceeds LOS thresholds under Alternatives 1 and 2. Peak-hour signal warrants are met at both intersections under Alternatives 1 and 2, but only at the southern intersection under Alternative 4.

There are two primary mitigation measures to the LOS impacts at this intersection: construct a roundabout or construct a traffic signal, both of which would essentially combine the two intersections into one. A traffic signal with protected westbound phasing would operate at LOS C or better under all alternatives. A dual lane roundabout with single-lane northbound and southbound approaches, an 86-foot island diameter, a 32-foot circulating width, and a 150-foot inscribed circle diameter would operate at LOS B under all alternatives.

Recommended Mitigation: Construct a roundabout or traffic signal.

Majestic Pines/Meridian Boulevard Intersection

The southbound approach at the Majestic Pines/Meridian Boulevard intersection exceeds LOS standards under Alternatives 1 and 2, although it operates at adequate LOS under Alternative 4. One potential mitigation to this intersection is to construct at traffic signal or roundabout, as the MUTCD peak-hour signal warrant is met under Alternatives 1 and 2. However, a potentially more cost effective mitigation would be to widen the roadway to provide a two-way left-turn lane along Meridian Boulevard to provide for two-stage southbound left turns out of Majestic Pines onto Meridian Boulevard. Under Alternative 2, separate southbound left-turn and right-turn lanes would also need to be provided in order to mitigate LOS impacts.

The installation of a traffic signal would not require any widening of the roadway. If a traffic signal was constructed at this intersection, it would operate at LOS B or better.

Recommended Mitigation: Construct two-way left-turn lane along Meridian Boulevard.

Minaret Road/Forest Trail Intersection

This intersection will exceed LOS thresholds under all existing and future alternatives. However, as the current plan its to construct a roundabout at the intersection, the construction of a roundabout is considered the preferable mitigation. If the roundabout is built as is currently designed, the intersection would operate at a LOS E under Alternatives 1 and 4, although it would operate at a LOS E under Alternative 2. However, if an additional southbound right-turn lane is added to the roundabout, as currently designed, such that the northwestern quadrant of the roundabout contains 2 circulating lanes, the roundabout will operate at LOS D.

Recommended Mitigation: Construct roundabout with additional southbound right-turn lane under Alternative 2.

Minaret Road/Old Mammoth Road Intersection

This intersection fails under all of the 2024 alternatives. In addition, the peak-hour signal warrant is met under all alternatives. Due to the high volume of traffic that is expected on all four approaches upon build out of any of the General Plan alternatives, a roundabout or traffic signal is recommended. If a traffic signal is installed, the following improvements would be required for each alternative, which would result in an intersection LOS D:

- Alternative 1 - Construct traffic signal with protected left-turn phasing, construct a separate northbound left-turn lane, a northbound through/right shared lane, and separate southbound left, through, and right-turn lanes.
- Alternative 2 - Construct traffic signal with protected left-turn phasing, construct a separate northbound left-turn lane, a northbound through/right shared lane, a separate southbound left-turn lane, and a southbound through/right shared lane.
- Alternative 4 - Construct traffic signal with protected left-turn phasing, construct a separate northbound left turn lane, a northbound through/right shared lane, and separate southbound left, through, and right-turn lanes.

A single-lane roundabout with a 20-foot circulating width and 75-foot island diameter would operate at LOS D or better under all alternatives. A smaller roundabout could be accommodated under Alternatives 1 and 2.

Recommended Mitigation: Construct roundabout or traffic signal.

Meridian Boulevard/Minaret Road

This intersection will operate at LOS E upon build out of Alternative 4. However, this LOS impact can be mitigated by constructing a separate southbound right-turn lane on Minaret Road. With this improvement, the intersection would operate at LOS D under Alternative 4.

Recommended Mitigation: Construct southbound right-turn lane on Minaret Road under Alternative 4.

POTENTIAL MITIGATION MEASURES TO ROADWAY CAPACITY IMPACTS

The only roadway segment that is forecast to exceed its capacity in 2024 is Minaret Road between Main Street and Forest Trail under Alternative 2. One mitigation for this impact is to increase the capacity of the roadway by eliminating on-street parking. Another mitigation measure could be to improve transit service to the Village area. Finally, the roadway could be widened.

TABLE 1: Roadway Capacity Summary

#	Roadway Segment	Capacity (Vehicles per Hour per Peak Direction)	Existing (2004)			2024 Alternative 1			2024 Alternative 2			2024 Alternative 4		
			Vehicles Per Direction	Volume/ Capacity (Note 1)	Capacity Exceeded?	Vehicles Per Hour Per Lane	Volume/ Capacity (Note 1)	Capacity Exceeded?	Vehicles Per Hour Per Lane	Volume/ Capacity (Note 1)	Capacity Exceeded?	Vehicles Per Hour Per Lane	Volume/ Capacity (Note 1)	Capacity Exceeded?
1	Main Street Immediately East of Sierra Park Road	2,600	577	0.22	No	1,097	0.42	No	1,079	0.42	No	974	0.37	No
2	Main Street Immediately West of Old Mammoth Road	2,600	1,105	0.43	No	1,366	0.53	No	1,524	0.59	No	1,475	0.57	No
3	Main Street Immediately East of Minaret Road	2,600	1,100	0.42	No	1,385	0.53	No	1,548	0.60	No	1,340	0.52	No
4	Lake Mary Road Immediately West of Canyon Boulevard	1,600	364	0.23	No	455	0.28	No	494	0.31	No	543	0.34	No
5	Lake Mary Road Immediately West of Kelly Road	1,600	215	0.13	No	442	0.28	No	437	0.27	No	357	0.22	No
6	Minaret Road Immediately North of Forest Trail	1,600	621	0.39	No	946	0.59	No	1,251	0.78	No	908	0.57	No
7	Minaret Road – Main Street to Forest Trail	1,300	915	0.70	No	1,247	0.96	No	1,405	1.08	**Yes**	1,148	0.88	No
8	Minaret Road Immediately South of Main Street	1,600	528	0.33	No	1,008	0.63	No	1,062	0.66	No	1,126	0.70	No
9	Minaret Road Immediately North of Meridian Boulevard	1,600	484	0.30	No	802	0.50	No	747	0.47	No	943	0.59	No
10	Minaret Road Immediately South of Meridian Boulevard	1,600	258	0.16	No	732	0.46	No	824	0.52	No	758	0.47	No
11	Minaret Road Immediately North of Old Mammoth Road	1,600	339	0.21	No	823	0.51	No	792	0.50	No	972	0.61	No
12	Immediately South of Main Street	1,600	815	0.51	No	950	0.59	No	1,016	0.64	No	1,180	0.74	No
13	Immediately South of Meridian Boulevard	1,600	571	0.36	No	1,022	0.64	No	907	0.57	No	850	0.53	No
14	Immediately East of Minaret Road	1,300	251	0.19	No	564	0.43	No	519	0.40	No	558	0.43	No
15	Immediately West of Minaret Road	1,300	318	0.24	No	553	0.43	No	589	0.45	No	566	0.44	No
16	Meridian Boulevard Immediately South of Main Street	1,600	141	0.09	No	532	0.33	No	606	0.38	No	758	0.47	No
17	Meridian Boulevard Immediately East of Minaret Road	2,600	510	0.20	No	857	0.33	No	911	0.35	No	788	0.30	No
18	Meridian Boulevard Immediately West of Minaret Road	2,600	448	0.17	No	1,146	0.44	No	1,202	0.46	No	1,068	0.41	No
19	Forest Trail Immediately North of Main Street	800	186	0.23	No	356	0.45	No	327	0.41	No	315	0.39	No
20	Forest Trail Immediately East of Minaret Road	800	57	0.07	No	120	0.15	No	178	0.22	No	182	0.23	No
21	Fairway Drive Immediately South of Old Mammoth Road	1,000	64	0.06	No	814	0.81	No	787	0.79	No	940	0.94	No
22	Lakeview Drive Immediately North of Lake Mary Road	800	468	0.59	No	619	0.77	No	666	0.83	No	566	0.71	No
23	Kelly Road Immediately South of Lake Mary Road	800	143	0.18	No	316	0.40	No	307	0.38	No	212	0.27	No
24	Center Street Immediately South of Main Street	800	129	0.16	No	387	0.48	No	313	0.39	No	236	0.30	No
25	Canyon Boulevard Immediately North of Lake Mary Road	1,000	345	0.35	No	669	0.67	No	754	0.75	No	649	0.65	No
26	Azimuth Road Immediately North of Meridian Boulevard	800	115	0.14	No	223	0.28	No	177	0.22	No	190	0.24	No
27	Azimuth Road Immediately South of Meridian Boulevard	800	321	0.40	No	522	0.65	No	544	0.68	No	657	0.82	No
28	US 395 Immediately South of SR 203	2,700	560	0.21	No	901	0.33	No	901	0.33	No	768	0.28	No
29	SR 203 Immediately West of US 395	2,700	482	0.18	No	676	0.25	No	564	0.21	No	554	0.21	No
30	Hot Creek Hatchery Road Immediately West of US 395	1,600	0	0.00	No	28	0.02	No	28	0.02	No	28	0.02	No
31	Hot Creek Hatchery Road Immediately East of US 395	1,600	19	0.01	No	276	0.17	No	276	0.17	No	148	0.09	No
32	SR 203 Immediately East of US 395	1,000	94	0.09	No	101	0.10	No	103	0.10	No	102	0.10	No

Note 1: Yellow Shading indicates Volume/Capacity Ratio is greater than or equal to 0.90.

TABLE 2: Unmitigated Winter Saturday P.M. Peak-Hour Intersection LOS Summary

Bold Text Indicates LOS Threshold Exceeded

#	Intersection		Unmitigated Traffic Control	Approach	Winter PM Peak-Hour LOS Existing (2004)	2024 Alt. 1	2024 Alt. 2	2024 Alt. 3
1	Kelly	Lake Mary	Two-Way Stop Controlled	Northbound	B	E	F	F
				Westbound	A	A	A	A
2	Lakeview	Lake Mary	Two-Way Stop Controlled	Southbound	D	F	F	F
				Eastbound	A	A	A	A
3	Canyon	Lake Mary	Traffic Signal	Total Intersection	A	B	B	B
4	Center	Main	Two-Way Stop Controlled	Northbound	F	F	F	F
				Southbound	C	F	F	F
				Eastbound	A	B	B	B
				Westbound	B	B	C	B
5	Minaret	Main	Traffic Signal	Total Intersection	C	E	F	F
6	Forest Trail	Main	Two-Way Stop Controlled	Northbound	D	D	E	E
				Southbound	F	F	F	F
				Eastbound	A	B	B	C
				Westbound	B	B	B	B
7	Old Mammoth	Main	Traffic Signal	Total Intersection	C	D	C	C
8	Sierra Park	Main	Two-Way Stop Controlled	Northbound	B	C	C	C
				Westbound	A	B	B	B
9	Meridian	Main WB	Two-Way Stop Controlled	Northbound	B	E	F	F
				Westbound	A	A	A	A
10	Meridian	Main EB	Two-Way Stop Controlled	Northbound	B	F	F	F
				Southbound	B	C	C	C
11	US 395 NB	Main/SR 203	Two-Way Stop Controlled	Northbound	C	F	D	D
				Eastbound	A	A	A	A
12	US 395 SB	Main/SR 203	Two-Way Stop Controlled	Southbound	B	C	B	B
13	Majestic Pines	Meridian	Two-Way Stop Controlled	Southbound	B	F	F	F
				Eastbound	A	A	A	A
14	Old Mammoth	Meridian	Traffic Signal	Total Intersection	B	C	C	D
15	Sierra Park	Meridian	4-Way Stop-Controlled	Northbound	A	A	A	A
				Southbound	A	A	A	A
				Eastbound	A	A	A	B
				Westbound	A	B	B	B
16	Minaret	Forest Trail	Two-Way Stop Controlled	Northbound	B	C	E	C
				Southbound	A	A	A	A
				Eastbound	F	F	F	F
				Westbound	F	F	F	F
17	Minaret	Old Mammoth	Two-Way Stop Controlled	Northbound	B	F	F	F
				Southbound	C	F	F	F
				Eastbound	A	A	A	A
				Westbound	A	A	A	A
18	Minaret	Meridian	Traffic Signal	Total Intersection	C	D	D	E
19	US 395 NB	Hot Creek Fish Hatchery	Two-Way Stop Controlled	Northbound	--	A	A	A
				Eastbound	B	E	E	E
				Westbound	B	C	C	C
20	US 395 SB	Hot Creek Fish Hatchery	Two-Way Stop Controlled	Southbound	A	A	A	A
				Eastbound	--	C	C	C
				Westbound	A	C	C	C
21	Azimuth	Meridian	Two-Way Stop Controlled	Northbound	F	F	F	F
				Southbound	E	F	F	F
				Eastbound	A	A	A	A
				Westbound	A	B	B	B
22	Mountain	Main	Two-Way Stop Controlled	Northbound	E	F	--	--
				Southbound	E	F	--	--
				Eastbound	A	B	--	--
				Westbound	B	B	--	--

TABLE 3: Peak-Hour Signal Warrant Summary

Bold Text Indicates Peak-Hour Signal Warrant is Met

#	Intersection		Unmitigated Traffic Control	Peak Hour Signal Warrant Met?			
	North/South	East/West		Existing (2004)	2024 Alt 1	2024 Alt 2	2024 Alt 4
1	Kelly	Lake Mary	Two-Way Stop Controlled	No	**Yes**	**Yes**	No
2	Lakeview	Lake Mary	Two-Way Stop Controlled	**Yes**	**Yes**	**Yes**	**Yes**
4	Center	Main	Two-Way Stop Controlled	No	**Yes**	**Yes**	**Yes**
6	Forest Trail	Main	Two-Way Stop Controlled	No	**Yes**	**Yes**	**Yes**
9	Meridian	Main WB	Two-Way Stop Controlled	No	**Yes**	**Yes**	No
10	Meridian	Main EB	Two-Way Stop Controlled	No	**Yes**	**Yes**	**Yes**
11	US 395 NB	Main/SR 203	Two-Way Stop Controlled	No	**Yes**	No	No
13	Majestic Pines	Meridian	Two-Way Stop Controlled	No	**Yes**	**Yes**	No
16	Minaret	Forest Trail	Two-Way Stop Controlled	**Yes**	**Yes**	**Yes**	**Yes**
17	Minaret	Old Mammoth	Two-Way Stop Controlled	No	**Yes**	**Yes**	**Yes**
19	US 395 NB	Hot Creek Fish Hatchery	Two-Way Stop Controlled	No	No	No	No
21	Azimuth	Meridian	Two-Way Stop Controlled	**Yes**	**Yes**	**Yes**	**Yes**
22	Mountain	Main	Two-Way Stop Controlled	No	**Yes**	--	--
22 **	Sierra Park	Meridian	4-Way Stop-Controlled	No	**Yes**	--	--

** Based upon weekday analysis.

LOS Summary.xls

FIGURE 1

TOWN OF MAMMOTH LAKES STUDY INTERSECTIONS

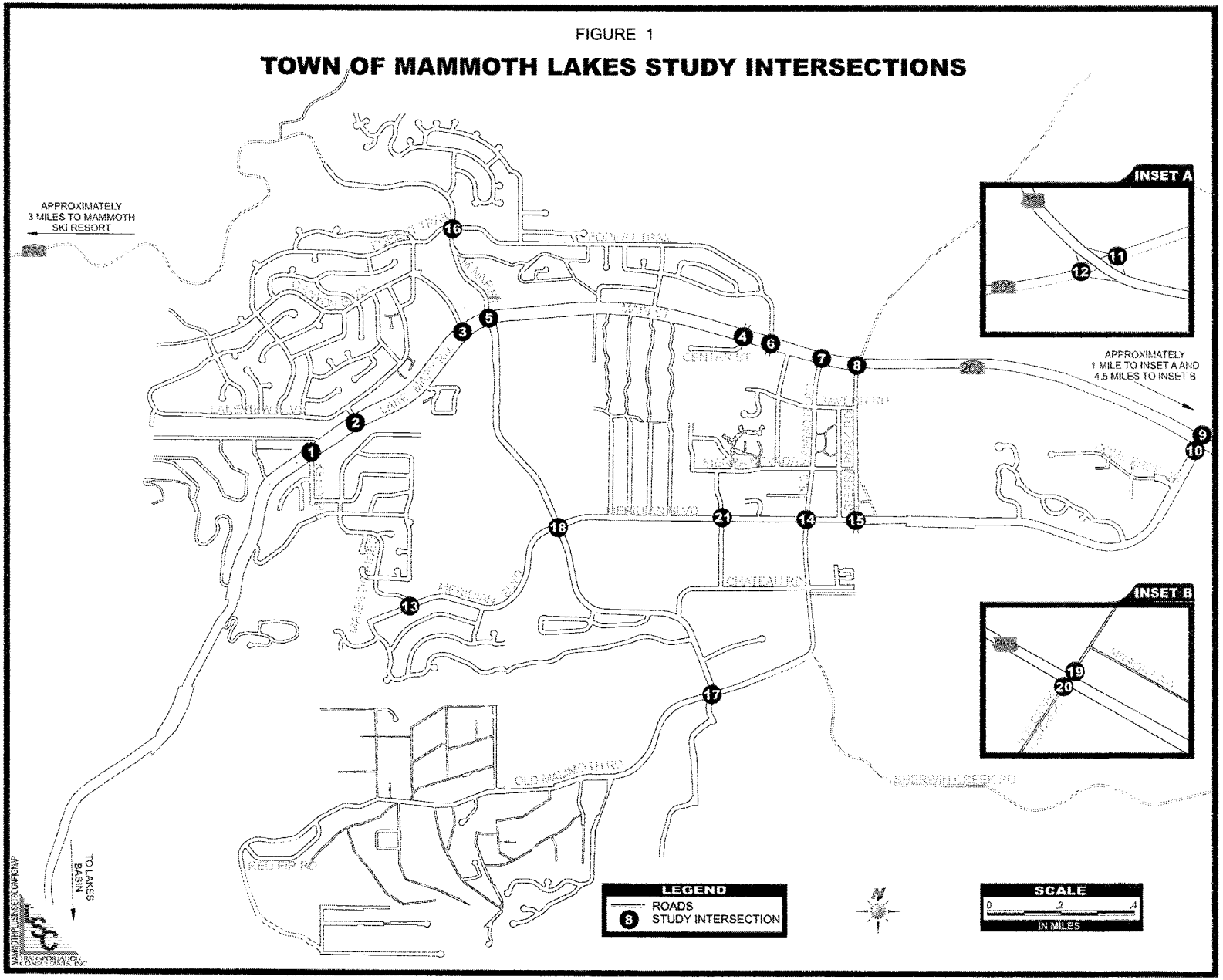
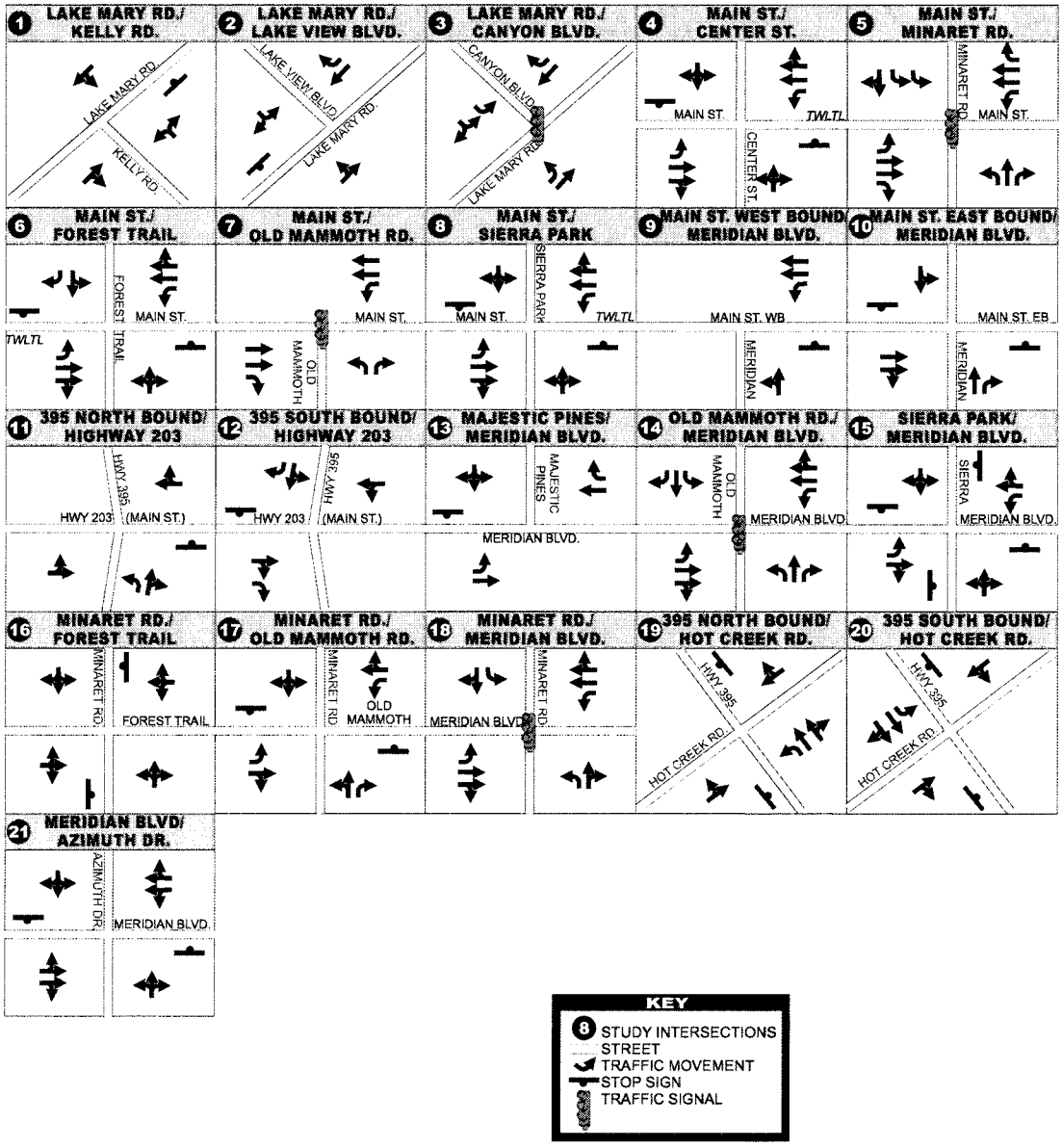


FIGURE 2

TOWN OF MAMMOTH LAKES STUDY INTERSECTIONS LANE CONFIGURATION AND TRAFFIC CONTROL



Mammoth Lakes Transportation Model and LOS Analysis Methodology Background Paper

LSC Transportation Consultants, Inc.
May 13, 2005

This paper is intended to provide a concise summary of the procedures and assumptions used in evaluating traffic conditions in Mammoth Lakes, specifically for the General Plan update and Capital Improvement Programs. First, a general discussion of Level Of Service (LOS) concepts is presented as applied in Mammoth Lakes , followed by a discussion of the transportation modeling process.

LEVEL OF SERVICE

Definition of LOS

The concept of level of service is defined as a qualitative measure describing operational conditions within a traffic stream, and their perception by motorists and/or passengers. A level-of-service definition generally describes these conditions in terms of such factors as speed and travel time, freedom to maneuver, traffic interruptions, comfort and convenience, and safety. Six levels of service are defined for each type of roadway facility. They are given letter designations, from A to F, with Level of Service A representing the best operating conditions and Level of Service F the worst.

In general, the various levels of service are defined as follows for roadways (away from intersections):

- **Level of Service A** represents free flow. Individual drivers are virtually unaffected by the presence of others in the traffic stream. Freedom to select desired speeds and to maneuver within the traffic stream is extremely high. The general level of comfort and convenience provided to the motorist, passenger, or pedestrian is excellent.

- **Level of Service B** is in the range of stable flow, but the presence of other users in the traffic stream begins to be noticeable. Freedom to select desired speeds is relatively unaffected, but there is a slight decline in the freedom to maneuver within the traffic stream from LOS A. The level of comfort and convenience provided is somewhat less than at LOS A, because the presence of others in the traffic stream begins to affect individual behavior.

- **Level of Service C** is in the range of stable flow, but marks the beginning of the range of flow in which the operation of individual drivers becomes significantly affected by interactions with others in the traffic stream. The selection of speed is now affected by the presence of others, and maneuvering within the traffic stream requires substantial vigilance on the part of the user. The general level of comfort and convenience declines noticeably at this level.

- **Level of Service D** represents high-density, but stable, flow. Speed and freedom to maneuver are severely restricted, and the driver experiences a generally poor level of comfort and convenience. Small increases in traffic flow will generally cause operational problems at this level.

- **Level of Service E** represents operating conditions at or near the capacity level. All speeds are reduced to a low, but relatively uniform value. Freedom to maneuver within the traffic stream is extremely difficult, and it is generally accomplished by forcing a vehicle or pedestrian to "give way" to accommodate such maneuvers. Comfort and convenience levels are extremely poor, and driver or pedestrian frustration is generally high. Operations at this level are usually unstable, because small increases in flow or minor perturbations within the traffic stream will cause breakdowns.

- **Level of Service F** is used to define forced or breakdown flow. This condition exists wherever the amount of traffic approaching a point exceeds the amount which can traverse the point. Queues form behind such locations. Operations within the queue are characterized by stop-and-go waves, and they are extremely unstable. Vehicles may progress at reasonable speeds for several hundred feet or more, then be required to stop in a cyclic fashion. Level of Service F is used to describe the operating conditions within the queue, as well as the point of the breakdown. It should be noted, however, that in many cases operating conditions of vehicles or pedestrians discharged from the queue may be quite good. Nevertheless, it is the point at which arrival flow exceeds discharge flow which causes the queue to form, and Level of Service F is an appropriate designation for such points.

The LOS resulting from different levels of vehicle control delay, as identified in the Highway Capacity Manual, are shown in Table 1. Control delay is the total time that elapses between the vehicle joining the queue and its departure from the head of the queue plus the time required to decelerate to a stop and to accelerate to free-flow speed. The delays identified in the table relate the perception of the driver in the amount they are delayed at an intersection to LOS.

LOS Standards

The Town of Mammoth Lakes General Plan Transportation Element, adopted in 2001, currently contains the following Policy:

> ***Policy 1.7:*** *Establish and maintain a Level of Service D or better on a typical winter Saturday peak-hour for signalized intersections and for primary through movements for unsignalized intersections along arterial and collector roads. This standard is expressly not applied to absolute peak conditions, as it would result in construction of roadway improvements that are warranted only a limited number of days per year and that would unduly impact pedestrian and visual conditions.*

Therefore, the following LOS thresholds were applied in the General Plan traffic analysis:

1. *For Signalized Intersections:* Total intersection LOS D or better must be maintained. Therefore, if a signalized intersection is found to operate at a total intersection LOS E or F, mitigation is required. It is assumed that this same threshold applies to roundabouts.

2. *For Unsignalized Intersections:* In order to avoid intersection the identification of a LOS failure for intersections that result in only a few vehicles experience a delay greater than 50 seconds (such as at a driveway serving a few homes that accesses onto a busy street), a LOS deficiency is not identified for all intersections with approach LOS E or F. Instead, a LOS deficiency is assumed to occur at an unsignalized intersection only if an individual minor street movement operates at LOS E or F and total minor approach delay exceeds 4

vehicle hours for a single lane approach and 5 vehicle hours for a multi lane approach. In other words, a deficiency is found to occur if the average number of vehicles queued over the peak-hour exceeds 4 at a single lane approach, or exceeds 5 at a multilane approach.

Comparison with Other Jurisdiction LOS Standards

As shown in Table 2, Mammoth Lakes LOS policy is in line with many jurisdictions within California. Some more rural areas (such have Amador and Siskiyou Counties) have a "higher" LOS C standard, while other areas have a lower LOS E standard in some areas. The Town of Mammoth Lakes is probably most comparable to the Town of Truckee in its population and its high level of tourist visitation during both the summer and winter: Mammoth Lake's LOS D thresholds are more stringent than the Town of Truckee's in that a LOS E is permitted in the Truckee downtown area.

Impacts Associated with a More Restrictive (Higher) LOS

In considering an appropriate LOS standard, it is useful to identify how changing the standard would impact the need for roadway improvements (with the attendant impacts on community character). The impact of the Town changing their LOS policy to a more restrictive (higher) LOS would be that more intersections and roadways would require improvements by 2025, and those already identified as needing improvements by 2025 would require improvements sooner. For comparison purposes, assume the Town adopted a LOS B standard. The following intersections, which are currently identified to operate at adequate LOS under 2004 conditions, would need to be expanded to attain a LOS B standard:

- Lakeview Road/Lake Mary Road
- Minaret Road/Main Street
- Old Mammoth Road/Main Street
- US 395 Northbound/Main Street (SR 203)
- Minaret Road/Old Mammoth Road
- Minaret Road/Meridian Road

In addition, the following intersections, which are currently forecast to operate at adequate LOS by 2025, would need to be expanded to attain a LOS B standard:

- Old Mammoth Road/Main Street
- Sierra Park Road/Main Street
- US 395 Northbound/Main Street (SR 203)
- Old Mammoth Road/Meridian Boulevard
- US 395 Southbound/Hot Creek Fish Hatchery Road

As for those intersections that have already been identified as requiring mitigation by 2025, additional improvements would be required to maintain a LOS B over the next 20 years. For example, the Minaret Road/Main Street intersection would need the following additional lanes by 2024 if the LOS B standard were adopted:

- Northbound Approach: Add Second Through Lane.
- Southbound Approach: Add Two Through Lanes and Separate Right-Turn Lane and Remove Shared Through/Right Lane.

- Eastbound Approach: Add Second Left-Turn Lane and Second Through Lane.
- Westbound Approach: Add Second Left-Turn Lane and Second Through Lane.

In total, Main Street through this intersection would need to be expanded by one through lane in each direction, and Minaret Road expanded by one though lane in each direction.

As another example, the Minaret Road/Meridian Boulevard intersection would need the following additional lanes by 2024 if the LOS B standard were adopted:

- Northbound Approach: Add Two Through Lanes and a Separate Right-Turn Lane and Remove Through/Right Shared Lane.
- Southbound Approach: Add Two Through Lanes and a Separate Right-Turn Lane and Remove Through/Right Shared Lane.
- Eastbound Approach: Add Second Left-Turn Lane, Second Through Lane, Separate Right-Turn Lane and Remove Through/Right Shared Lane.
- Westbound Approach: Add Second Through Lane, Separate Right-Turn Lane and Remove Through/Right Shared Lane.

This would add a total of one through lane in each direction on Minaret Road. Furthermore, Minaret Road through the Village area would need to be widened to a total of four lanes (two lanes in each direction).

The level of improvements that would be required by more restrictive LOS standards would result in wider roads, more pavement, and would not fit within the existing character of the Town. Not only would these improvements create an urban environment, but wider roads make for a less pedestrian-friendly environment. The substantial impacts of roadway improvements needed to attain a high LOS is the reason why the majority of urban and resort communities have adopted LOS standards at or near D.

TRAFFIC MODEL

Model Design Day

A crucial step in development of a traffic model is collecting and refining a comprehensive set of existing design volumes. The existing Town of Mammoth Lakes Transportation Demand Model is based upon a typical winter Saturday P.M. peak-hour design period, defined as the average winter Saturday peak hour. The traffic volumes throughout the Town of Mammoth Lakes vary greatly by time of day, day of week and, more importantly, by season. Particularly in areas with these high variation in traffic levels, it is important to decide what hourly traffic volumes should be used as the basis of design.

To avoid the development of facilities that are only needed a relatively few days per year, the traffic engineering profession has adopted a standard procedure of basing roadway design on volumes slightly below the absolute peak volumes. For this reason the Town of Mammoth Lakes, for example, has focused most of its design policies on a typical Winter Saturday peak hour, rather than the highest winter peak hour. A Policy on Geometric Design of Highways and Streets (American Association of State Highway and Transportation Officials, 2001) indicates *"The design hourly volume for rural highways ... should generally be the 30th highest volume of the future year chosen for design."* (P 61). It is true that during winter peak periods, traffic volumes

occasionally exceed the intersection and roadway capacity. However, to avoid the development of facilities that are only needed a relatively few days per year, the typical winter Saturday peak hour was analyzed, which is consistent with standard engineering design practice.

The use of a 10th or 30th highest design hour is common practice in many resort communities. For example, in the Town of Truckee the 10th highest summer peak hour is used. In addition, in Truckee, peak ski traffic volumes occurring during the winter are not designed for at all. In Placer County, the winter design day represents the 30th highest winter peak hour. As part of a recent traffic analysis prepared the development of Kings Beach, the 10th highest summer peak hour was used, which was determined appropriate by Caltrans, Placer County, and the Tahoe Regional Planning Agency.

Figure 1 depicts the variation of traffic volumes along Main Street east of Minaret by day of the week. As the figure indicate, Saturdays consistently represent the day during which the peak traffic conditions occur. Of course, on some holiday weekends high traffic volumes may occur on days other than Saturday. As shown in Table 3, for example, the highest traffic volumes usually occur around the Christmas, New Years, President's Day, and Martin Luther King Jr. holidays. Figure 2 presents the hourly traffic volume variation along Main Street east of Minaret Road on the day in the 2003/2004 winter season which most closely reflects the design day traffic volume. As the figure indicates, the P.M. peak-hour traffic volumes are usually significantly higher than the A.M. peak-hour traffic volumes. This is mostly attributed to the fact that skiers generally leave the ski area during a smaller time frame than they arrive. Therefore, it can be concluded that designing for the P.M. peak hour is appropriate.

According to 2003 peak-hour count data provided by Caltrans, some summer days also result in very high traffic volumes throughout Mammoth Lakes. In fact, the following days ranked within the 30 highest peak-hour traffic volume days along Main Street East of Minaret Road:

- July 5, 2003 (three peak hours: 12:00 P.M., 2:00 P.M., and 4:00 P.M.)
- August 8, 2003 (two peak hours: 11:00 A.M. and 4:00 P.M.)
- August 15, 2003 (4:00 P.M.)
- August 30, 2003 (two peak hours: 11:00 A.M. and 12:00 P.M.)

However, in general, traffic volumes are generally highest Townwide during the winter season.

It can be assumed that approximately 10 of the highest peak-hour volumes on Main Street in Mammoth Lakes occur during the summer. It is also assumed that during the winter the P.M. peak-hour traffic volume is significantly higher than any other hour of the day. Referring to Table 3 and Figure 3, it can be seen that the design day roughly represents the day during which the 16th highest winter peak-hour traffic volumes occur. Taking into account summer traffic volumes, the design day roughly represents the day during which the 26th highest peak-hour traffic volumes occur. Therefore, the Town of Mammoth Lakes' use of a typical winter Saturday is consistent with but more conservative (i.e., results in higher design volumes) than AASHTO's recommended 30th highest hour.

In addition, it can be said that during approximately 25 hours per year, the design day traffic volumes are exceeded, and LOS may drop below the Town standards. These 25 hours represent 0.3 percent of the hours in a year. Therefore, although the capacity of the roadway may be

exceeded for 0.3 percent of the time during the year, traffic volumes will be accommodated by the roadway capacity 99.7 percent of the time.

It should also be noted that, consistent with standard analysis procedures elsewhere, Level of Service and capacity was not adjusted to account for snow conditions. The occurrence of stormy/snowy weather conditions and snow on the roadways actually occurs over a relatively small proportion of the winter (though the last winter might make it seem otherwise). Furthermore, as traffic capacity varies with the specific conditions of a storm as well as "incidences" such as drivers stopping in travel lanes to adjust chains, identifying a "design condition" to reflect winter storms would largely be conjecture. This approach is consistent with other traffic analyses that LSC has prepared in areas with high annual snowfall, such as the Lake Tahoe region, Park City Utah, and Aspen Colorado.

Overview of Traffic Model

A transportation demand model is a computerized representation of a transportation system. A model is useful for comparing the impacts of various growth assumptions and for evaluating alternative transportation improvement programs. Although it would also be possible to use growth factors based on the recent trends to project future traffic volumes, a model allows the use of better projections of growth within the region, accounting for subarea development. Computerized transportation models are also the best means by which to evaluate the interchange of traffic between various land uses and to consider the effects of traffic congestion on travel times and driver route choice.

Transportation models, by definition, are representations of travel choices made by individuals across a geographic area, impacting physical structures such as roads, bridges, parking areas, and intersections. Each model should rely on sound behavioral theory of how individuals make travel choices. The structure of choice sequences suggested by the model and the variables used in the model should reflect a logical process of decision-making followed by travelers in deciding when, where, and how to travel.

The travel choices of individuals are most commonly represented in the United States by what is referred to as the "four-step process." These four steps represent the thought processes of the individual. The individual makes four travel decisions, as follows: (1) the decision that a trip is necessary to fulfill some need or purpose (generation), (2) the decision where that need/purpose is best fulfilled (distribution), (3) the decision of which means is best to get there (mode choice), and (4) the decision of which route to take (trip assignment).

Geographic patterns are represented in the model by data considered to be at the heart of individual travel decisions: where people live, where people work, and where people recreate, shop, or otherwise interact. Land use quantities are represented in a series of Traffic Analysis Zones (TAZs), that together encompass the entire traffic model area. A total of 152 TAZs were defined to encompass the model area. TAZs were generally defined to follow property lines and to accurately reflect vehicular access to/from the roadway network. As discussed in detail below, land use quantities were developed to reflect existing uses within each TAZ.

The physical structures of travel are represented through a combination of links (paths) and nodes (intersections or transfer points). Zone centroids are special types of nodes associated with both the TAZ data mentioned above and the origins and destinations of an individual's trips.

The links typically have a travel time associated with them, either explicitly given or inferred from speed and distance information.

Trip Generation

Trip ends are classified as being either a production (defined as either end of a home-based trip or origin of a non-home based trip) or an attraction (the non-home end of a home-based trip or the destination end of a non-home based trip). Separate models are typically used to predict productions and attractions. Variables used as predictors of trip productions usually include information regarding household income, auto ownership, number of workers per household, residential density, and distance of zone from the central business district. Trip attraction predictors usually include zonal employment levels, zonal floor space, and/or accessibility to the work force.

Trip Distribution

Trip distribution is the process of connecting the trip ends which have been generated for each of the analysis areas or TAZs. It is during this step that the linkage is made between all the trip productions and attractions. Trip distribution is a significant element of the process because the trips between zones (trip interchanges) must eventually be accommodated by the transportation system. The distribution of trips is essential to estimating the traffic volumes on individual links and determining a level of service.

Mode Split

Mode split is the process that converts person trips into different modes. The Mammoth Lake Traffic Model mode split is used to turn person trips into vehicle or transit trips. The mode split estimates by the model is shown in Table 4. As the table indicates, 8 to 11 percent of the model-generated trips are assumed to occur on transit over the course of a typical winter Saturday. Note that mode split for skiers traveling to and from the Mammoth Mountain portals is substantially higher – on the order of 30 percent – which is also reflected in the model.

Trip Assignment

Trip assignment models are used to estimate traffic flow on the network, using the origin-destination pairs generated in trip distribution. The assignment of trips to the network relies on the determination of routes through the network based on the impedance or travel time of each link.

Model Validation

As with any representation of a real system, there are associated limitations. To minimize the effects of these limitations, the updated model has been "validated" so that it matches reality for all critical links in the system. In other words, adjustments were made until the modeled traffic volumes approximated existing traffic volumes, often referred to as "ground counts." Once the model was validated, then and only then can the model be used to estimate future travel patterns and volumes.

To validate the model, the results of the model traffic assignments were compared to the observed traffic volumes. The approach to the validation process is to conduct a point

validation analysis. Point validation represents a higher standard for calibration than is typically used. Not only are overall flows of traffic volumes compared, but also site-specific volumes. A calibrated model should provide results which are reasonably close for major links in the street network. Table 5 shows the two-way volume error range which was used in validating the model. For low-volume links, a larger error range is acceptable because of the lack of congestion. A difference of 100 percent for volumes less than 100 vehicles per hour has little effect on congestion because less roadway capacity is being used. For higher volume roadways, the percentage error must be much smaller. The traffic model was validated for all 36 locations evaluated.

Caltrans has established several standards for the validation of traffic models, as established in Travel Forecasting Guidelines (California Department of Transportation, November 1992). Two examples of these standards are applied to the Mammoth Lakes Model as follows:

- A minimum of 75 percent of the roadway links should be within their maximum desirable deviation, which ranges from approximately 5 to 60 percent depending on total volume. As the Caltrans standards are meant to be applied to models which generally do not contain local collectors, such as the Mammoth Model does, the maximum percent desirable deviation identified in Table 5 was assumed to be more appropriate than those identified in the Caltrans model. *Using these percent deviations, the Mammoth Lakes Model results indicate that 100 percent of the link volumes evaluated are within the acceptable error ranges, substantially exceeding Caltrans' 75 percent standard.*

- The model-wide correlation coefficient should be greater than 0.88. *The Mammoth Lakes Model traffic model results indicate a correlation coefficient of 0.99, substantially exceeding Caltrans' standard.*

- The maximum acceptable Root Mean Square Error (RMSE) should not exceed 40 percent. *The Mammoth Lakes Model model results in a RSME equal to 11 percent, substantially exceeding Caltrans's 40 percent standard.*

Future Model Assumptions

The land uses assumptions that were used in the model runs were developed by Mammoth Lakes Transportation Planning Staff. Four 2024 land use alternatives were evaluated. No new roadways were assumed to be built between 2004 and 2024.

It should be noted that any community-wide traffic model is a planning level "tool" and necessarily reflects a simplification of the roadway network, individual property access, and land uses. Detailed evaluation of individual roadway elements based upon specific project site plans, therefore, may yield differing results. The model, however, is more than adequate for purposes of overall planning for Mammoth Lakes transportation network, and meets or exceeds the standards of the traffic engineering profession.

Table 1: Level of Service Delay Criteria for Signalized and Unsignalized Intersections

Level Of Service	Control Delay per Vehicle (seconds)	
	Signalized Intersections	Unsignalized Intersections
A	<= 10	<= 10
B	> 10 and <= 20	> 10 and <= 15
C	> 20 and <= 35	> 15 and <= 25
D	> 35 and <= 55	> 25 and <= 35
E	> 55 and <= 80	> 35 and <= 50
F	> 80	> 50

Shading indicates Town of Mammoth Lakes LOS Standard

Source: 2000 Highway Capacity Manual.

Table 2: Level of Service Standards for Rural Jurisdictions by Roadway Classification

Roadway Classification	Minimum Level of Service Standard								
	Mammoth Lakes	Tuolumne County	Amador County [1]	Lake County	Siskiyou County	El Dorado County	Nevada County	Town of Truckee	TRPA [3]
State Highways	D	E	C/D	C	C	E (urban) D (rural)	D (urban) C (rural)	D, except E within Downtown area.	D
Arterial	D	C [2]	C/D	C	C	E (urban) D (rural)	D (urban) C (rural)	D, except E within Downtown area.	D
Collector	D	B [2]	C	C	C	E (urban) D (rural)	D (urban) C (rural)	D, except E within Downtown area.	D
Local Roads	D	B [2]	C	C	C	E (urban) D (rural)	D (urban) C (rural)	D, except E within Downtown area.	D

Note 1: Major intersections with a 15 minute peak period of LOS D is allowed. Certain state highway road segments are also allowed LOS D.

Note 2: One LOS standard lower is allowed within 1/2 mile of intersections with major collectors and arterial highways. For example, in Tuolumne County LOS B is required along all collectors, excepting those within 1/2 mile of a major collector or arterial highway, for which a LOS C must be maintained.

Note 3: LOS E is allowed at signalized intersections for no more than 4 hours per day.

Source: County planning documents.

Table 3: 2003/2004 Winter Daily Traffic Volumes Along Main Street East of Minaret Sorted from Highest to Lowest

Winter Rank	Day of Week	Date	Daily Traffic Volume			
			Eastbound	Westbound	Total	
1	Saturday	14-Feb-04	8,743	9,042	17,785	
2	Wednesday	31-Dec-03	8,842	8,804	17,646	
3	Sunday	15-Feb-04	8,969	8,054	17,023	
4	Saturday	17-Jan-04	8,293	8,614	16,907	
5	Saturday	24-Jan-04	8,163	8,269	16,432	
6	Sunday	28-Dec-03	8,493	7,913	16,406	
7	Saturday	27-Dec-03	8,192	8,203	16,395	
8	Saturday	28-Feb-04	8,018	8,118	16,136	
9	Friday	13-Feb-04	7,458	8,593	16,051	
10	Saturday	31-Jan-04	7,868	7,890	15,758	
11	Monday	22-Dec-03	8,051	7,702	15,753	
12	Sunday	18-Jan-04	8,370	7,200	15,570	
13	Tuesday	30-Dec-03	7,985	7,434	15,419	
14	Friday	30-Jan-04	7,379	8,012	15,391	
15	Friday	23-Jan-04	7,229	8,157	15,386	
16	Saturday	06-Mar-04	7,690	7,557	15,247	<--"Design Day"
17	Saturday	13-Mar-04	7,650	7,567	15,217	
18	Saturday	21-Feb-04	7,631	7,500	15,131	
19	Monday	16-Feb-04	8,517	6,596	15,113	
20	Sunday	25-Jan-04	8,405	6,615	15,020	
21	Friday	05-Mar-04	7,185	7,789	14,974	
22	Saturday	07-Feb-04	7,354	7,473	14,827	
23	Friday	26-Dec-03	7,207	7,585	14,792	
24	Friday	09-Jan-04	7,187	7,574	14,761	
25	Sunday	29-Feb-04	8,552	6,196	14,748	
26	Saturday	20-Mar-04	7,393	7,342	14,735	
27	Saturday	10-Jan-04	7,382	7,337	14,719	
28	Friday	06-Feb-04	6,833	7,812	14,645	
29	Friday	16-Jan-04	6,694	7,829	14,523	
30	Sunday	08-Feb-04	8,143	6,252	14,395	
31	Saturday	27-Mar-04	7,105	7,181	14,286	
32	Monday	29-Dec-03	7,341	6,889	14,230	
33	Sunday	07-Mar-04	8,137	6,073	14,210	
34	Friday	12-Mar-04	8,755	7,353	14,108	
35	Friday	20-Feb-04	6,909	7,198	14,107	
36	Saturday	03-Jan-04	7,572	6,414	13,986	
37	Tuesday	23-Dec-03	7,212	6,743	13,955	
38	Friday	27-Feb-04	6,542	7,393	13,935	
39	Friday	02-Jan-04	7,249	6,355	13,604	
40	Friday	19-Mar-04	6,476	7,080	13,556	
41	Sunday	14-Mar-04	7,616	5,767	13,383	
42	Sunday	01-Feb-04	7,650	5,708	13,358	
43	Saturday	20-Dec-03	6,409	6,909	13,318	
44	Thursday	08-Jan-04	6,688	6,629	13,317	
45	Monday	19-Jan-04	7,712	5,556	13,268	
46	Sunday	28-Mar-04	7,405	5,880	13,285	
47	Sunday	04-Jan-04	7,326	5,939	13,265	
48	Thursday	19-Feb-04	6,584	6,677	13,261	
49	Sunday	21-Dec-03	6,700	6,556	13,256	
50	Friday	26-Mar-04	6,329	6,910	13,239	
51	Sunday	11-Jan-04	7,255	5,804	13,059	
52	Sunday	21-Mar-04	7,338	5,502	12,840	
53	Friday	19-Dec-03	6,089	6,553	12,642	
54	Monday	05-Jan-04	6,329	5,982	12,311	
55	Tuesday	06-Jan-04	6,133	5,876	12,009	
56	Thursday	29-Jan-04	5,699	6,219	11,918	
57	Thursday	12-Feb-04	5,773	6,035	11,808	
58	Sunday	22-Feb-04	6,774	5,016	11,790	
59	Wednesday	07-Jan-04	6,030	5,714	11,744	
60	Thursday	04-Mar-04	5,637	5,928	11,565	
61	Thursday	11-Mar-04	5,570	5,864	11,534	
62	Thursday	22-Jan-04	5,480	5,945	11,425	
63	Wednesday	24-Dec-03	5,670	5,689	11,359	
64	Monday	02-Feb-04	6,011	5,244	11,255	
65	Thursday	05-Feb-04	5,475	5,769	11,244	
66	Monday	29-Mar-04	5,888	5,354	11,242	
67	Monday	26-Jan-04	5,994	5,243	11,237	
68	Thursday	18-Mar-04	5,579	5,637	11,216	
69	Thursday	18-Dec-03	5,531	5,515	11,046	
70	Thursday	15-Jan-04	5,499	5,519	11,018	
71	Monday	09-Feb-04	5,917	5,094	11,011	
72	Monday	08-Mar-04	5,762	5,126	10,888	
73	Wednesday	14-Jan-04	5,503	5,245	10,748	
74	Monday	15-Mar-04	5,620	5,085	10,705	
75	Tuesday	17-Feb-04	5,409	5,264	10,673	
76	Wednesday	31-Mar-04	5,420	5,163	10,583	
77	Thursday	25-Mar-04	5,243	5,314	10,557	
78	Tuesday	09-Mar-04	5,364	5,049	10,413	
79	Wednesday	17-Dec-03	5,293	5,102	10,395	
80	Monday	12-Jan-04	5,430	4,953	10,392	
81	Tuesday	16-Dec-03	5,287	5,090	10,357	
82	Tuesday	13-Jan-04	5,295	5,037	10,332	
83	Wednesday	11-Feb-04	5,254	5,070	10,324	
84	Wednesday	17-Mar-04	5,234	5,071	10,305	
85	Monday	22-Mar-04	5,416	4,833	10,249	
86	Monday	15-Dec-03	5,197	5,031	10,228	
87	Wednesday	18-Feb-04	5,153	5,054	10,207	
88	Tuesday	30-Mar-04	5,299	4,906	10,205	
89	Tuesday	10-Feb-04	5,233	4,950	10,183	
90	Wednesday	10-Mar-04	5,223	4,917	10,140	
91	Monday	23-Feb-04	5,327	4,777	10,104	
92	Tuesday	24-Feb-04	5,168	4,751	9,919	
93	Wednesday	03-Mar-04	5,025	4,671	9,696	
94	Wednesday	21-Jan-04	4,988	4,894	9,882	
95	Tuesday	16-Mar-04	5,078	4,755	9,833	
96	Monday	01-Mar-04	5,211	4,593	9,804	
97	Wednesday	28-Jan-04	4,925	4,787	9,712	
98	Wednesday	04-Feb-04	4,941	4,729	9,670	
99	Tuesday	23-Mar-04	5,010	4,626	9,636	
100	Wednesday	24-Mar-04	4,768	4,548	9,316	
101	Tuesday	20-Jan-04	4,681	4,502	9,183	
102	Thursday	01-Jan-04	4,864	4,225	9,089	
103	Tuesday	27-Jan-04	4,582	4,336	8,918	
104	Tuesday	03-Feb-04	4,554	4,128	8,682	
105	Tuesday	02-Mar-04	4,264	4,178	8,442	
106	Thursday	25-Dec-03	3,961	4,297	8,258	
107	Thursday	26-Feb-04	3,922	4,049	7,971	
108	Wednesday	25-Feb-04	3,512	3,339	6,851	

Percent Difference Between Design Day and Peak Day Traffic Volume **98%**

Table 4: Transit Mode Split Estimated by Mammoth Model by Land Use Alternative

Alternative	Off-Peak Transit Trips	Peak-Hour Transit Trips	Total Daily		
			Bus Person Trips	Total Person Trips	Mode Split (% Using Bus)
2004	10,988	1,680	12,668	165,626	7.65%
2025 Build Out of Alternative 1	20,620	3,328	23,948	295,360	8.11%
2025 Build Out of Alternative 2	28,209	4,845	33,054	316,288	10.45%
2025 Build Out of Alternative 3	22,509	3,619	26,128	315,401	8.28%
2025 Build Out of Alternative 4	18,913	3,040	21,953	267,040	8.22%

Note: This mode split represents the mode split for all trips in the Mammoth Transportation Demand Model and not just skier trips.

Mode Split.wb3

Table 5
Point Validation Error Range

Peak Hour Two-Way Traffic Volumes	Error Range + (-)
<100	100%
100-399	50%
400-999	25%
1,000-1,500	15%
>1,500	10%

Figure 1: Daily Variation in Traffic Volumes Along Main East of Minaret

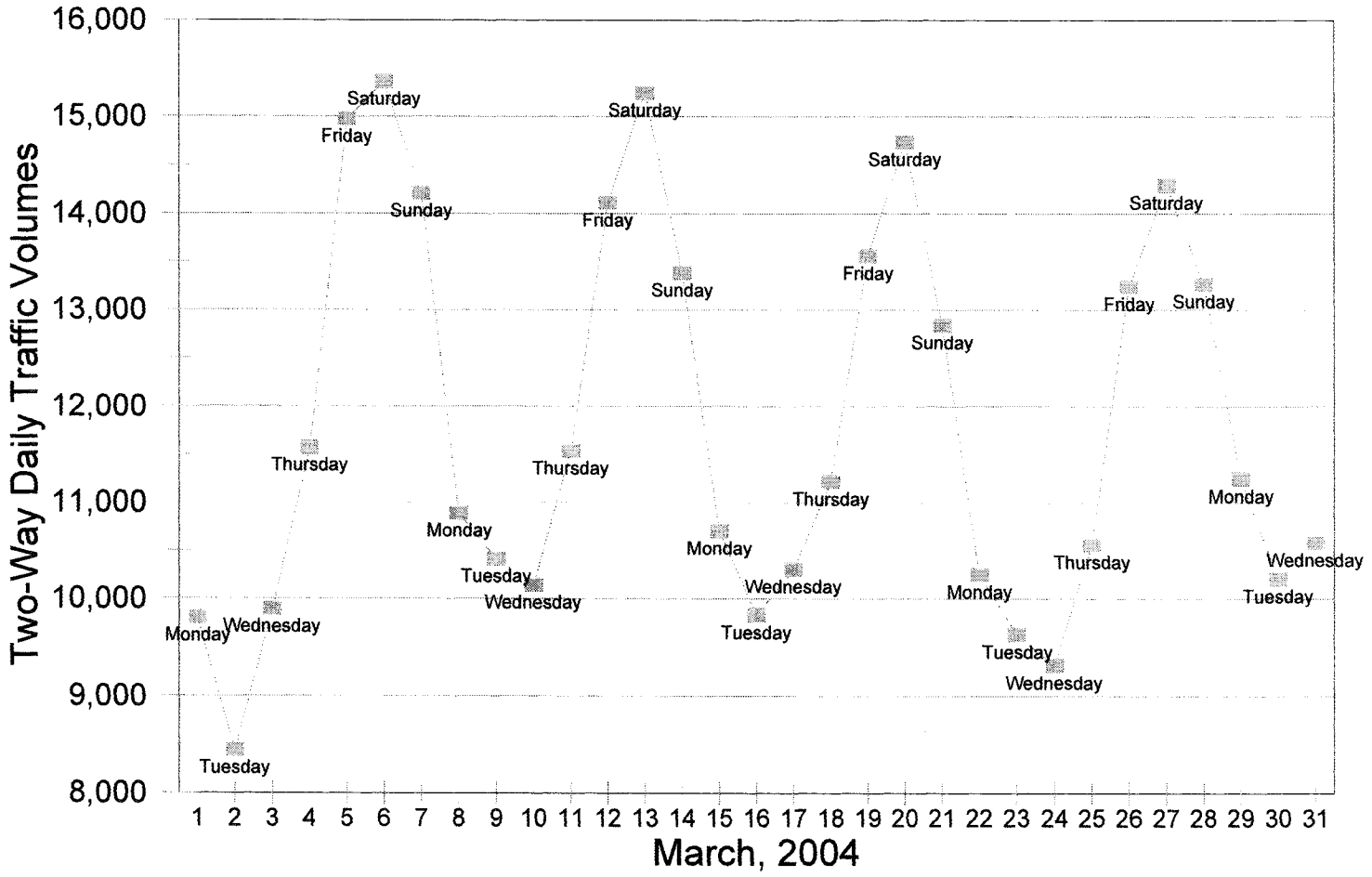


Figure 2: Peak-Hour Traffic Volumes
Main East of Minaret (March 6, 2004)

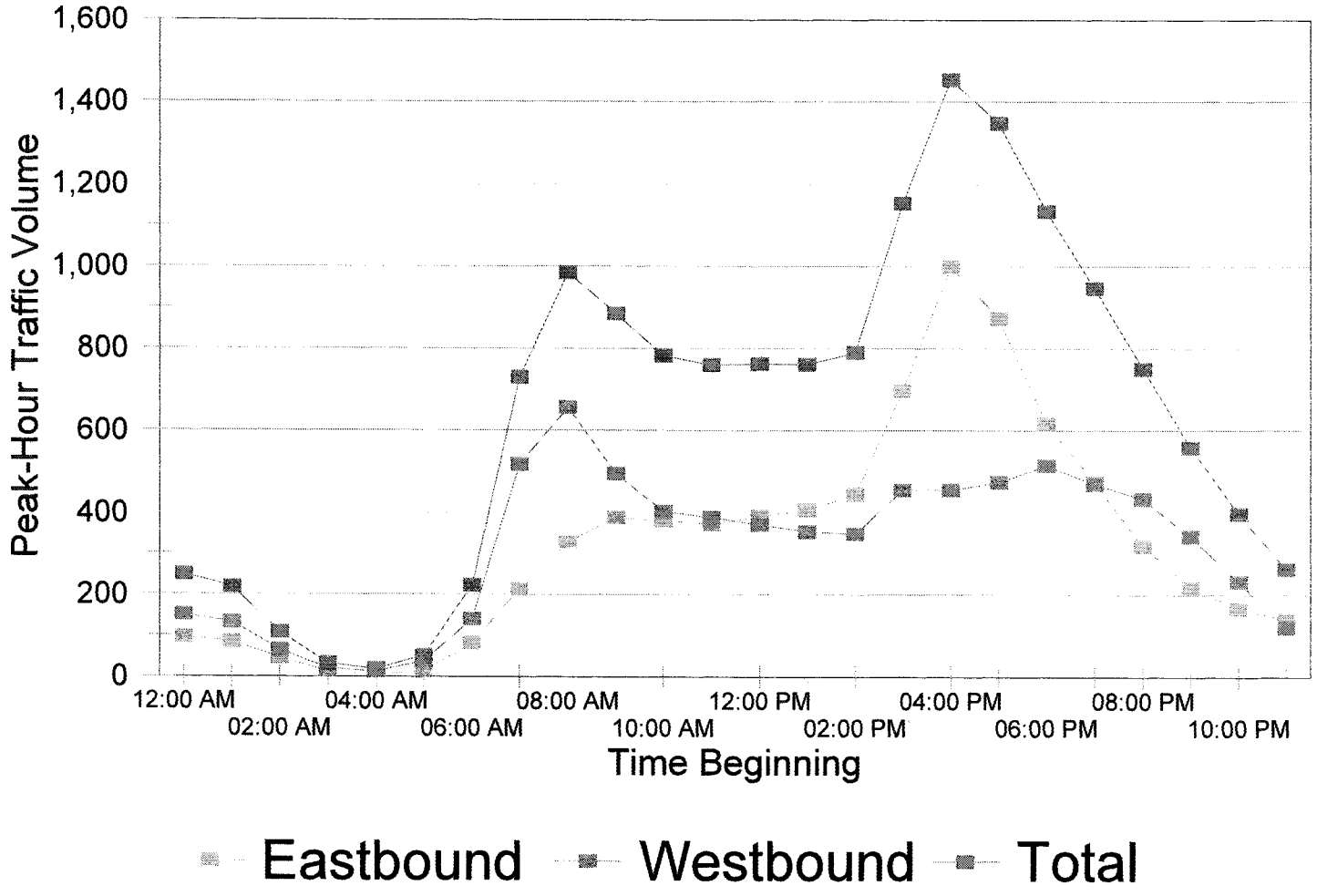
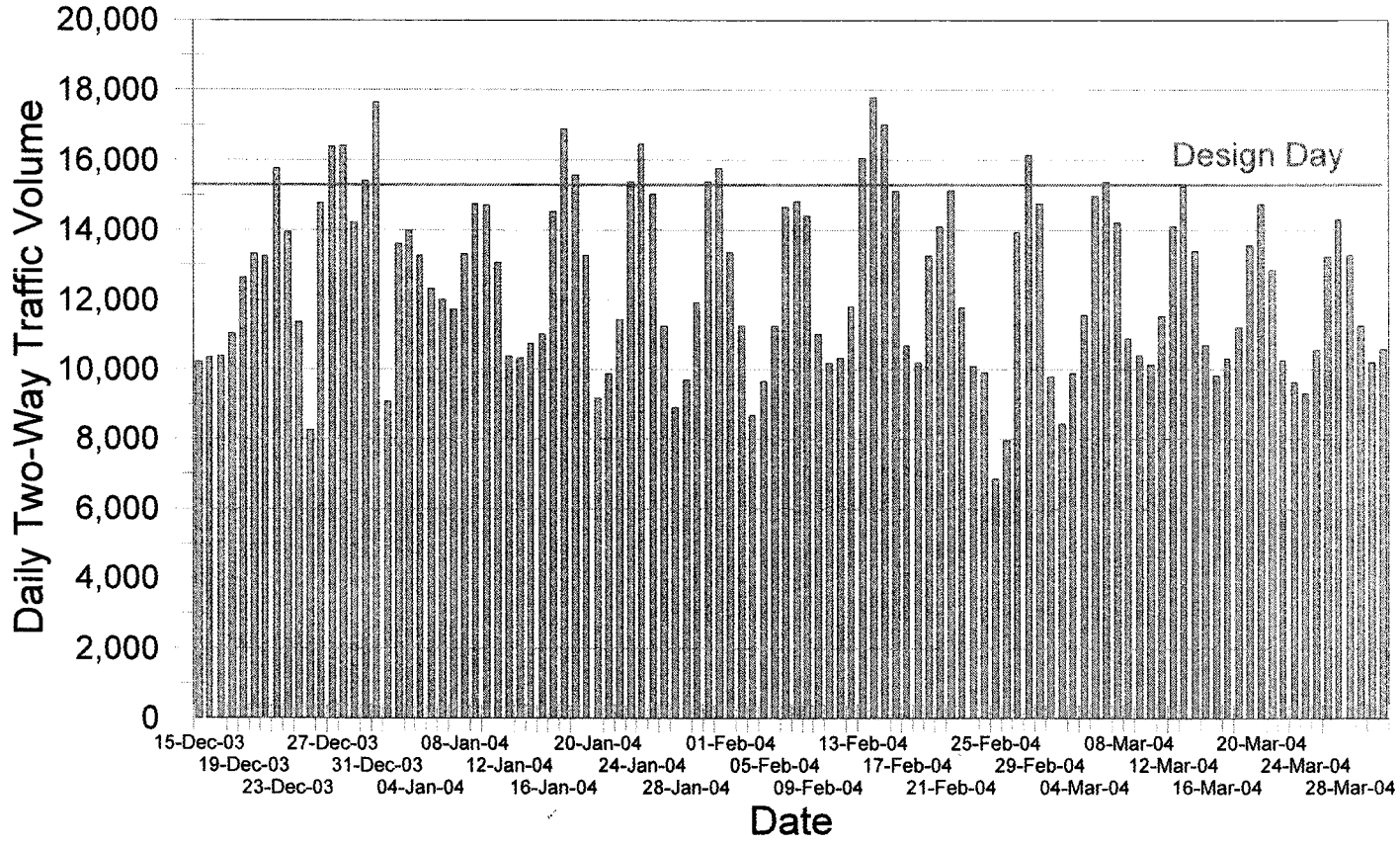


Figure 3: Daily Traffic Volumes Along Main East of Minaret (December 15, 2003 - March 31, 2004)



Mammoth Lakes Transportation Model Validation Report

LSC Transportation Consultants, Inc.
November 11, 2004

INTRODUCTION

The Town of Mammoth Lakes contracted with LSC Transportation Consultants, Inc. to update the travel demand model for the community, which was first developed in 1995. This report documents the methodology used to update the computer-based transportation model for the Town of Mammoth Lakes. The update of the model will allow the Town of Mammoth Lakes to identify the transportation improvements that are needed between now and the year 2024, as part of the General Plan update process.

This report first discusses the study area, existing network, network updates, existing land uses, and trip generation per Traffic Analysis Zone. Next, an in-depth overview of the network validation process is provided for the existing conditions of the loaded network based upon the existing land uses within the study area. The results of the existing conditions model run are also reported for the auto trips and transit trips. More information on modal split will be detailed in later documents and the Final Report.

Overview of the Modeling Process

A transportation demand model is a computerized representation of a transportation system. A model is useful for comparing the impacts of various growth assumptions and for evaluating alternative transportation improvement programs. Although it would also be possible to use growth factors based on the recent trends to project future traffic volumes, a model allows the use of better projections of growth within the region, accounting for subarea development. Computerized transportation models are also the best means by which to evaluate the interchange of traffic between various land uses and to consider the effects of traffic congestion on travel times and driver route choice.

Transportation models, by definition, are representations of travel choices made by individuals across a geographic area, impacting physical structures such as roads, bridges, parking areas, and intersections. Each model should rely on sound behavioral theory of how individuals make travel choices. The structure of choice sequences suggested by the model and the variables used in the model should reflect a logical process of decision-making followed by travelers in deciding when, where, and how to travel.

The travel choices of individuals are most commonly represented in the United States by what is referred to as the "four-step process." These four steps represent the thought processes of the individual. The individual makes four travel decisions, as follows: (1) the decision that a trip is necessary to fulfill some need or purpose (generation), (2) the decision where that need/purpose is best fulfilled (distribution), (3) the decision of which means is best to get there (mode choice), and (4) the decision of which route to take (trip assignment).

Geographic patterns are represented in the model by data considered to be at the heart of individual travel decisions: where people live, where people work, and where people recreate, shop, or otherwise interact. The specific data proposed for use in this project are discussed more fully below.

Land use quantities are represented in a series of Traffic Analysis Zones (TAZs), that together encompass the entire traffic model area. A total of 152 TAZs were defined to encompass the model area. TAZs were generally defined to follow property lines and to accurately reflect vehicular access to/from the roadway network. As discussed in detail below, land use quantities were developed to reflect existing uses within each TAZ.

The physical structures of travel are represented through a combination of links (paths) and nodes (intersections or transfer points). Zone centroids are special types of nodes associated with both the TAZ data mentioned above and the origins and destinations of an individual's trips. The links typically have a travel time associated with them, either explicitly given or inferred from speed and distance information.

As with any representation of a real system, there are associated limitations. To minimize the effects of these limitations, the updated model has been "validated" so that it matches reality for all critical links in the system. In other words, adjustments were made until the modeled traffic volumes approximated existing traffic volumes, often referred to as "ground counts." Once the model was validated, then and only then can the model be used to estimate future travel patterns and volumes.

PREVIOUS PLANS AND STUDIES

The Town of Mammoth Lake's travel demand model was originally prepared in 1995 and subsequently revised in February 1997. The modeling documents prepared in 1995 and 1997 covered such topics as study area, analysis of methodologies, existing conditions, general plan without redevelopment conditions, and general plan with redevelopment conditions. The 1997 model evaluated the transportation impacts associated with the two land use alternatives: build out of the Town General Plan without redevelopment and build out of the Town General Plan with redevelopment. The model results found that build out of the General Plan without redevelopment would result in typical winter Saturday traffic conditions that were within the capacity levels of the transportation system. However, under the General Plan build out with redevelopment, the model found that eight segments moved from a "D or better" level of service to a "failure."

The model's output for the 1997 general plan without redevelopment was as follows:

- Total daily production / attractions 516,044
- Daily vehicle-trips 117,264
- P.M. transit trips 7,187
- Off-peak transit trips 36,524

- Daily transit trips 43,711
- Daily vehicle-miles traveled 215,614
- Daily vehicle-hours traveled 7,086
- PM 10 Emissions (lbs) 17,100

The model's output for the 1997 general plan with redevelopment was as follows:

- Total daily production / attractions 531,782
- Daily vehicle-trips 118,981
- PM transit trips 7,307
- Off-peak transit trips 37,267
- Daily transit trips 44,574
- Daily vehicle-miles traveled 216,220
- Daily vehicle-hours traveled 7,125
- PM 10 Emissions (lbs) 17,200

NETWORK ELEMENT AND EXISTING CONDITIONS

Existing Model and Updates

The first step in updating the Town of Mammoth Lakes' travel demand model was to review the existing model network and Traffic Analysis Zones (TAZ). The model network was last updated in 1997. Thus, a review was warranted to assure the current accuracy of the network input within the modeling process. The LSC team worked with the Town of Mammoth Lakes' planning staff to determine the network revisions required in order to match the current network conditions. The only major network change was the modification to reflect the realignment of Canyon Boulevard in the Village area.

The *Tranplan* software was used as the program platform in the development and operation of the travel demand model for Mammoth Lakes. The code file, input file, and output file were also analyzed in *Tranplan*. The LSC team used the *Viper* software as the interface program for the editing of model files, including editing the network, coding the job stream, and reviewing the output. The land use input files and production and attraction estimates were developed in *Excel* and converted into text files so that they could be read by *Tranplan*.

The existing network includes 152 centroid nodes that correspond to 152 TAZs. All of the socioeconomic and land use data is attached to the centroid nodes. There are 4,761 additional nodes where roadway segments connect to each other at intersections, turns, and access points from the adjacent land use developments (centroid nodes). The nodes are connected by 1,545 links that represent the roadway segments within the network. Each link has corresponding attributes which define the roadway in terms of distance, speed, number of lanes, and segment capacity.

Updating the Network

The parcel map was examined to determine if any of the TAZ boundaries required adjustment based upon recent development patterns that have occurred in the Town of Mammoth Lakes over the past ten years. As a result of this review, the following centroid nodes were deleted per Town direction in order to update the network for the current development patterns:

- 91
- 93
- 94
- 235

The centroid nodes of these TAZs were deleted in order to realign the TAZ boundaries based upon the existing and future development patterns and roadway alignments. All of the above TAZs had to be combined with other TAZs as follows:

- TAZ 90 consists of old TAZ 91, 92, and 235
- TAZ 92 consists of old TAZ 91, 92, and 235
- TAZ 95 consists of old TAZ 94, 95, 96, 210, and 211
- TAZ 96 consists of old TAZ 95, 96, and 211
- TAZ 237 consists of old TAZ 93 and 237

For comparison, the TAZ boundaries used in the 1997 model update may be found in Appendix A, as well as a brief discussion regarding adjustments that were made to the model network. Figure 1 presents the updated TAZ map for Mammoth Lakes, which was used to update the travel demand model.

Capacity

Figure 2 resents the capacity of the Town of Mammoth Lakes' model roadway network. These values are based upon standard values employed by the traffic engineering profession and are consistent with the values used in the previous versions of the model. The roadway with the greatest capacity (25,000 vehicles per day per direction) is US Highway 395. The second highest capacity roadways are Meridian Boulevard and State Highway 203, which are coded to have capacities equal to 7,200 vehicles per day per direction. The third highest capacity roadways are Old Mammoth Road and Minaret Road, which are assumed to have capacities between 4,500 and 7,200 vehicles per day per direction. The remaining roadways are coded to have capacities that are less than 4,500 vehicles per day per direction. Most of the lower capacity roadways are collectors or local streets. The centroid links are shown in gray on Figure 2. The capacity on the centroid links is considered to be unlimited.

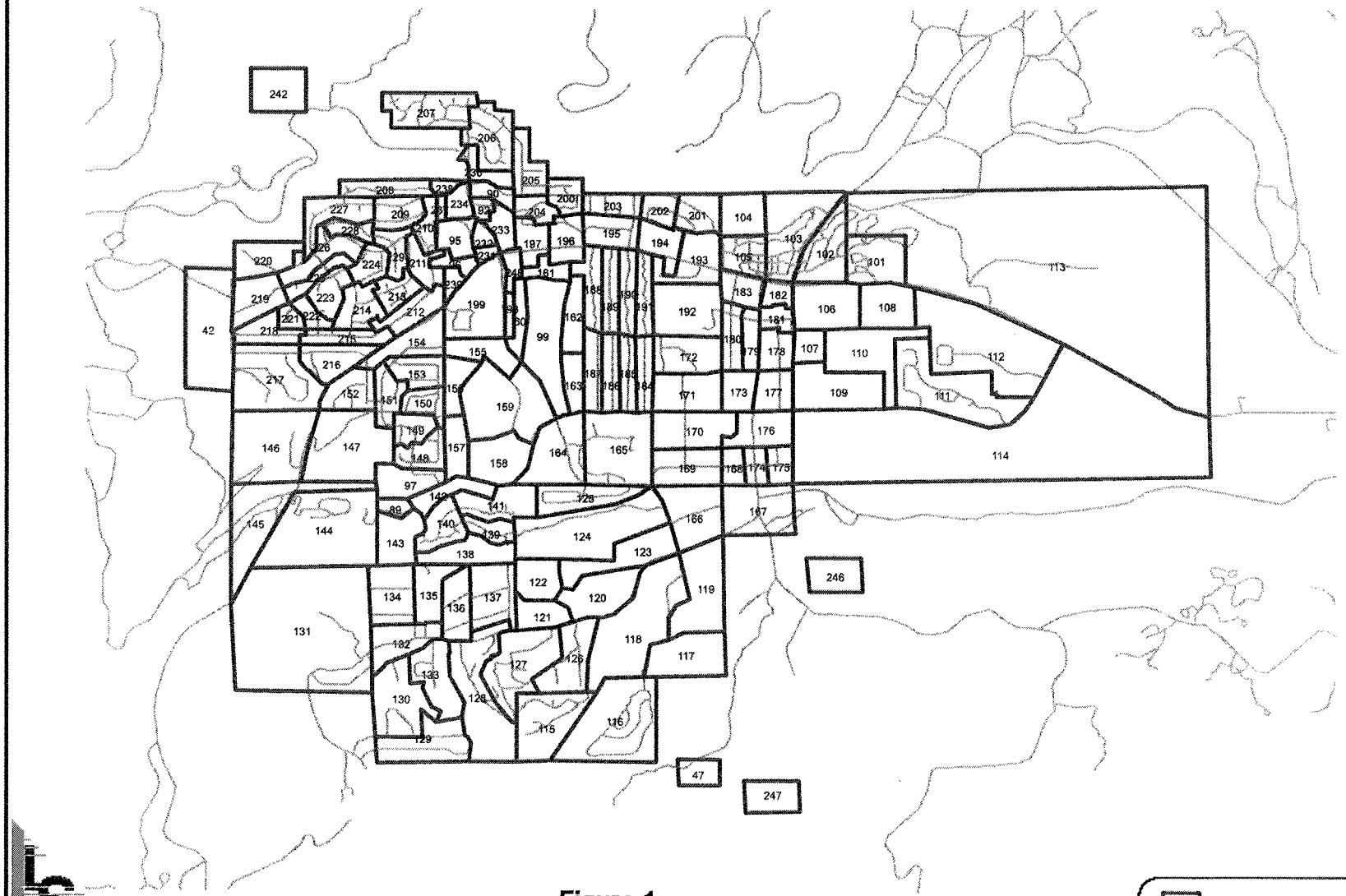


Figure 1
Updated Mammoth Lakes Traffic Analysis Zones

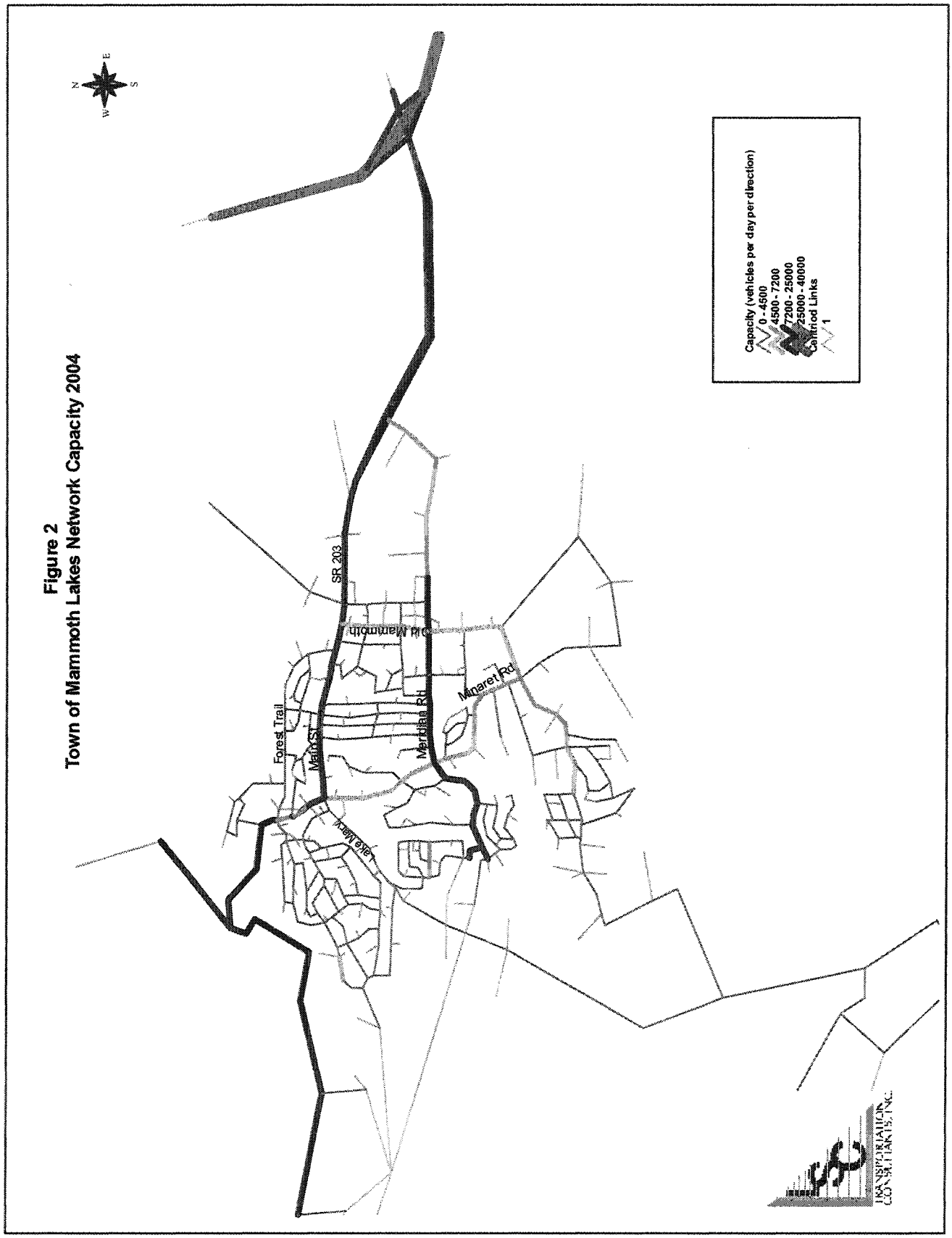


Figure 2
Town of Mammoth Lakes Network Capacity 2004

Transit Network

Figure 3 presents the existing transit network for the Town of Mammoth Lakes. The model's transit network consists of three routes (Blue, Red, and Green) that link together at the Village. In order to model transit, the transit routes shown in Figure 3 were translated into transit paths in the model network, onto which the model can load transit person-trips. The 2004 condition model transit output is detailed below.

Existing Land Use and Trip Generation

One of the most important elements of a travel demand model is the land use data. The land use data drives the trip generation and determines the amount of trips generated by each TAZ or centroid node in the model network. The Town of Mammoth Lakes provided LSC the land use data by TAZ and land use type. Each land use category has a certain trip rate, defined to be the number of daily person trips generated by every unit of land use within a TAZ. This trip rate varies by land use category. There are 24 different land use types used in the Town of Mammoth Lakes traffic model.

Table 1 presents the land use types and daily person trip-end rates. As the table indicates, residential land uses are measured by dwelling units, while retail and commercial land uses are measured by acres. Several of the land uses are considered to be "special generators" and are measured by employees, students, or rooms. A special generator represents a unique land use that creates a significant amount of trips (such as that caused by a school, college, sporting event, or special event).

The total number of trips by land use code was then broken down into the type of trips (produced or attracted) for each of the land use codes. The calculation was done for each of the 152 TAZs in the model. The total number of trips generated by the 2004 land uses was 302,685, which consisted of 152,779 production trips and 149,906 attraction trips. The production and attraction trips for each TAZ were then broken down into the following five trip purposes:

- Home to Recreational Trips
- Home to Shopping Trips
- Home to Work Trips
- Home to Other Trips
- Non-Home Based Other Trips

Table 2 presents the distribution of trips rates by land use codes and by trip purpose. In other words, Table 2 indicates the number of trips that each land use type generates and the percentage of each trip rate that is distributed across the five trip types (purposes), identified above. The calculations are then utilized to generate the total number of person trips by trip purpose. The percentage of each trip is used in the balancing process, which equalizes the total number of production trips and attraction trips. The model can only function accurately if the production and attraction trips are balanced within five percent of each other, which occurred in this model.

FIGURE 3

TOWN OF MAMMOTH LAKE BUS ROUTES

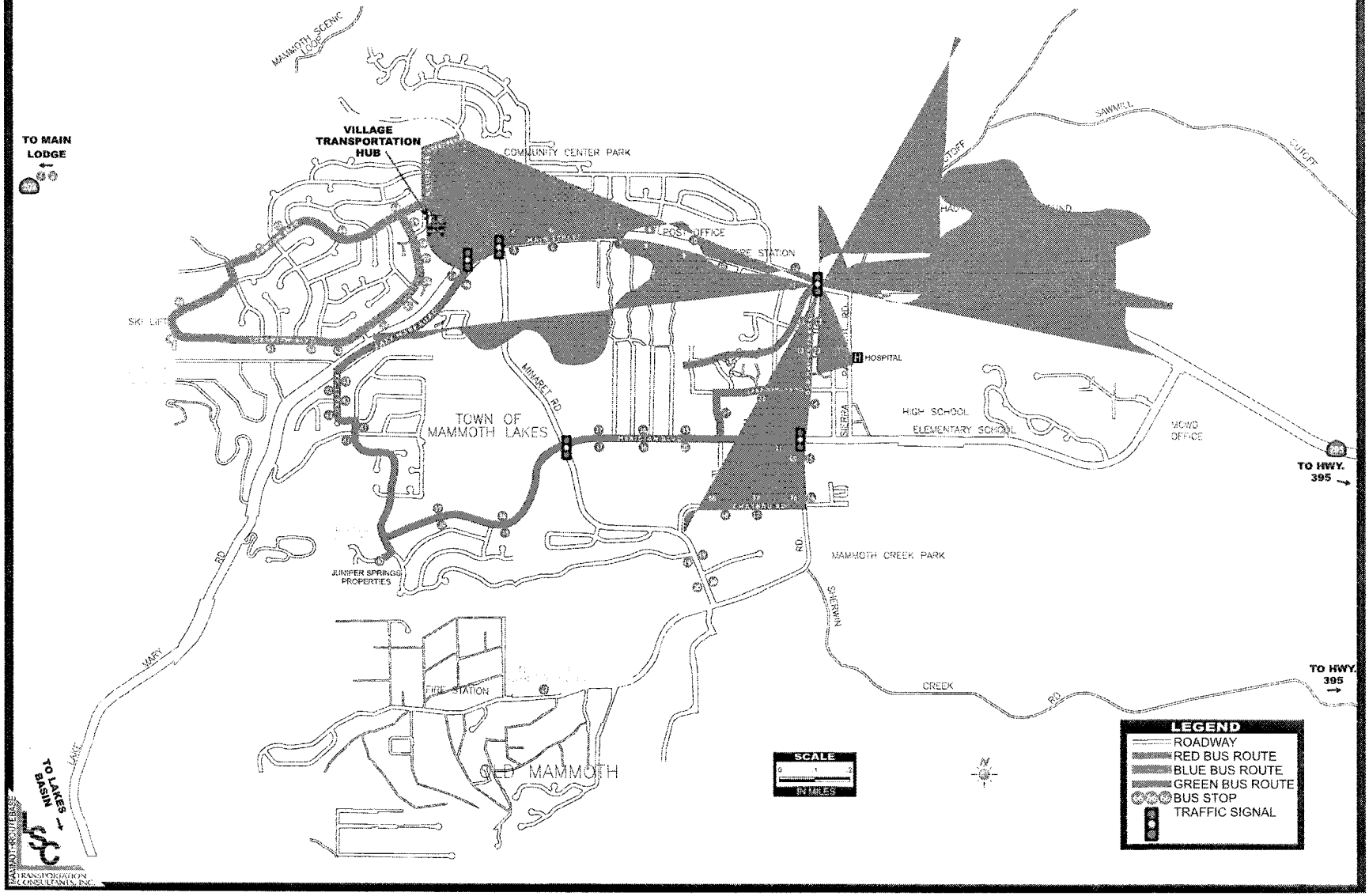


Table 1
Land Use Codes

CODE	DESCRIPTION	UNITS	Daily Vehicle Trip-End Rate
1	Residential Low Density (SF) - Resident	DUs	12.0
2	Residential Medium Density (SF) - Resident	DUs	10.0
3	Residential High Density (MF) - Resident	DUs	8.0
4	Mobile Home Park - Resident	DUs	5.0
5	Residential Low Density (SF) - Visitor	DUs	4.9
6	Residential Medium Density (SF) - Visitor	DUs	4.4
7	Residential High Density (MF) - Visitor	DUs	3.9
10	Lodging (Hotel) - Visitor	Room	8.0
11	Resort Hotel - Visitor	Room	8.0
12	Retail/Commercial & Town Offices	Acres	1220
13	Retail/Commercial	KSF	78.71
21	Light Industrial	Acres	9.0
31	Public School	Acres	33.0
32	High School	Acres	71.0
33	College	Student	56.0
34	Hospital	Bed	9.0
36	Post Office	PRS	0.23
37	Church	Acres	97.0
39	Downhill Skiing-Employees	Employee	5.5
40	Downhill Skiing-Skiers	SAOTS	2.05
41	Cross-country Skiing/Snowmobiling	SAOTS	2.3

Source: Town of Mammoth Lakes, 2004

Table 2
Daily Person Trip-End Production/Attraction Proportions by Trip Purpose

CODE	Land Use Type	Daily Person Trip-End Rate	PRODUCTIONS					ATTRACTION					TOTAL
			H-REC	H-S	H-W	H-O	O-O	H-REC	H-S	H-W	H-O	O-O	
1	Residential Low Density (SF) - Resident	19.00	8.6%	13.0%	17.0%	29.0%	12.3%	0.0%	2.0%	3.0%	9.5%	5.6%	100.0%
2	Residential Medium Density (SF) - Resident	16.00	9.7%	13.0%	17.0%	29.0%	9.0%	0.0%	1.9%	3.0%	9.3%	8.1%	100.0%
3	Residential High Density (MF) - Resident	12.00	10.3%	15.0%	18.0%	29.0%	9.0%	0.0%	4.3%	2.5%	9.0%	2.9%	100.0%
4	Mobile Home Park - Resident	7.00	11.1%	14.0%	20.0%	27.5%	6.5%	0.0%	4.0%	2.0%	8.7%	6.2%	100.0%
5	Residential Low Density (SF) - Visitor	21.00	30.0%	19.0%	0.0%	19.0%	11.7%	2.3%	5.3%	1.1%	5.5%	6.1%	100.0%
6	Residential Medium Density (SF) - Visitor	19.00	30.0%	19.0%	0.0%	19.0%	11.7%	2.3%	4.3%	1.1%	6.5%	6.1%	100.0%
7	Residential High Density (MF) - Visitor	17.00	31.0%	19.0%	0.0%	19.0%	10.4%	2.2%	3.7%	1.2%	6.1%	7.4%	100.0%
10	Lodging (Hotel) - Visitor	16.00	35.1%	18.0%	0.0%	18.5%	8.0%	0.0%	3.5%	1.2%	5.7%	10.0%	100.0%
11	Resort Hotel - Visitor	16.00	35.2%	18.0%	0.0%	18.5%	8.0%	0.0%	4.5%	1.2%	5.7%	8.9%	100.0%
12	Retail/Comm'l & Town Offices (ACRES)	1220.00	0.0%	0.0%	0.0%	0.0%	24.3%	10.0%	22.0%	3.0%	10.0%	30.7%	100.0%
13	Retail/Commercial (1,000 square feet)	78.71	0.0%	0.0%	0.0%	0.0%	24.3%	10.0%	22.0%	3.0%	10.0%	30.7%	100.0%
21	Light Industrial	14.60	0.0%	0.0%	0.0%	0.0%	25.3%	0.0%	0.0%	23.2%	10.9%	40.6%	100.0%
23	Public Utility	0.00	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
31	Public School	71.00	0.0%	0.0%	0.0%	0.0%	7.4%	0.0%	0.0%	2.3%	83.1%	7.2%	100.0%
32	High School	71.00	0.0%	0.0%	0.0%	0.0%	7.4%	0.0%	0.0%	2.3%	83.1%	7.2%	100.0%
33	College	76.00	0.0%	0.0%	0.0%	0.0%	11.6%	0.0%	0.0%	7.1%	78.4%	2.9%	100.0%
34	Hospital	18.00	0.0%	0.0%	0.0%	0.0%	23.0%	0.0%	0.0%	10.4%	44.4%	22.2%	100.0%
36	Post Office	0.501	0.0%	0.0%	0.0%	0.0%	28.5%	0.0%	0.0%	2.9%	39.0%	29.6%	100.0%
37	Church	182.00	0.0%	0.0%	0.0%	0.0%	21.1%	0.0%	0.0%	0.0%	43.8%	35.1%	100.0%
39	Downhill Skiing-Employees	6.10	0.0%	0.0%	0.0%	0.0%	31.0%	0.0%	0.0%	30.0%	8.0%	31.0%	100.0%
40	Downhill Skiing-Skiers	2.30	0.0%	0.0%	0.0%	0.0%	13.0%	75.0%	0.0%	0.0%	2.0%	10.0%	100.0%
41	Cross-country Skiing/Snowmobiling	2.50	0.0%	0.0%	0.0%	0.0%	14.0%	73.0%	0.0%	4.0%	1.0%	8.0%	100.0%

KEY
H-REC = Home to Recreational
H-S = Home to School
H-W = Home to Work
H-O = Home to Other
O-O = Other to Other Non-Home Based

Source: Town of Mammoth Lakes, LSC 2004

Table 3 presents the number of trips by trip purpose for both production and attraction totals. A breakdown of trips by TAZ is contained in Appendix B. The greatest number of trips are generated as "non-home based other to other trips." In fact, 92,264 daily person "other to other" trips were generated out of the 302,685 total trips, which equates to 30 percent of the total trip generation. The next greatest trip purpose was "home to recreational trips," for which 76,420 daily person trips were generated. The smallest portion of trips were "home to work" trips, which comprised only 5 percent of the total daily person trips generated by the model area. These totals do not include external station trip production and attraction from locations along US Highway 395. The external stations add 26,120 daily person trips, which results in a total daily person trip generation of 328,805. The trip purpose totals represent the person-trip travel volumes that are traveling to and from the TAZs within the Town of Mammoth Lakes on a typical winter Saturday.

Table 3
Trip Purpose

Trips Purpose	Production	Attraction	Total
Home Based Recreational	38,307	38,113	76,420
Home Based Shopping	26,489	25,405	51,894
Home Based Work	8,101	7,885	15,986
Home Based Other	33,558	32,563	66,121
Non-Home Based Other	46,324	45,940	92,264
Total	**152,779**	**149,906**	**302,685**

Source: LSC 2004

The information discussed above provides the foundation for the modeling process. At this point in the update process, there has been significant review and analysis of the input data (land use types by TAZ) provided by the Town of Mammoth. Each of the iterations was discounted due to changes in the land use input data by the Town of Mammoth Lakes and the LSC team. Once the correct land used data was developed the information was used in the final model run. This information is presented in the above tables.

Once a loaded network (model run) was found to be based upon acceptable land use data, the validation process was conducted. The validation process that the LSC team conducted in order to obtain a model that functioned as close as possible to the actual travel patterns is described later in this memorandum.

2004 Model Results

The first section below reviews the points or traffic counts that the LSC team utilized to validate the model to the existing transportation system conditions. The next section below reviews the overall results of the validation run for the base transportation system model.

Traffic Counts

A crucial step in development of a traffic model is collecting and refining a comprehensive set of existing design volumes. The existing Town of Mammoth Lakes Transportation Demand Model is based upon a typical winter Saturday PM peak-hour design period. Developing appropriate design volumes is a relatively involved step in Mammoth Lakes due to the substantial day-to-day variations in traffic activity associated with visitor traffic. For analysis it is therefore necessary to adjust the counts conducted on various days to reflect a consistent design period. Existing winter 2004 design volumes for the study were developed in the following steps:

1. Available count data was gathered from three key sources: Caltrans, the Town of Mammoth Lakes, LSA Associates, Inc, and LSC Transportation Consultants, Inc.

2. Caltrans hourly count data along SR 203 (Main Street) at the permanent count location immediately east of Minaret Road was tabulated for each Saturday between December 15, 2004 and March 31, 2004. The peak-hour volumes occurring on each Saturday were averaged to establish the average winter Saturday PM peak-hour design volume.

3. The link volume counts at all the count locations were adjusted to represent the average winter Saturday PM peak-hour design volume. This adjustment was largely made based upon hourly Caltrans counts conducted on SR 203 immediately east of Minaret Road. The ratio of the design day peak-hour volume to the peak-hour volume observed on the day of the individual intersection counts was then used to factor the observed intersection count data. For instance, if the traffic volume on SR 203 on the day of a specific intersection count was exceeded by the SR 203 design volume by 20 percent, the intersection volumes were increased by a factor of 1.2. Extensive count data along SR 203 in 2003 was not available. Therefore, the 2003 counts were adjusted using the factor for a similar type of day (for example, the third Saturday in March) in 2004. No growth rate was applied to the 2003 count data, as a comparison of 2003 and 2004 count data along SR 203 indicates no significant growth.

4. Finally, the adjusted volumes were compared to Caltrans count data and the link volumes at nearby intersections to check for reasonableness.

Table 4 presents the locations, dates, and traffic counts during the model peak design period (which is defined as the afternoon and evening hours on Saturdays during the

Table 4
Summary of Mammoth Lakes Traffic Data

#	Location	Source of Data	Count	Week	Unadjusted PM Peak-Hour Volumes NB/EB	SB/WB	Total	ADT Volumes	Design PM Peak-Hour Volumes NB/EB	SB/WB	Total
1	SR 203 Immediately East of Minaret Road	Caltrans	03/06/04	Saturday	998	456	1,454	15,362	1,001	458	1,459
2	SR 203 Immediately West of Old Mammoth Road	Caltrans	03/06/04	Saturday	955	589	1,544	17,546	958	591	1,549
3	SR 203 Immediately West of Meridian Boulevard	Caltrans	03/06/04	Saturday	324	311	635	6,917	325	312	637
4	SR 203 Immediately West of US 395	Caltrans	03/06/04	Saturday	375	370	745	7,728	376	371	747
5	Old Mammoth Road Immediately North of Meridian Blvd.	LSA	02/22/03	Saturday	458	664	1,122	NA	495	718	1,213
6	Old Mammoth Road Immediately South of Meridian Blvd.	LSA	02/22/03	Saturday	369	544	913	NA	399	588	987
7	Meridian Boulevard Immediately East of Old Mammoth Road	LSA	02/22/03	Saturday	404	281	685	NA	437	304	741
8	Meridian Boulevard Immediately West of Old Mammoth Road	LSA	02/22/03	Saturday	356	264	620	NA	385	285	670
9	Minaret Road Immediately North of Meridian Blvd.	LSA	02/22/03	Saturday	302	461	763	NA	327	498	825
10	Minaret Road Immediately South of Meridian Blvd.	LSA	02/22/03	Saturday	99	246	345	NA	107	266	373
11	Meridian Boulevard Immediately East of Minaret Road	LSA	02/22/03	Saturday	486	255	741	NA	525	276	801
12	Meridian Boulevard Immediately West of Minaret Road	LSA	02/22/03	Saturday	418	208	626	NA	452	225	677
13	Minaret Road Immediately North of Lake Mary Road	LSA	02/22/03	Saturday	263	872	1,135	NA	284	943	1,227
14	Minaret Road Immediately South of Main Street	LSA	02/22/03	Saturday	311	503	814	NA	336	544	880
15	Main Street Immediately East of Minaret Road	LSA	02/22/03	Saturday	1,048	478	1,526	NA	1,133	517	1,650
16	Lake Mary Road Immediately West of Minaret Road	LSA	02/22/03	Saturday	690	537	1,227	NA	746	581	1,327
17	Old Mammoth Road Immediately South of Main Street	LSA	02/22/03	Saturday	417	776	1,193	NA	451	839	1,290
18	Main Street Immediately East of Old Mammoth Road	LSA	02/22/03	Saturday	496	374	870	NA	536	404	940
19	Main Street Immediately West of Old Mammoth Road	LSA	02/22/03	Saturday	1,052	571	1,623	NA	1,137	617	1,754
20	Minaret Road Immediately North of Old Mammoth Road	LSA	02/22/03	Saturday	121	323	444	NA	131	349	480
21	Minaret Road Immediately South of Old Mammoth Road	LSA	02/22/03	Saturday	28	61	89	NA	30	66	96
22	Old Mammoth Road Immediately East of Minaret Road	LSA	02/22/03	Saturday	239	194	433	NA	258	210	468
23	Old Mammoth Road Immediately West of Minaret Road	LSA	02/22/03	Saturday	169	303	472	NA	183	328	511
24	Sierra Park Road North of Meridian Boulevard	LSA	02/22/03	Saturday	22	28	50	NA	24	30	54
25	Meridian Boulevard Immediately East of Sierra Park Road	LSA	02/22/03	Saturday	99	74	173	NA	107	80	187
26	Meridian Boulevard Immediately West of Sierra Park Road	LSA	02/22/03	Saturday	112	93	205	NA	121	101	222
27	Mountain Boulevard Immediately North of Main Street	LSA	02/22/03	Saturday	69	83	152	NA	75	90	165
28	Mountain Boulevard Immediately South of Main Street	LSA	02/22/03	Saturday	15	71	86	NA	16	77	93
29	Main Street Immediately East of Mountain Boulevard	LSA	02/22/03	Saturday	1,223	547	1,770	NA	1,322	591	1,913
30	Main Street Immediately West of Mountain Boulevard	LSA	02/22/03	Saturday	1,239	557	1,796	NA	1,340	602	1,942
31	Canyon Boulevard Immediately East of Lakeview Boulevard	Town of Mammoth Lakes	02/23/02	Saturday	NA	NA	443	4,765	NA	NA	493
32	Forest Trail Immediately East of Minaret Road	Town of Mammoth Lakes	03/06/04	Saturday	24	82	106	716	24	82	106
33	Forest Trail Immediately East of Pinecrest Avenue	Town of Mammoth Lakes	03/06/04	Saturday	27	86	113	836	27	86	113
34	Bemer Street Immediately East of Minaret	Town of Mammoth Lakes	03/06/04	Saturday	18	24	42	438	18	24	42
35	Hillside Immediately West of Forest Trail	Town of Mammoth Lakes	03/05/04	Friday	18	24	42	438	20	26	46
36	Laurel Mountain Road Immediately South of Main Street	LSC	02/22/03	Saturday	123	230	353	NA	133	249	382
37	Main Street Immediately West of Laurel Mountain Road	LSC	02/22/03	Saturday	1,182	668	1,850	NA	1,278	722	2,000
38	Main Street Immediately East of Laurel Mountain Road	LSC	02/22/03	Saturday	623	1,030	1,653	NA	674	1,114	1,787
39	Forest Trail Immediately North of Main Street	LSC	02/22/03	Saturday	110	178	288	NA	119	192	311
40	Main Street Immediately East of Forest Trail	LSC	02/22/03	Saturday	1,321	771	2,092	NA	1,428	834	2,262
41	Main Street Immediately West of Forest Trail	LSC	02/22/03	Saturday	1,202	720	1,922	NA	1,300	778	2,078
42	Center Street Immediately South of Main Street	LSC	02/22/03	Saturday	111	124	235	NA	120	134	254
43	Main Street Immediately East of Center Street	LSC	02/22/03	Saturday	1,017	654	1,671	NA	1,100	707	1,807
44	Main Street Immediately West of Center Street	LSC	02/22/03	Saturday	1,087	682	1,769	NA	1,175	737	1,913
45	Sierra Street North of Main Street	LSC	02/22/03	Saturday	75	68	143	NA	81	74	155

NA = Not Available

winter months). The last column on the right-hand side of Table 4 contains the counts used in the validation of the model. Figure 4 indicates the traffic count locations throughout the Town of Mammoth Lakes study area.

Transit Baseline

Based upon the information provided by the Town of Mammoth Lakes, the total number of daily one-way transit passenger-trips occurring in Mammoth on a typical winter Saturday is 13,118. The transit route trip totals were utilized in the validation of the transit/ modal choice portion of the travel demand model. The total number of daily trips assigned by the model onto each transit route is as follows:

- Red Route 6,774
- Blue Route 4,303
- Green / Yellow Route 1,686
- Night Routes 355

VALIDATION PROCESS

To validate the model, the results of the model traffic assignments were compared to the observed traffic volumes presented in Table 4. The approach to the validation process is to conduct a point validation analysis. Point validation represents a higher standard for calibration than is typically used. Not only are overall flows of traffic volumes compared, but also site-specific volumes. A calibrated model should provide results which are reasonably close for major links in the street network. Table 5 shows the two-way volume error range which was used in validating the model. For low-volume links, a larger error range is acceptable because of the lack of congestion. A difference of 100 percent for volumes less than 100 vehicles per hour has little effect on congestion because less roadway capacity is being used. For higher volume roadways, the percentage error must be much smaller.

During the validation process, seven model runs were made and evaluated. The sixth model run identified 19 links with non-validating traffic counts. The non-validating links were then adjusted by changing the link impedance. These adjustments are detailed below.

Lines of Code

Table 6 presents the changes that the LSC team made in the coding of the travel demand model. In order to have the model accurately represent the actual travel patterns of the Town of Mammoth Lakes, the LSC team made adjustments to the impedances of the model network. The LSC team adjusted the travel time of certain links in order to have the model assignment more closely match the actual traffic counts. The section below shows the lines of code that were used in the model to improve the model's representation of the travel patterns. Each link adjustment is made up of two lines of code – one for each direction of the link. In order to identify all of the links that needed to be adjusted, 92 model runs were conducted.

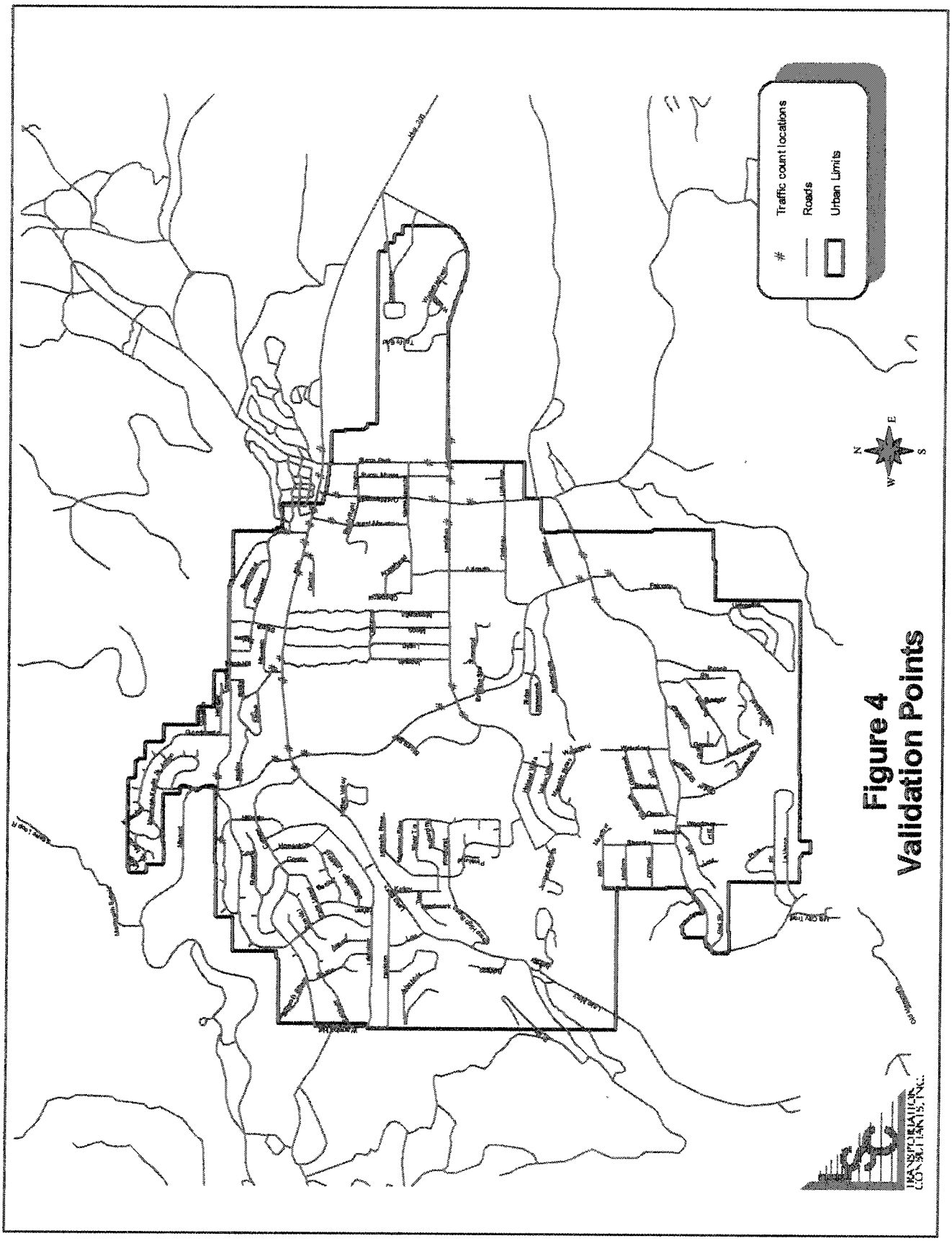


Figure 4
Validation Points

Table 5 Point Validation Error Range	
Peak-Hour Two-Way Traffic Volumes	**Error Range + (-)**
<100	100%
100-399	50%
400-999	25%
1,000-1,500	15%
>1,500	10%

Table 6

Validation Coding

Node A	Node B	New Time
2264	2273	60
2273	2310	60
2310	2366	60
2362	2366	60
2342	2362	60
2342	2343	60
2343	2346	60
2346	2347	83
2348	2347	60
2349	2348	20
2350	2349	60
2352	2350	60
2184	2210	30
2179	2201	30
2170	2192	40
2163	2220	0.5
2349	2367	30
2121	2130	85
2137	2364	100
2179	2201	26
2439	2450	20
2450	2458	200
2433	2450	90
2321	2347	100
2041	2056	30
2107	2139	12
2115	2139	70
2131	2139	7
2458	2473	200
2473	2493	200
2107	2153	10
2181	2194	20
2174	2194	60
2151	5005	85
2170	2179	43
2028	2030	110
2124	2364	75
2042	2043	20
2040	2041	46
2168	2170	15
2041	2056	35
2364	2375	25
2151	5004	25
2151	5003	12
2319	2364	20
2240	2249	5
2153	2168	30
2163	2168	5
2143	2190	19
2163	2190	30
2302	2325	10
2131	2141	25
2143	2152	25
2232	2240	5

Source: LSC 2004

Once adjustments were made to the lines of code in the model, the model traffic volumes more closely matched the traffic counts in Table 4. Table 7 presents the final traffic counts and model volumes, which verify that the LSC team has validated the auto trips for the travel demand model for the Town of Mammoth Lakes.

Friction Factors

The last step involved running the validated model in order to generate the transit person-trip estimates. In order to validate the transit portion of the model, the LSC team adjusted the friction factor of the S Curves within the run-stream (model code). The friction factor affects the distance that a transit user would be allowed to travel on the transit system. By reducing the friction factor, the final 2004 condition model run generated the following output for transit trips:

- Red Route 8,312
- Blue Route 2,993
- Green / Yellow Route 2,129

The total number of daily person trips generated by the 2004 condition model on transit was 13,434 trips. The difference between the model-generated transit ridership and the actual transit ridership is 316 trips, or less than a 2.4 percent difference.

VALIDATION MODEL RESULTS

Once the model was run with the validation lines of code entered into the run-stream, the model generated several files. The output from the run was a 24-hour traffic volume loaded network and a PM peak-hour loaded network. Details of the output from the validation model run are contained in Appendix C, which provides a line-by-line output of the *Tranplan* result directly from the run-stream code. The following is a summary of the model results:

- Total Trips 70,563
- Daily Vehicle-Miles Traveled (VMT) 620,286
- Daily Vehicle-Hours Traveled (VHT) 17,112
- Average Vehicle Speed (mph) 36.25
- Congestion Index (no units) .2199

The above results are a key base line for comparison of the different transportation scenarios. When the number of trips is divided into the VMT, the average trip distance is 8.79 miles. When the number of trips is divided into the VHT, the average trip time is 14.5 minutes. The congestion index can be used to determine the level of congestion across the entire transportation network. Figure 5 presents the level of congestion of the loaded network based upon the existing base-year land use input data. The network roadways that are shown in red (in Figure 5) are the links that are at or over 100 percent traffic volume capacity.

Table 7
Validation Model Counts

Location	Observed PM Peak-Hour Two-Way Volumes	Model-Generated PM Peak-Hour Two-Way Volumes	Acceptable Range	
			Min	Max
SR 203 Immediately West of US 395	747	890	934	560
Old Mammoth Road Immediately North of Meridian Blvd.	1,178	1286	1,355	1,001
Meridian Boulevard Immediately East of Old Mammoth Road	719	857	899	539
Meridian Boulevard Immediately West of Old Mammoth Road	651	798	814	488
Minaret Road Immediately North of Meridian Blvd.	801	751	1,001	601
Minaret Road Immediately South of Meridian Blvd.	362	496	543	181
Meridian Boulevard Immediately East of Minaret Road	778	768	973	584
Meridian Boulevard Immediately West of Minaret Road	657	809	821	493
Minaret Road Immediately North of Lake Mary Road	1,191	1,314	1,370	1,012
Minaret Road Immediately South of Main Street	854	821	1,068	641
Lake Mary Road Immediately West of Minaret Road	1,288	1,352	1,481	1,095
Old Mammoth Road Immediately South of Main Street	1,253	1,307	1,441	1,065
Main Street Immediately East of Old Mammoth Road	914	961	1,143	686
Main Street Immediately West of Old Mammoth Road	1,703	1,717	1,873	1,533
Minaret Road Immediately North of Old Mammoth Road	466	379	583	350
Fairway Road Immediately South of Old Mammoth Road	93	148	186	0
Old Mammoth Road Immediately East of Minaret Road	455	366	569	341
Old Mammoth Road Immediately West of Minaret Road	495	490	619	371
Sierra Park Road North of Meridian Boulevard	52	9	104	0
Meridian Boulevard Immediately East of Sierra Park Road	182	273	273	91
Meridian Boulevard Immediately West of Sierra Park Road	216	265	324	108
Mountain Boulevard Immediately North of Main Street	159	177	239	80
Main Street Immediately East of Mountain Boulevard	1,858	1,754	2,044	1,672
Main Street Immediately West of Mountain Boulevard	1,886	1,824	2,075	1,697
Canyon Boulevard Immediately East of Lakeview Boulevard	465	367	581	349
Forest Trail Immediately East of Minaret Road	106	67	159	53
Forest Trail Immediately East of Pinecrest Avenue	113	114	170	57
Berner Street Immediately East of Minaret	42	62	84	0
Hillside Immediately West of Forest Trail	46	83	92	0
Laurel Mountain Road Immediately South of Main Street	371	288	557	186
Main Street Immediately West of Laurel Mountain Road	1,942	2,008	2,136	1,748
Main Street Immediately East of Laurel Mountain Road	1,735	1,717	1,909	1,562
Forest Trail Immediately North of Main Street	302	422	453	151
Main Street Immediately East of Forest Trail	2,196	2,005	2,416	1,976
Main Street Immediately East of Center Street	1,754	1,615	1,929	1,579
Sierra Street North of Main Street	150	94	225	75

Source: LSC 2004

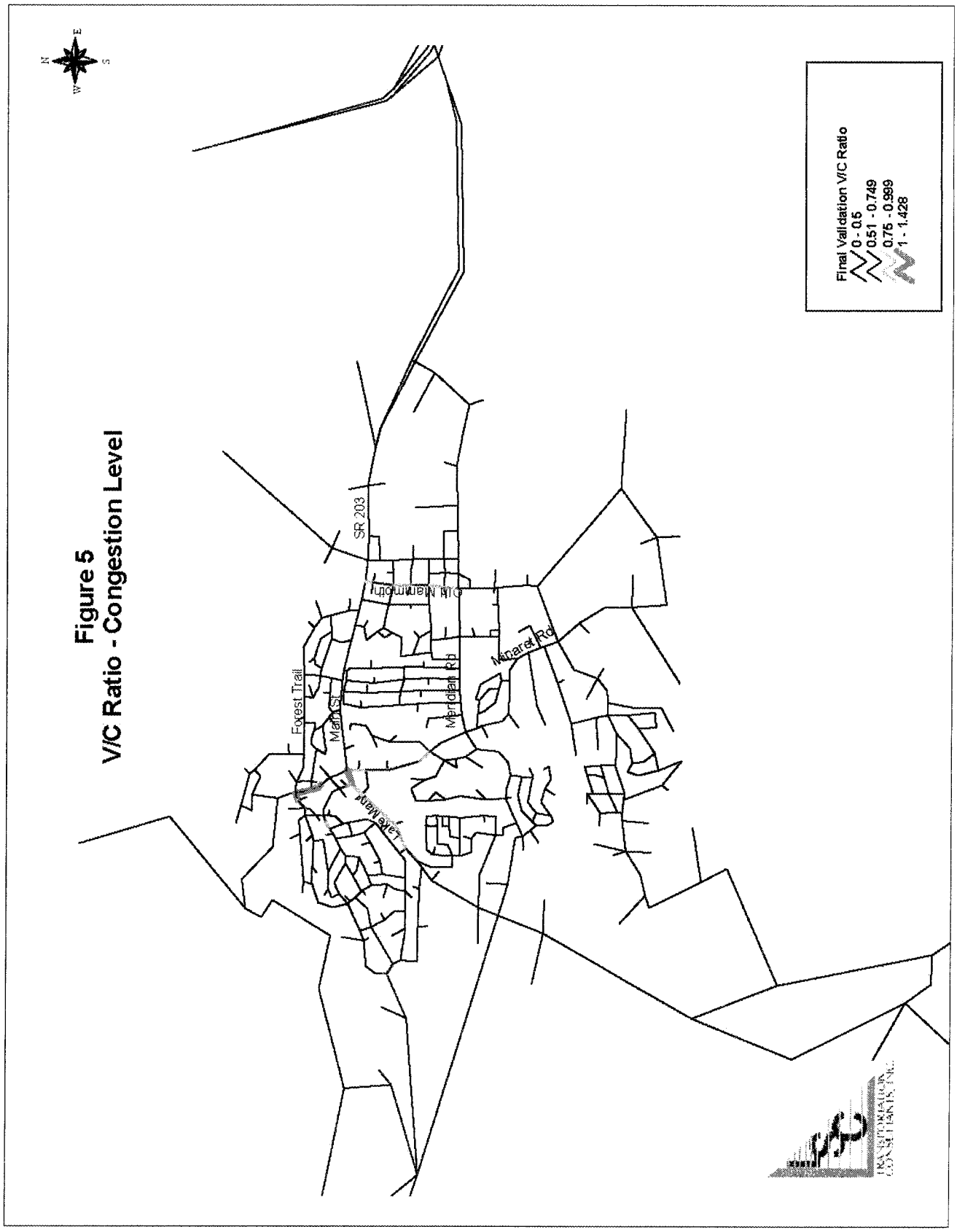

Figure 5
V/C Ratio - Congestion Level
Final Validation V/C Ratio
0 - 0.5
0.51 - 0.749
0.75 - 0.999
1 - 1.428
SR 203
Old Mammoth Rd
Meridian Rd
Minaret Rd
Main St
Forest Trail
Main St
Lake Mary

Figure 6 presents the traffic volume along all the network links as compared to each other. As the traffic volume increases on a link, the bandwidth or thickness of the link increases. Hence, the greater the bandwidth, the greater the volume on the link. The bandwidth graphically reflects the travel patterns on the transportation system. As Figure 6 indicates, most traffic uses Main Street, Meridian Boulevard, Old Mammoth Road, and Minaret Road.

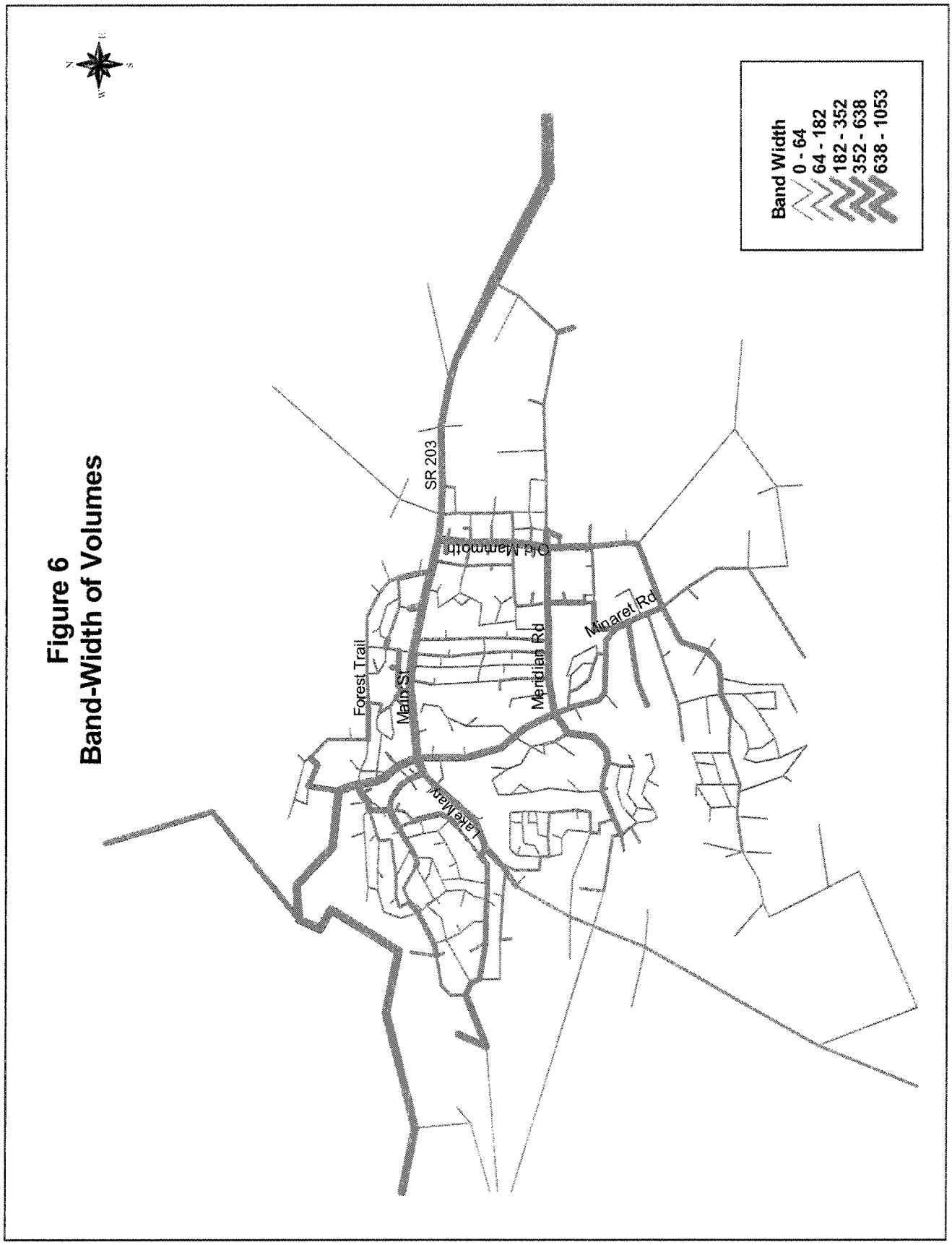


Figure 6
Band-Width of Volumes

Appendix A

Model Update Adjustments

The following adjustments were made in order to match the model network to the actual roadway system:

1. Add centroid link from TAZ 234 to node 2072
2. Move centroid 198 to the eastside of Minaret Road
3. Move centroid 160 south along Minaret Road
4. Realign Canyon Road so that it links with Lake Mary Road at node 2162, rather than Minaret Road

Appendix B

2004 Model Production and Attraction Data

		Trip Type				
Production	TAZ	Home-Rec	Home Shopping	Home-Work	Home Other	Non-Home-Other
GP	2	0	0	0	0	525
GP	3	503	165	600	1700	995
GP	4	1250	335	600	1800	2237
GP	5	0	0	0	0	277
GP	42	0	0	0	0	1991
GP	47	0	0	0	0	0
GP	89	943	593	0	593	316
GP	90	0	0	0	0	0
GP	91	0	0	0	0	0
GP	92	0	0	0	0	38
GP	93	0	0	0	0	0
GP	94	0	0	0	0	0
GP	95	0	0	0	0	515
GP	96	0	0	0	0	0
GP	97	0	0	0	0	482
GP	98	62	80	111	162	520
GP	99	0	0	0	0	0
GP	106	985	620	0	620	446
GP	107	0	0	0	0	406
GP	109	0	0	0	0	163
GP	110	0	0	0	0	131
GP	111	173	193	204	385	146
GP	112	0	0	0	0	203
GP	114	0	0	0	0	897
GP	115	144	115	48	160	82
GP	116	1113	788	163	942	484
GP	117	0	0	0	0	0
GP	118	0	0	0	0	0
GP	119	0	0	0	0	0
GP	120	0	0	0	0	0
GP	121	109	146	190	325	101
GP	122	826	580	109	682	355
GP	124	1522	1064	190	1244	652
GP	125	200	151	52	199	94
GP	126	183	185	160	308	229
GP	127	161	136	80	204	87
GP	128	142	130	89	214	94
GP	129	79	66	32	96	48
GP	130	26	28	26	52	24
GP	131	89	80	52	129	62
GP	132	92	74	32	104	53
GP	133	73	60	39	97	44
GP	134	26	40	52	88	37
GP	135	13	20	26	44	19
GP	136	97	76	36	109	53
GP	137	138	121	74	191	89
GP	138	0	0	0	0	0
GP	139	115	83	22	104	52
GP	140	425	340	165	485	199

GP	141	210	154	46	195	93
GP	142	950	643	95	717	348
GP	143	588	376	14	388	202
GP	144	79	83	79	157	55
GP	145	0	0	0	0	0
GP	146	179	137	52	178	77
GP	148	209	147	27	172	90
GP	149	92	76	41	114	48
GP	150	155	121	52	170	76
GP	151	96	89	68	153	58
GP	152	419	324	129	433	188
GP	153	148	120	60	176	76
GP	154	355	296	154	418	169
GP	155	0	0	0	0	0
GP	156	0	0	0	0	0
GP	157	242	152	0	152	81
GP	158	195	127	9	133	68
GP	159	0	0	0	0	105
GP	160	0	0	0	0	0
GP	161	41	59	71	115	36
GP	162	0	0	0	0	0
GP	163	0	0	0	0	0
GP	164	11	17	23	39	16
GP	165	169	111	4	114	64
GP	166	108	139	151	257	83
GP	168	406	286	65	336	156
GP	169	744	517	104	598	282
GP	170	875	641	205	794	347
GP	171	1251	889	216	1057	486
GP	172	396	320	149	436	179
GP	173	870	630	175	766	346
GP	174	270	138	0	142	1247
GP	175	131	145	130	246	976
GP	176	0	0	0	0	3854
GP	177	37	54	65	104	2108
GP	178	925	628	97	704	340
GP	179	899	461	0	474	1391
GP	180	467	358	130	459	799
GP	181	37	54	65	104	922
GP	182	417	225	22	248	992
GP	183	37	54	65	104	1811
GP	184	137	148	138	264	90
GP	185	186	152	77	216	87
GP	186	144	148	132	263	91
GP	187	380	340	216	515	198
GP	188	128	133	114	225	79
GP	189	147	137	100	220	81
GP	190	168	159	119	258	94
GP	191	143	139	111	233	83
GP	192	60	72	74	142	63
GP	193	180	92	0	95	41
GP	194	421	216	0	222	4710

GP	195	2067	1118	108	1231	1104
GP	196	339	191	32	221	682
GP	197	648	400	35	430	508
GP	198	7	11	13	21	6
GP	199	365	277	107	370	461
GP	200	104	81	33	111	51
GP	201	147	118	57	172	75
GP	202	85	79	60	135	52
GP	203	185	165	114	273	107
GP	204	67	82	98	174	56
GP	205	160	132	71	198	84
GP	206	305	248	125	365	157
GP	207	291	236	120	349	150
GP	208	186	144	57	197	90
GP	209	196	144	44	185	90
GP	210	171	125	40	158	70
GP	211	510	381	127	480	210
GP	212	575	485	259	686	273
GP	213	123	105	65	167	68
GP	214	120	101	60	158	65
GP	215	490	366	122	463	205
GP	216	431	317	97	398	185
GP	217	628	493	217	696	320
GP	218	828	543	48	582	293
GP	219	1516	948	26	970	500
GP	220	913	593	39	623	318
GP	221	103	71	11	82	44
GP	222	153	107	19	125	66
GP	223	116	93	44	134	59
GP	224	174	127	35	160	79
GP	225	204	143	27	169	88
GP	226	109	103	82	180	68
GP	227	188	141	49	187	88
GP	228	116	88	33	119	55
GP	229	125	100	49	147	64
GP	230	183	135	43	169	75
GP	231	0	0	0	0	593
GP	232	228	154	22	171	227
GP	233	394	202	0	207	1000
GP	234	935	478	0	491	1360
GP	235	0	0	0	0	0
GP	236	0	0	0	0	38
GP	237	0	0	0	0	0
GP	238	188	135	35	162	83
GP	239	0	0	0	0	0
GP	240	0	0	0	0	0
GP	241	0	0	0	0	0
GP	242	1200	613	0	630	3595
GP	244	0	0	0	0	0
GP	246	0	0	0	0	0
GP	247	0	0	0	0	0

		Trip Type				
Attraction	TAZ	Home-Rec	Home Shopping	Home-Work	Home Other	Non-Home-Other
GA	2	2564	0	167	31	314
GA	3	717	53	42	1837	1058
GA	4	1353	481	62	2756	2352
GA	5	1353	0	88	16	166
GA	42	8867	0	439	354	1636
GA	47	0	0	0	0	0
GA	89	67	97	37	170	225
GA	90	0	0	0	0	0
GA	91	0	0	0	0	0
GA	92	16	35	5	16	48
GA	93	0	0	0	0	0
GA	94	0	0	0	0	0
GA	95	2294	0	113	91	423
GA	96	0	0	0	0	0
GA	97	2105	0	113	86	398
GA	98	197	453	72	248	643
GA	99	0	0	0	0	0
GA	106	70	102	38	417	427
GA	107	142	312	71	262	495
GA	109	0	0	51	1829	158
GA	110	0	0	41	1475	128
GA	111	4	30	52	130	134
GA	112	0	0	186	88	326
GA	114	0	0	544	6135	236
GA	115	9	25	13	47	40
GA	116	78	147	66	293	285
GA	117	0	0	0	0	0
GA	118	0	0	0	0	0
GA	119	0	0	0	0	0
GA	120	0	0	0	0	0
GA	121	0	21	34	104	91
GA	122	59	109	47	212	207
GA	124	108	200	85	387	378
GA	125	13	27	15	62	59
GA	126	7	47	25	333	250
GA	127	7	31	17	62	45
GA	128	7	25	19	65	55
GA	129	5	14	8	29	23
GA	130	1	5	5	17	11
GA	131	5	16	11	39	30
GA	132	6	16	8	31	26
GA	133	2	11	9	30	26
GA	134	0	6	9	29	17
GA	135	0	3	5	14	9
GA	136	4	15	9	33	30
GA	137	8	24	17	58	47
GA	138	0	0	0	0	0
GA	139	8	15	8	32	31
GA	140	24	62	39	148	136

GA	141	14	29	14	60	57
GA	142	64	115	48	209	229
GA	143	41	63	25	112	141
GA	144	3	13	15	50	45
GA	145	0	0	0	0	0
GA	146	11	28	13	53	43
GA	148	15	28	12	54	52
GA	149	5	13	10	36	33
GA	150	10	22	14	53	50
GA	151	4	15	14	49	44
GA	152	25	63	33	132	116
GA	153	9	21	15	56	52
GA	154	19	64	32	127	91
GA	155	0	0	0	0	0
GA	156	0	0	0	0	0
GA	157	17	25	9	44	58
GA	158	13	22	9	39	47
GA	159	548	0	30	8	60
GA	160	0	0	0	0	0
GA	161	0	17	10	36	11
GA	162	0	0	0	0	0
GA	163	0	0	0	0	0
GA	164	0	3	4	13	7
GA	165	12	21	7	34	36
GA	166	1	38	22	79	29
GA	168	26	54	23	99	99
GA	169	49	95	41	176	180
GA	170	54	125	56	236	223
GA	171	80	168	74	312	304
GA	172	22	68	33	131	98
GA	173	55	121	54	226	212
GA	174	488	1100	156	532	1575
GA	175	370	843	130	442	1156
GA	176	1586	3489	476	1586	4869
GA	177	854	1894	265	886	2632
GA	178	62	113	47	206	223
GA	179	488	1163	177	634	1754
GA	180	273	612	106	383	858
GA	181	366	821	119	398	1134
GA	182	366	851	127	442	1242
GA	183	732	1626	229	764	2258
GA	184	4	32	23	82	52
GA	185	10	30	17	65	55
GA	186	5	29	24	82	62
GA	187	18	74	42	157	108
GA	188	4	30	19	70	42
GA	189	6	29	19	68	48
GA	190	7	33	22	79	56
GA	191	6	29	20	72	51
GA	192	2	12	14	46	29
GA	193	0	18	6	29	51
GA	194	1464	3263	561	2978	5712

GA	195	244	763	157	624	1338
GA	196	244	576	89	312	846
GA	197	151	345	64	252	535
GA	198	0	3	2	6	2
GA	199	144	318	66	234	479
GA	200	7	14	9	35	33
GA	201	9	21	14	54	50
GA	202	4	13	12	43	39
GA	203	9	28	25	86	79
GA	204	1	12	18	56	49
GA	205	9	23	17	63	58
GA	206	18	44	31	115	107
GA	207	17	42	29	110	102
GA	208	12	26	16	62	59
GA	209	13	27	14	58	56
GA	210	11	23	12	47	46
GA	211	31	76	35	143	125
GA	212	30	106	53	207	144
GA	213	7	18	15	53	48
GA	214	7	18	14	50	46
GA	215	30	72	34	138	122
GA	216	27	59	29	120	110
GA	217	38	87	57	216	198
GA	218	57	93	38	169	202
GA	219	96	161	61	281	369
GA	220	63	101	40	180	219
GA	221	7	13	5	25	25
GA	222	11	20	9	39	38
GA	223	7	16	11	42	39
GA	224	12	23	12	50	48
GA	225	14	27	12	53	51
GA	226	5	17	17	57	52
GA	227	12	26	14	59	56
GA	228	7	16	9	37	35
GA	229	7	18	12	46	43
GA	230	11	27	12	50	45
GA	231	244	537	73	244	749
GA	232	74	157	29	109	236
GA	233	375	874	126	438	1250
GA	234	472	1158	174	624	1686
GA	235	0	0	0	0	0
GA	236	0	0	0	80	64
GA	237	0	0	0	0	0
GA	238	16	34	13	52	58
GA	239	0	0	0	0	0
GA	240	0	0	0	0	0
GA	241	0	0	0	0	0
GA	242	13438	153	1002	809	3088
GA	244	0	0	0	0	0
GA	246	0	0	0	0	0
GA	247	0	0	0	0	0

Appendix C

2004 Model Run Stream

```
$MACRO HIGHWAY NETWORK UPDATE
~  File: = MTM19.IN  REV. DATE: 08/13/98       cdw
~                                                0534-98-02
~   Added Sierra Star @ Meridian (2375) as a Save Turns Location.
~   Added Old Mammoth @ Chateau St (2395) as a Save Turns Location.
~   Added Berner St @ Forest Trail (2030) as a Save Turns Location.
~   Added Old Mammoth @ Chateau St (2350) as a Save Turns Location.
~
~  File: = MTM17.IN  REV. DATE: 12/30/96       cdw
~                                                003-96-002
~   Added Lake Mary Rd @ Kelly Rd (2276) as a Save Turns Location.
~   Added Lake Mary Rd @ Lakeview Bl. Cutoff (2256)
~   as a Save Turns Location.
~
~
~  File: = MTM16.IN  REV. DATE: 12/02/96       cdw
~                                                534-94-001
~   Added Main Street @ Center Street (2190) as a Save Turns Location.
~
~
~  File: = MTM15.IN  LAST REV. DATE:  4/28/95       cdw
~  (See Below for explanation of changes)         534-94-001
~   This jobstream was created for the Town of Mammoth Lakes Model
~
~
~  The five trip purposes were:
~
~        1.  Home-to-Recreation
~        2.  Home-to-Shop
~        3.  Home-to-Work
~        4.  Home-to-Other
~        5.  Other-to-Other
~
~    Person Trips are generated for a Daily analysis and factored
~  for peak hour (PM) forecasts
~
~
~   KEY INPUT FILES (should be in the subdirectory called \INPUT):
~       DAILY HIGHWAY NETWORK        = MAMMOTH.NET
~       PM TRANSIT NETWORK           = PMTRAN.NET
~       OFF PEAK TRANSIT NETWORK     = OPTRAN.NET
~       GRAVITY MODEL DATA           = ALL.PA
~       FRICTION FACTOR FILE         = FRIC.FAC
~       PARKING LOT CAPACITIES       = PARKING.CAP
~       GENERAL HWY NETWORK UPDATES  = UPDATE.HWY
~       PM PEAK HWY UPDATES          = SPEEDCAP.PM
~       OFF PEAK HWY UPDATES         = SPEEDCAP.OP
~       HEADER TEXT                  = HEADER
~
~   KEY OUTPUT FILES (should be in a subdirectory called \OUTPUT):
~       AUTO OFF-PEAK LOADED HIGHWAY NETWORK = AUTOOP.LHN
~       AUTO PM PEAK LOADED HIGHWAY NETWORK  = AUTOPM.LHN
~       TRANSIT OFF-PEAK LOADED NETWORK      = TROP.LTN
~       TRANSIT PM PEAK LOADED NETWORK       = TRPM.LTN
~
~
~
~   JN:  534-94-001          cdw          1/30/95
~
~  2/22/95 - ADDED A NETWORK UPDATE TO ACCOUNT FOR PARKING UTIL. RATES
~            UPDATED MODE CHOICE DIVERSION CURVE
~
~  3/7/95 -  TRIED TO INCREASE THE AUTO PCT. FOR H-REC TRIPS TO 80%
~            BY FURTHER ADJUSTING THE MODE CHOICE CURVES.
~            ALSO TRIED TO INCREASE THE PATRONAGE TO MAIN LODGE BY
~            ADJUSTING THE ASSIGNMENT CURVE.
~
~  3/8/95 -  USED A NEW NETWORK THAT HAS INCREASED CAPACITY FOR MINARET RD.
~            FURTHER ADJUSTED THE ASSIGNMENT CURVE.
~            DID A MATRIX TRANSPOSE FOR THE H-REC SKIM TIME TO REFLEC THE
~            DESIRED A-P TRAVEL TIME INSTEAD OF THE P-A TRAVEL TIME.
~
~  3/9/95 -  PLAYED WITH THE MODE SPLIT CURVES SOME MORE
~            UPDATED THE PKG LOT DISTANCES EXCEPT FOR MAIN LODGE
```

```
~
~
~  3/10/95 - MTMRUN08.IN
~            REVISED SKIM PROCEDURE TO OBTAIN CONGESTED TRAVEL TIMES
~
~  3/13/95 - MTMRUN09.IN
~            UPDATED THE N-REC MODE CHOICE CURVE TO ELIMINATE THE NEGATIVE
~            TRANSIT TRIPS.  DID THIS BY ELIMINATING ONE POINT ON THE CURVE
~            (1.1,.10)
~
~ 3/14/95 -  MTMRUN10.IN
~            UPDATED THE H-REC MC CURVE TO TRY TO BUMP UP THE LOOP 1 AUTO
~            PERCENTAGE.  ELONGATED THE PARKING LOT LINKS TO TRY TO ACHIEVE
~            A V/C RATIO OF 1.0-1.2 ON ALL LINKS.  UPDATED THE FREE FLOW SPEEDS.
~
~ 3/14/95 -  MTMRUN11.IN
~            UPDATED THE SPEEDS OF THE DIVIDED & UNDIVIDED COLLECTORS.
~            ADDED A MATRIX TRANSPOSE OF THE LOOP 1 SKIM TABLES TO BE
~            USED FOR MODE CHOICE (FILE NAME = HRECA-P.SK1).
~
~ 3/28/95 -  MTMRUN12.IN
~            REVISED JOBSTREAM FOR COSMETIC PURPOSES.  NO MODEL CHANGES.
~
~ 3/30/95 -  MTMRUN13.IN
~            REVISED MODE SPLIT CURVES BASED ON TEST RUN A.
~            REPRESENTS LOW BUS SERVICE LEVEL EXPECTED SPLIT.
~
~ 4/03/95 -  MTM14.IN
~            REVISED (LOWERED) PEAK HOUR SPLITS BASED ON TEST RUN G.
~            ALSO REVISED PM PEAK HOUR PARKING UTILIZATION
~            (BACK TO 50%), TO GO WITH LOWER PEAK TRIPS.
~
~ 4/28/95 -  MTM14A.IN                  cdw
~            MODIFIED JOBSTREAM TO PUT OUT OF VEHICLE TIME WEIGHTING
~            FACTOR INTO THE BUILD TRANSIT PATH SET, INSTEAD OF
~            IN MODE CHOICE - HOPING TO GET SAME MODE CHOICE RESULTS,
~            BUT AVOID EXCESSIVE TRANSFERS FROM RED AND PURPLE LINES
~            TO THE BLUE LINE (THUS TRADING A 3.5 MILE TRIP TO MAIN
~            LODGE FOR A 1 MILE TRIP TO WARMING HUT II)
~
~ 4/28/95 -  MTM15.IN                 cdw
~            MODIFIED JOBSTREAM TO INCLUDE A TRANSFER PENALTY FOR
~            BUS TO BUS TRANSFERS ONLY. - HOPING TO GET SAME MODE
~            CHOICE RESULTS, BUT AVOID EXCESSIVE TRANSFERS FROM RED
~            AND PURPLE LINES TO THE BLUE LINE (THUS TRADING A 3.5
~            MILE TRIP TO MAIN LODGE FOR A 1 MILE TRIP TO WARMING HUT II)
~
~
~
$FILES
      INPUT  FILE = MACIN,  USER ID = $INPUT\MAMMOTH.NET$
      OUTPUT FILE = MACOUT, USER ID = $OUTPUT\SPEEDDIS.NET$
$HEADERS
MTM Run ID: TP_1A: Mammoth Master Trans. Plan  cdw 0534-98-02
  GENERAL SPEED AND CAPACITY UPDATES
$OPTIONS
        NO LIMIT CHECK
$DATA
~   File:  Update.Hwy
~   PARKING LOT DISTANCE UPDATE (CALIBRATION PARAMETER - DO NOT CHANGE!)
~   MAIN LODGE
    ANODE = 2100, BNODE = 2206, CHANGE, DISTANCE =R50
    ANODE = 2206, BNODE = 2100, CHANGE, DISTANCE =R50
~   CHAIR 2
    ANODE = 2079, BNODE = 2204, CHANGE, DISTANCE =R75
    ANODE = 2204, BNODE = 2079, CHANGE, DISTANCE =R75
~   CHAIR 10
    ANODE = 2203, BNODE = 2145, CHANGE, DISTANCE =R75
    ANODE = 2145, BNODE = 2203, CHANGE, DISTANCE =R75
~   HUT 2
    ANODE = 2196, BNODE = 2232, CHANGE, DISTANCE =R60
    ANODE = 2232, BNODE = 2196, CHANGE, DISTANCE =R60
~   CHAIR 15
    ANODE = 2044, BNODE = 2209, CHANGE, DISTANCE =R75
    ANODE = 2209, BNODE = 2044, CHANGE, DISTANCE =R75
```

```
~   SHERWIN
    ANODE = 2037, BNODE = 2215, CHANGE, DISTANCE =R60
    ANODE = 2215, BNODE = 2037, CHANGE, DISTANCE =R60
    ANODE = 2512, BNODE = 2215, CHANGE, DISTANCE =R60
    ANODE = 2215, BNODE = 2512, CHANGE, DISTANCE =R60
~   CORDON DISTANCE UPDATE (CALIBRATION PARAMETER - DO NOT CHANGE!)
    NODE = 1, CHANGE, DISTANCE = R400
    NODE = 2, CHANGE, DISTANCE = R400
    NODE = 3, CHANGE, DISTANCE = R1500
    NODE = 4, CHANGE, DISTANCE = R4000
    NODE = 5, CHANGE, DISTANCE = R1500
~   MMSA DISTANCE UPDATE (CALIBRATION PARAMETER - DO NOT CHANGE!)
    ANODE = 242, BNODE = 2196, CHANGE, DISTANCE = R10
    ANODE = 242, BNODE = 2203, CHANGE, DISTANCE = R10
    ANODE = 242, BNODE = 2204, CHANGE, DISTANCE = R10
    ANODE = 242, BNODE = 2206, CHANGE, DISTANCE = R10
    ANODE = 242, BNODE = 2209, CHANGE, DISTANCE = R10
    ANODE = 2196, BNODE = 242, CHANGE, DISTANCE = R10
    ANODE = 2203, BNODE = 242, CHANGE, DISTANCE = R10
    ANODE = 2204, BNODE = 242, CHANGE, DISTANCE = R10
    ANODE = 2206, BNODE = 242, CHANGE, DISTANCE = R10
    ANODE = 2209, BNODE = 242, CHANGE, DISTANCE = R10
~   FREE FLOW SPEEDS (CALIBRATION PARAMETER - DO NOT CHANGE!)
  ASSIGNMENT GROUP = 0, CHANGE, SPEED 1 =R5500
  ASSIGNMENT GROUP = 1, CHANGE, SPEED 1 =R3500
  ASSIGNMENT GROUP = 2, CHANGE, SPEED 1 =R3000
  ASSIGNMENT GROUP = 3, CHANGE, SPEED 1 =R3500
  ASSIGNMENT GROUP = 4, CHANGE, SPEED 1 =R3500
  ASSIGNMENT GROUP = 5, CHANGE, SPEED 1 =R3000
  ASSIGNMENT GROUP = 6, CHANGE, SPEED 1 =R3000
  ASSIGNMENT GROUP = 7, CHANGE, SPEED 1 =R2500
  ASSIGNMENT GROUP = 8, CHANGE, SPEED 1 =R1500
  ASSIGNMENT GROUP = 9, CHANGE, SPEED 1 =R1500
$END TP FUNCTION
```

INPUT FILE NAME ---------- MACIN

FILE CHARACTERISTICS

USER FILE IDENTIFICATION - C:\Mammoth1\baseyear\INPUT\MAMMO

FILE HEADER ----------

GENERATING FUNCTION ------ VIPER

TYPE OF FILE ---------- HWYNET

GENERATION FILE NAME ----- HWYNET

GENERATION DATE ---------- 30SEP04
CURRENT DATE ---------- 14OCT04

GENERATION TIME ---------- 14:15:26
CURRENT TIME ---------- 12:21:36

FILE SIZE ---------- MAXIMUM ZONE = 247

MAXIMUM NODE NO. = 5013

NUMBER OF LINKS = 1547

```
$MACRO HIGHWAY NETWORK UPDATE
$FILES
      INPUT  FILE = MACIN,  USER ID = $OUTPUT\SPEEDDIS.NET$
      OUTPUT FILE = MACOUT, USER ID = $OUTPUT\ADDPRKNG.HNT$
$HEADERS
MTM Run ID: TP_1A: Mammoth Master Trans. Plan  cdw 0534-98-02
  AUTOMATED CODING OF PARKING LOT CAPACITIES FOR SKI AREAS
$OPTIONS
        NO LIMIT CHECK
$DATA
~   File:  Parking1.Cap  Note: Each number = TOTAL PARKING SPACES
~                              INCLUDING NEARBY ON STREET PARKING
~   MAIN LODGE
    ANODE = 2100, BNODE = 2206, CHANGE, CAPACITY 1 =+1700
    ANODE = 2206, BNODE = 2100, CHANGE, CAPACITY 1 =+1700
~   CHAIR 2
    ANODE = 2079, BNODE = 2204, CHANGE, CAPACITY 1 =+100
    ANODE = 2204, BNODE = 2079, CHANGE, CAPACITY 1 =+100
~   CHAIR 10
    ANODE = 2203, BNODE = 2145, CHANGE, CAPACITY 1 =+300
    ANODE = 2145, BNODE = 2203, CHANGE, CAPACITY 1 =+300
~   HUT 2
    ANODE = 2196, BNODE = 2232, CHANGE, CAPACITY 1 =+1700
    ANODE = 2232, BNODE = 2196, CHANGE, CAPACITY 1 =+1700
~   CHAIR 15
    ANODE = 2044, BNODE = 2209, CHANGE, CAPACITY 1 =+500
    ANODE = 2209, BNODE = 2044, CHANGE, CAPACITY 1 =+500
~   SHERWIN
    ANODE = 2037, BNODE = 2215, CHANGE, CAPACITY 1 =+1000
    ANODE = 2215, BNODE = 2037, CHANGE, CAPACITY 1 =+1000
    ANODE = 2512, BNODE = 2215, CHANGE, CAPACITY 1 =+1000
    ANODE = 2215, BNODE = 2512, CHANGE, CAPACITY 1 =+1000
$END TP FUNCTION
```

INPUT FILE NAME ---------- MACIN

FILE CHARACTERISTICS

USER FILE IDENTIFICATION - OUTPUT\SPEEDDIS.NET

FILE HEADER -------------- MTM Run ID: TP_1A: Mammoth Master Trans. Plan cdw 0534-98-02
GENERAL SPEED AND CAPACITY UPDATES

GENERATING FUNCTION ------ MACRO NETWORK UPDATE

TYPE OF FILE ------------- HWYNET

GENERATION FILE NAME ----- MACOUT

GENERATION DATE ---------- 14OCT04
CURRENT DATE ---------- 14OCT04

GENERATION TIME ---------- 12:21:36
CURRENT TIME ---------- 12:21:36

FILE SIZE ---------------- MAXIMUM ZONE = 247

MAXIMUM NODE NO. = 5013

NUMBER OF LINKS = 1547

Mammoth Lakes Transportation Model
2004 and 2024 Traffic Volume Results
-Revised 12/7/04-

The purpose of this report is to document the traffic data output from the Town of Mammoth Lakes' transportation demand model, for each of the General Plan land use alternatives. This report describes how the 2004 and 2024 turning-movement volumes resulting from each general plan alternative were estimated and presents the traffic-volume data. Additional details of the future model runs and the results of LOS analysis and required improvements resulting from the implementation of each alternative will be provided in a later report.

DEVELOPMENT OF 2004 AND 2024 DESIGN VOLUMES

Development of 2004 Design Volumes

The existing Town of Mammoth Lakes Transportation Demand Model is based upon a typical winter Saturday P.M. peak-hour design period. Developing appropriate design volumes is a relatively involved step in Mammoth Lakes, due to the substantial seasonal and day-to-day variations in traffic activity associated with visitor traffic. For analysis of conditions during the Town's adopted design period (a typical winter Saturday), it is therefore necessary to adjust the counts conducted on various days to reflect a consistent design period. Existing winter 2004 turning-movement design volumes for the study were developed in the following steps:

1. Available count data was gathered from four key sources: Caltrans, the Town of Mammoth Lakes, LSA Associates, Inc, and LSC Transportation Consultants, Inc. Turning-movement count data was available at only a few of the key study intersections, as shown in Table 1.

2. Caltrans hourly count data along SR 203 (Main Street) at the permanent count location immediately east of Minaret Road was tabulated for each Saturday between December 15, 2004 and March 31, 2004. The peak-hour volumes occurring on each Saturday were averaged to establish the average winter Saturday PM peak-hour design volume.

3. The turning-movement counts identified in Table 1 were adjusted to represent the average winter Saturday PM peak-hour design volumes. This adjustment was largely made based upon hourly Caltrans counts conducted on SR 203 immediately east of Minaret Road. The ratio of the design day peak-hour volume to the peak-hour volume observed on the day of the individual intersection counts was then used to factor the observed intersection count data. For instance, if the traffic volume on SR 203 on the day of a specific intersection count was exceeded by the SR 203 design volume by 20 percent, the intersection counts were multiplied by a factor of 1.2.

4. Traffic volumes at the intersection of US 395 and Hot Creek Fish Hatchery Road were estimated based upon the traffic volumes presented in the Mammoth Lakes Yosemite Valley Airport Traffic Impact Study (LSA Associates, Inc., August, 2001).

5. For those intersections where actual count data was not available, the 2004 model run was used to estimate turning-movement volumes.

Table 2 presents the 2004 winter Saturday P.M. peak-hour design turning-movement volumes at all the study intersections. Figure 1 presents 2004 P.M. peak-hour volumes on several key roadways.

Development of 2024 Design Volumes for Each General Plan Alternative

The 2024 traffic volumes at all the study intersections were analyzed using the Mammoth transportation demand model. Where possible due to the availability of adequate count data, the model-generated turning-movement volumes were converted to design volumes using the following formula:

2024 Design Traffic Volumes = 2024 Model-Generated Traffic Volumes
-2004 Model-Generated Traffic Volumes
+2004 Design Traffic Volumes

However, for those intersections where actual count data is not available, the 2024 turning-movement volumes generated by the calibrated model were used without any adjustments. As the airport area is outside the model boundaries, the turning-movement volumes at the US 395/Hot Creek Hatchery Road intersections were estimated as follows:

1. The growth in trip generation generated by the following developments located along US 395 south of SR 203 was estimated as follows:

   - **Sierra Business Park** - The traffic generated by this development, not located within the Town boundaries, was estimated based upon the Mammoth traffic model trip rates and the land uses identified in the Mammoth Lakes - Yosemite Valley Airport Traffic Impact Analysis.

   - **Mammoth Yosemite Airport Expansion** - The traffic generated by the expansion of the airport was based upon the trip rates and land uses identified in the Mammoth Lakes - Yosemite Valley Airport Traffic Impact Analysis. The trips generated by the additional 15 airplane hangers expected to be built at the airport by 2024 were assumed to be included in the trips per passenger trip rate identified in the LSA traffic study.

- **Remaining Development in Airport Area** - The level of development adjacent to the airport varies by Mammoth General Plan Alternative as follows:

  - **Alternatives 1-3**: 250 dwelling units, 100 RV campsites, 30,000 square feet of commercial uses.

  - **Alternative 4**: 25 acres of light industrial, 30,000 square feet of commercial uses.

  The trip generation of these land uses were estimated using the Mammoth traffic model trip rates.

2. The trip distribution of the traffic generated by the development described above was estimated based upon the distribution identified in the Mammoth Lakes - Yosemite Valley Airport Traffic Impact Analysis.

The 2024 turning-movement volumes resulting for General Plan Alternatives 1, 2, and 4 are shown in Tables 3, 4, and 5, respectively. Figures 2, 3, and 4 present P.M. peak-hour volumes key roadways resulting from the build out of General Plan Alternatives 1, 2, and 4, respectively.

TABLE 1: Available Winter Saturday P.M. Peak-Hour Turning-Movement Data

Date of Count	North/South Roadway	East/West Roadway	Northbound			Southbound			Eastbound			Westbound			Total
			LT	T	RT	LT	T	RT	LT	T	RT	LT	T	RT	
02/22/03	Center	Main	71	9	31	44	4	36	75	942	70	50	575	29	1,936
02/22/03	Minaret	Main	116	96	99	511	241	120	69	438	183	79	301	98	2,351
02/22/03	Forest Trail	Main	20	3	35	147	5	26	32	1139	31	21	674	76	2,209
02/22/03	Old Mammoth	Main	317	0	100	0	0	0	0	396	656	120	254	0	1,843
02/22/03	Old Mammoth	Meridian	59	237	73	184	369	111	110	147	99	76	94	111	1,670
02/22/03	Sierra Park	Meridian	0	1	0	22	0	6	19	93	0	0	71	3	215
02/22/03	Minaret	Old Mammoth	3	19	16	106	38	179	48	117	4	19	121	34	704
02/22/03	Minaret	Meridian	12	70	17	226	174	61	122	243	62	10	135	110	1,242

Mammoth Model TM Volumes.wb3

TABLE 2: 2004 Winter Saturday P.M. Peak-Hour Design Turning-Movement Volumes

Node #	North/South Roadway	East/West Roadway	Northbound			Southbound			Eastbound			Westbound			Total
			LT	T	RT	LT	T	RT	LT	T	RT	LT	T	RT	
2276	Kelly	Lake Mary	31	0	61	0	0	0	0	111	34	109	184	0	530
2256	Lakeview	Lake Mary	0	0	0	294	0	174	116	56	0	0	120	213	973
2162	Canyon	Lake Mary	0	0	0	327	0	18	12	352	0	0	334	307	1,350
2163	Center	Main	75	9	33	46	4	38	79	989	73	52	604	30	2,032
2151	Minaret	Main	122	101	104	536	253	126	72	460	192	83	316	103	2,468
2168	Forest Trail	Main	21	3	37	154	5	27	34	1196	33	22	707	80	2,319
2179	Old Mammoth	Main	333	0	105	0	0	0	0	416	689	126	267	0	1,936
2184	Sierra Park	Main	29	0	76	0	0	0	0	414	39	108	469	0	1,135
2264	Meridian	Main WB	97	0	0	0	0	0	0	0	0	22	460	0	579
2273	Meridian	Main EB	0	97	44	0	22	0	0	370	68	0	0	0	601
2291	US 395 NB	Main/SR 203	216	0	0	0	0	0	164	16	0	0	94	0	490
2314	US 395 SB	Main/SR 203	0	0	0	0	0	172	0	180	234	0	310	0	896
2195	Majestic Pines	Meridian	0	0	0	117	0	30	44	219	0	0	218	75	703
2349	Old Mammoth	Meridian	62	249	77	193	387	117	115	154	104	80	99	117	1,754
2347	Sierra Park	Meridian	0	1	0	23	0	6	20	98	0	0	75	3	226
2028	Minaret	Forest Trail	246	81	2	1	442	178	78	54	265	1	17	0	1,365
2450	Minaret	Old Mammoth	3	20	17	111	40	188	50	123	4	20	127	36	739
2364	Minaret	Meridian	13	73	18	237	183	64	128	255	65	10	142	115	1,303
none	US 395 NB	Hot Creek Fish Hatchery	0	546	5	0	0	0	0	12	0	0	5	14	582
none	US 395 SB	Hot Creek Fish Hatchery	0	0	0	12	364	0	0	0	0	5	0	0	381
2350	Azimuth	Meridian	113	22	86	22	26	35	64	300	187	108	343	29	1,335

Mammoth Model TM Volumes.wb3

TABLE 3: 2024 Alternative 1 Winter Saturday P.M. Peak-Hour Design Turning-Movement Volumes

Node #	North/South Roadway	East/West Roadway	Northbound			Southbound			Eastbound			Westbound			Total
			LT	T	RT	LT	T	RT	LT	T	RT	LT	T	RT	
2276	Kelly	Lake Mary	82	0	234	0	0	0	0	202	61	219	360	0	1,158
2256	Lakeview	Lake Mary	0	0	0	226	0	393	307	129	0	0	186	179	1,420
2162	Canyon	Lake Mary	0	0	0	639	0	30	25	367	0	0	425	499	1,985
2163	Center	Main	119	9	64	46	4	38	79	1009	285	98	899	30	2,680
2151	Minaret	Main	183	275	170	664	420	163	97	551	403	185	500	298	3,909
2168	Forest Trail	Main	21	3	37	306	5	45	47	1233	33	22	1030	218	3,000
2179	Old Mammoth	Main	418	0	167	0	0	0	0	595	771	179	589	0	2,719
2184	Sierra Park	Main	9	0	170	0	0	0	0	686	9	233	864	0	1,971
2264	Meridian	Main WB	449	0	0	0	0	0	0	0	0	52	624	0	1,125
2273	Meridian	Main EB	0	449	83	0	52	0	0	547	261	0	0	0	1,392
2291	US 395 NB	Main/SR 203	316	0	0	0	0	0	257	12	0	0	101	0	686
2314	US 395 SB	Main/SR 203	0	0	0	0	0	259	0	269	361	0	417	0	1,306
2195	Majestic Pines	Meridian	0	0	0	207	0	70	131	690	0	0	229	217	1,544
2349	Old Mammoth	Meridian	26	406	172	225	607	142	136	254	155	260	259	149	2,791
2347	Sierra Park	Meridian	0	1	0	32	0	6	20	280	0	0	461	7	807
2028	Minaret	Forest Trail	315	207	17	1	609	336	183	102	343	7	69	0	2,189
2450	Minaret	Old Mammoth	58	353	227	96	476	251	129	196	59	279	244	41	2,409
2364	Minaret	Meridian	150	248	20	210	443	149	241	627	278	11	363	72	2,812
none	US 395 NB	Hot Creek Fish Hatchery	2	683	112	0	0	0	20	151	0	0	78	198	1,244
none	US 395 SB	Hot Creek Fish Hatchery	0	0	0	151	455	5	0	20	8	78	2	0	719
2350	Azimuth	Meridian	282	95	97	20	81	49	97	463	309	132	466	31	2,122

Mammoth Model TM Volumes.wb3

TABLE 4: 2024 Alternative 2 Winter Saturday P.M. Peak-Hour Design Turning-Movement Volumes

Node #	North/South Roadway	East/West Roadway	Northbound			Southbound			Eastbound			Westbound			Total
			LT	T	RT	LT	T	RT	LT	T	RT	LT	T	RT	
2276	Kelly	Lake Mary	78	0	229	0	0	0	0	235	52	235	359	0	1,188
2256	Lakeview	Lake Mary	0	0	0	232	0	434	335	129	0	0	159	304	1,593
2162	Canyon	Lake Mary	0	0	0	725	0	29	16	338	0	0	465	528	2,101
2163	Center	Main	162	9	74	46	4	38	79	1224	210	99	867	30	2,842
2151	Minaret	Main	159	330	164	732	525	148	85	652	371	166	608	324	4,264
2168	Forest Trail	Main	21	3	37	280	5	42	46	1458	33	22	1002	197	3,146
2179	Old Mammoth	Main	359	0	222	0	0	0	0	764	760	256	658	0	3,019
2184	Sierra Park	Main	38	0	44	0	0	0	0	887	31	98	981	0	2,079
2264	Meridian	Main WB	527	0	0	0	0	0	0	0	0	61	503	0	1,091
2273	Meridian	Main EB	0	527	79	0	61	0	0	416	407	0	0	0	1,490
2291	US 395 NB	Main/SR 203	282	0	0	0	0	0	157	19	0	0	103	0	561
2314	US 395 SB	Main/SR 203	0	0	0	0	0	179	0	176	319	0	385	0	1,059
2195	Majestic Pines	Meridian	0	0	0	231	0	71	142	662	0	0	238	215	1,559
2349	Old Mammoth	Meridian	97	370	210	193	551	121	151	291	107	249	324	78	2,742
2347	Sierra Park	Meridian	0	1	0	36	0	6	20	341	0	0	472	14	890
2028	Minaret	Forest Trail	367	267	21	15	859	377	134	142	293	19	62	4	2,560
2450	Minaret	Old Mammoth	79	379	207	80	486	226	119	218	74	227	284	8	2,387
2364	Minaret	Meridian	194	256	27	244	466	37	220	640	342	16	343	133	2,918
none	US 395 NB	Hot Creek Fish Hatchery	2	683	112	0	0	0	20	151	0	0	78	198	1,244
none	US 395 SB	Hot Creek Fish Hatchery	0	0	0	151	455	5	0	20	8	78	2	0	719
2350	Azimuth	Meridian	258	65	109	22	62	49	80	453	291	191	521	32	2,133

Mammoth Model TM Volumes.wb3

TABLE 5: 2024 Alternative 4 Winter Saturday P.M. Peak-Hour Design Turning-Movement Volumes

Node	North/South	East/West	Northbound			Southbound			Eastbound			Westbound			Total
			LT	T	RT	LT	T	RT	LT	T	RT	LT	T	RT	
2276	Kelly	Lake Mary	58	0	154	0	0	0	0	180	41	121	299	0	853
2256	Lakeview	Lake Mary	0	0	0	337	0	229	187	147	0	0	191	210	1,301
2162	Canyon	Lake Mary	0	0	0	634	0	15	20	523	0	0	491	461	2,144
2163	Center	Main	116	9	74	46	4	38	79	1196	110	122	920	30	2,744
2151	Minaret	Main	230	266	178	574	421	153	98	588	515	190	490	267	3,970
2168	Forest Trail	Main	21	3	37	263	5	47	46	1431	33	22	1074	175	3,157
2179	Old Mammoth	Main	566	0	199	0	0	0	0	542	933	247	533	0	3,020
2184	Sierra Park	Main	16	0	64	0	0	0	0	663	10	105	869	0	1,727
2264	Meridian	Main WB	439	0	0	0	0	0	0	0	0	41	513	0	993
2273	Meridian	Main EB	0	439	72	0	41	0	0	387	304	0	0	0	1,243
2291	US 395 NB	Main/SR 203	273	0	0	0	0	0	170	18	0	0	102	0	563
2314	US 395 SB	Main/SR 203	0	0	0	0	0	179	0	188	271	0	375	0	1,013
2195	Majestic Pines	Meridian	0	0	0	102	0	50	115	705	0	0	266	122	1,360
2349	Old Mammoth	Meridian	28	444	162	245	592	218	194	153	53	205	216	178	2,688
2347	Sierra Park	Meridian	0	1	0	27	0	6	20	271	0	0	497	2	824
2028	Minaret	Forest Trail	242	273	8	0	633	275	128	174	217	9	97	0	2,056
2450	Minaret	Old Mammoth	72	421	274	99	585	288	98	185	63	292	206	15	2,598
2364	Minaret	Meridian	155	283	16	232	508	203	286	540	242	8	259	77	2,809
none	US 395 NB	Hot Creek Fish Hatchery	2	644	61	0	0	0	20	85	0	0	44	104	960
none	US 395 SB	Hot Creek Fish Hatchery	0	0	0	85	430	5	0	20	8	44	2	0	594
2350	Azimuth	Meridian	183	76	94	13	103	47	85	329	356	198	437	29	1,950

Mammoth Model TM Volumes.wb3

FIGURE 1

2004 WINTER SATURDAY P.M. PEAK-HOUR VOLUMES PER DIRECTION

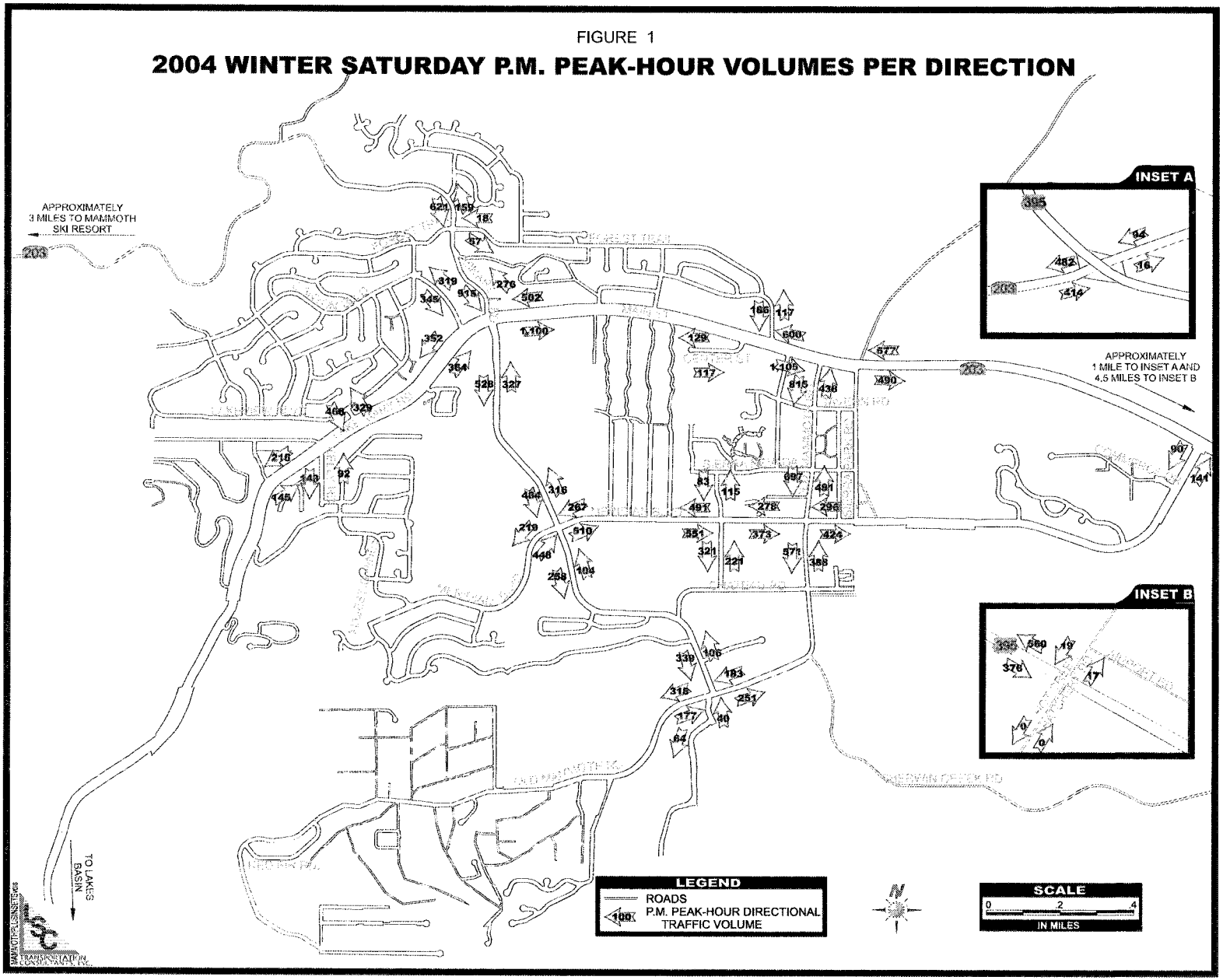


FIGURE 2

2024 ALTERNATIVE 1 WINTER SATURDAY P.M. PEAK-HOUR VOLUMES PER DIRECTION

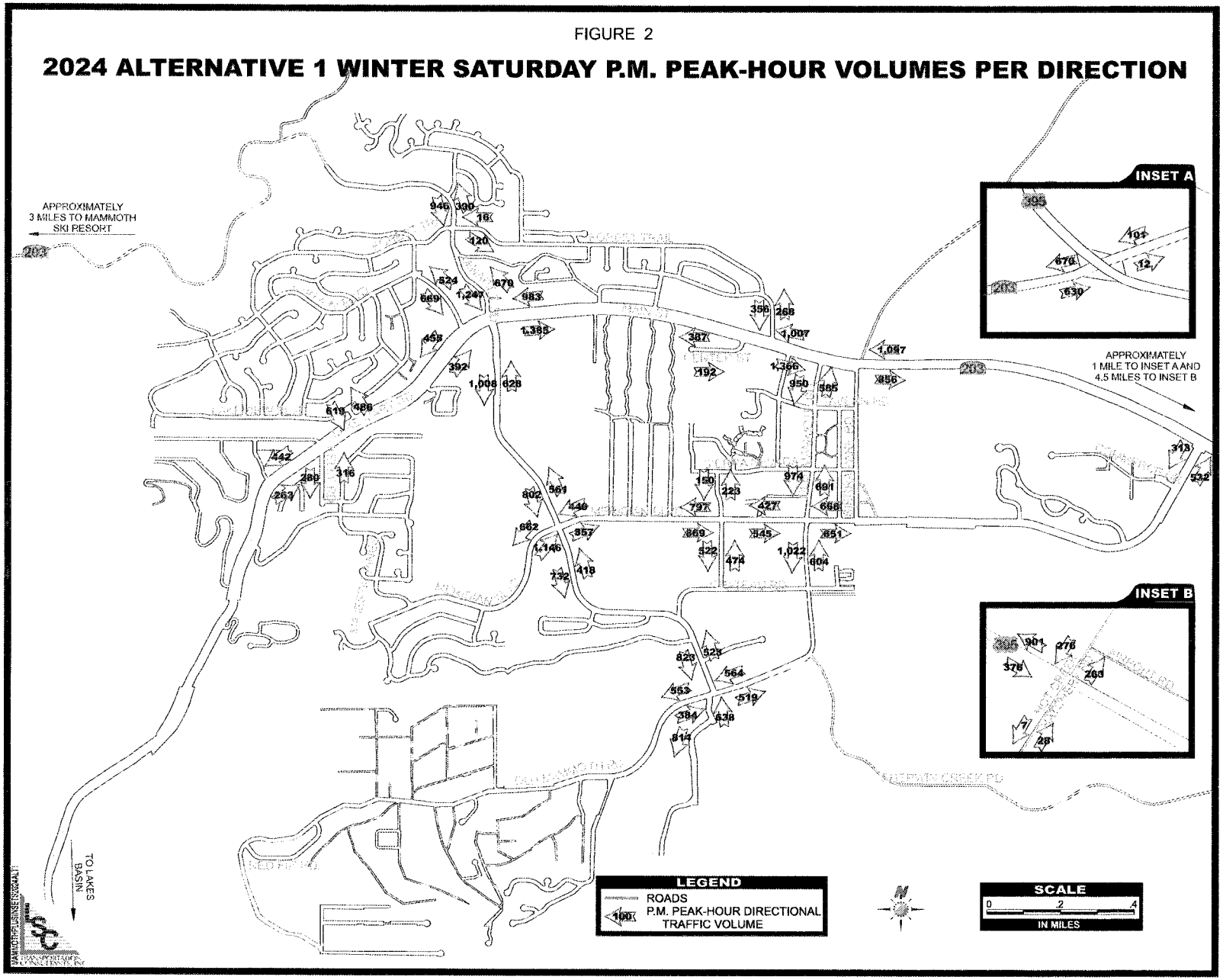


FIGURE 3

2024 ALTERNATIVE 2 WINTER SATURDAY P.M. PEAK-HOUR VOLUMES PER DIRECTION

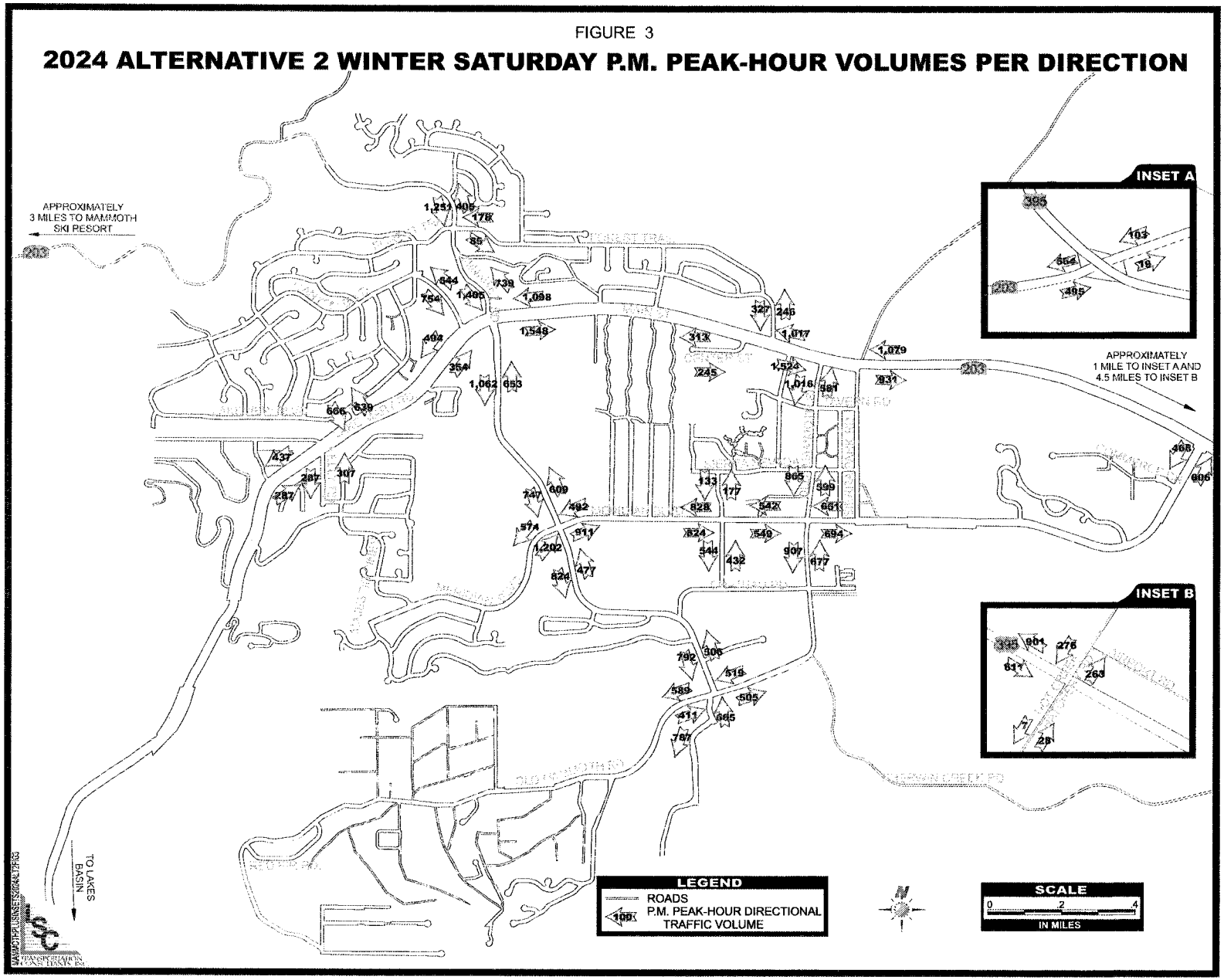
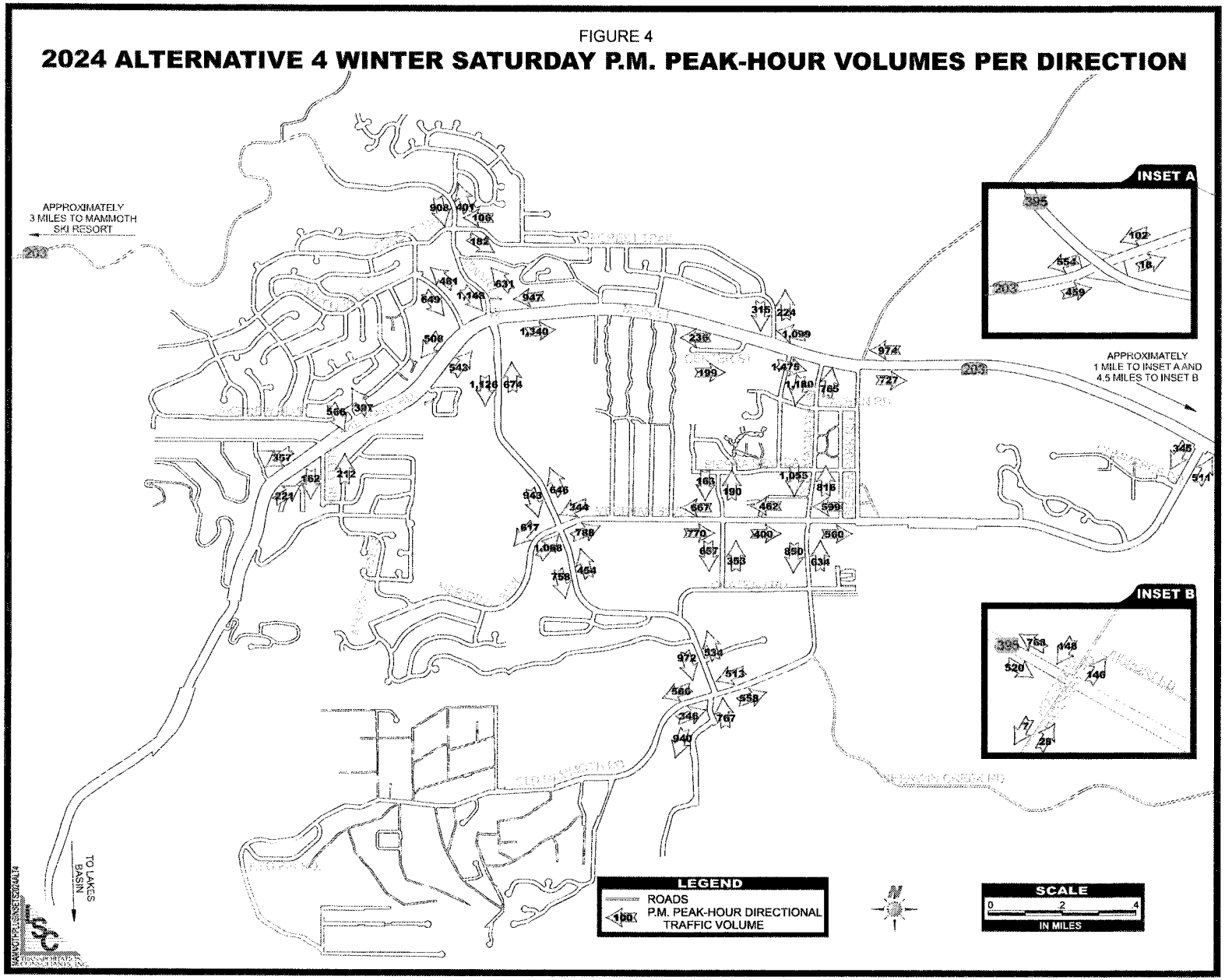


FIGURE 4

2024 ALTERNATIVE 4 WINTER SATURDAY P.M. PEAK-HOUR VOLUMES PER DIRECTION



Mammoth Lakes Intersection

LOS Calculations

The calculation sheets are on file at Town Hall