project completion. We recommend that you review information in the California Department of Fish and Game's (CDFG) Natural Diversity Data Base and that you contact the CDFG at (916) 324-3812 for information on other species of concern that may occur in this area.

If you have any questions, please call Tim Thomas of my staff at (760) 255-8890.

Sincerely,

Diane K. Noda

Diane K. Noda
Field Supervisor

Appendix J – Biological Opinion

AR 001434

United States Department of the Interior

FISH AND WILDLIFE SERVICE

Ventura Fish and Wildlife Office
2493 Portola Road, Suite B
Ventura, California 93003

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July 23, 2001

OPTIONAL FORM 99 (7-90)

FAX TRANSMITTAL # of pages ▸

To Tim Cornell	From E. Novak
Dept./Agency Ricondo	Phone #
Fax # (415) 547-1940	Fax #

NSN 7540-01-317-7368 5099-101 GENERAL SERVICES ADMINISTRATION

OPTIONAL FORM 99 (7-90)

FAX TRANSMITTAL # of pages ▸ 20

To Joseph Rodriguez	From Geo. Walker
Dept./Agency	Phone #

Elisha Novak, Airport Planner
Federal Aviation Administration
831 Mitten Road
Burlingame, California 94818-1301

Subject: Mammoth Lakes Airport Expansion, Mono County, California (1-8-01-F-33)

Dear Mr. Novak:

This document transmits the U.S. Fish and Wildlife Service's (Service) biological opinion for the Federal Aviation Administration's (FAA) activities related to the Final Environmental Assessment for the Mammoth Yosemite Airport Expansion Project and its effects on the endangered Sierra Nevada bighorn sheep (*Ovis canadensis californiana*) and Owens tui chub (*Gila bicolor snyderi*) and its designated critical habitat. This biological opinion has been prepared in accordance with section 7 of the Endangered Species Act of 1973, as amended (Act).

This biological opinion is based on information you supplied on March 8, 2001, in the biological assessment for the Mammoth Yosemite Airport (Jones and Stokes 2001), the December 2000, Final Environmental Assessment for the Mammoth Yosemite Airport Expansion (Mammoth Lakes 2000), field visits, personal communications with staff of the Town of Mammoth Lakes and other sources. A complete administrative record of this consultation is on file at the Service's Ventura Fish and Wildlife Office.

The Service recognizes that expansion of airport facilities and certification of the Mammoth Yosemite Airport by the FAA to accommodate the larger passenger aircraft will likely result in an increase of visitor use throughout the east slope of the Sierra Nevadas. The Town of Mammoth projects an annual increase of one million visitors (Mammoth 2001). This increase in visitation is liable to result in changes to visitor use patterns on the Inyo National Forest including the back country or wilderness areas, and is likely to affect the Sierra Nevada bighorn sheep. At this time, we are unable to accurately predict where or how those changes to visitor use patterns would occur; thus, we are unable to analyze their effects on the Sierra Nevada bighorn sheep and its habitat. The Service believes that the Forest Service is the proper agency,

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through its policies, regulations, and land use plans, to address potential adverse effects to the Sierra Nevada bighorn sheep that could result from changes to recreational use patterns. If the Forest Service was required to make specific management decisions regarding use levels in the Inyo National Forest, it would be required to consult, pursuant to section 7(a)(2) of the Act with the Service. Such future consultations may also benefit from the information to be contained in the recovery plan for the Sierra Nevada bighorn sheep, which is currently being developed by the interagency Sierra Nevada bighorn sheep recovery team. For this reason, the Sierra Nevada bighorn sheep will not be addressed further in this document.

CONSULTATION HISTORY

On December 15, 2000, the FAA requested, via FAX, a letter of concurrence from the Service on the determination that activities covered in the subject project would not affect the federally threatened bald eagle (*Haliaeetus leucocephalus*). During a phone conversation on that day, the Service informed the FAA that, based on the information provided by the FAA, we could not concur with a no affect for the bald eagle. In response, the FAA sent a copy of the final environmental assessment to us, which we received on December 19, 2000. Our letter of January 11, 2001, again noted that we could not concur with a determination of no affect.

We attended a meeting on January 19, 2001, where various wildlife issues were discussed and supplemental information was presented by the Town of Mammoth Lakes and its consultants, Jones and Stokes. At that meeting several issues were discussed that either clarified or elevated them. Our concerns with the project affects to bald eagles were addressed through a presentation on bird air strike hazards by Jones and Stokes. Other issues that were raised during the meeting include effects to the Sierra Nevada big horn sheep through indirect effects, and hydrologic effects to the Owens tui chub.

Your letter of March 6, 2001, requested a letter of concurrence for a determination of no affect for listed species or designated critical habitat and was accompanied by the Draft Biological Assessment for the Mammoth-Yosemite Airport Expansion Project. On March 23 and 28, 2001, we received copies of groundwater hydrology reports for the area of Mammoth Lakes. We also received additional information over the last seven months via electronic mail, telephone conversations, and faxed material from the FAA, the Town of Mammoth Lakes, and Jones and Stokes.

BIOLOGICAL OPINION

DESCRIPTION OF THE PROPOSED ACTION

The Town of Mammoth Lakes has requested a permit and funding from the FAA to extend the runway at the Mammoth Yosemite Airport in Mono County, California. The purposes of the request are to: 1) obtain approval of the Airport Layout Plan from the FAA, 2) obtain the necessary certifications from the FAA to operate as an air carrier airport, 3) be eligible to receive

funds from the FAA under its Airport Improvement Program or impose Passenger Facility Charges to assist in funding some of the proposed improvements, and 4) to obtain environmental clearance for the construction of the first phase of development.

The existing airfield at Mammoth Yosemite Airport does not currently meet all of the FAA airfield design criteria for the operation of a Boeing 757 aircraft (Mammoth Lakes 2000). The primary purpose of the action is to enable air carrier jet service, using aircraft up to the size of a Boeing 757, to safely and efficiently operate at the airport. Calculations for runway length were conducted using the methodology prescribed in the B757-200 FAA-approved Aircraft Flight Manual. The safety criteria for certifying airports for commercial service are contained in the Federal Aviation Regulation (FAR) Part 139. FAR Part 139 prohibits an airport from servicing any scheduled passenger operation on an airline operating an aircraft with a seating capacity of more than 30 passengers if all criteria are not met. The certification process ensures that the safety of the airport environment is adequate for the proposed operation considering such items as size, surface, obstruction, and lighting. The Town of Mammoth Lakes currently only possesses a limited FAR Part 139 certificate, which would not allow the operation of a commercial aircraft with more than 30 seats. The proposed commercial airline service would use aircraft up to the size of a Boeing 757-200, which has a capacity of 176 seats. The proposed action would adequately address the operational requirements for the FAR Part 139 certification process. The following are included and described in the EA for the proposed action :

-Extend the current runway from 7,000 feet to 8,200 feet

-Strengthen the runway and taxiways to accommodate up to B-757-200 aircraft

-Widen the runway from 100 to 150 feet on the south side of the runway, shifting the runway centerline 25 feet to the south. The Town of Mammoth Lakes would be required to obtain a special use permit from the U.S. Forest Service (USFS) for an additional 20 feet of land to the west of Airport property for the runway safety area

-Widen the parallel taxiway from 50 to 75 feet by 20 feet on the south and five feet on the north side

-Widen selected connecting taxiways from 50 to 75 feet

-Extend the parallel taxiway to match the runway extension

-Add an air carrier apron for three air carrier aircraft with expansion capabilities to accommodate up to six air carrier aircraft

-Construct Airport access road improvements

-Expand the automobile surface parking facilities

-Acquire land to the east of the Airport that is currently leased from the Los Angeles Department of Public Works (LADWP) for Airport use

-Improve security fencing to include a 6 to 8 foot high perimeter fence around the airfield

-Construction of a passenger terminal complex and related support areas

The design and maintenance of all wastewater treatment and disposal facilities would be in accordance with the requirements an regulation of the Regional Water Quality Control Board (RWQCB) and Mono County Health Department. Wells to sample ground water would be provided to monitor both performance of the subterranean wastewater disposal and to assess adverse water quality impacts.

All existing pavement and the pavement for the future runway extension and taxiways would drain into the surrounding ground as they presently are allowed to do. All new pavements for the commercial aircraft parking apron, automobile parking lot, and terminal roadway will be designed such that all the drain water from these areas will be collected in inlets and pipe structures. These drain waters will be carried through an oil/water separator to separate any oils from the stormwater. The resulting stormwater will then be discharged into leaching trenches or leaching fields. The EA states that the discharge from the oil/water separator will be tested on a routine basis to determine the continuing effectiveness of this type of treatment. Should the discharge show any deleterious contamination, additional treatment would be provided. The information and details of these separators are not included in the EA. The EA states that to prevent accidental spill of fluids, such as aviation fuel, the Town of Mammoth Lakes has adopted a Spill Prevention Plan for the airport. The EA contains no plan, there are only checklists to report spills and designation of responsible parties.

STATUS OF THE SPECIES

The Owens tui chub was federally listed as endangered and critical habitat was designated on August 5, 1985 (50 *Federal Register* 31592). The Owens tui chub was listed as endangered because of population declines due to the introduction of non-native fish that effect Owens tui chub through competition, predation, and hybridization, diversion and impoundment of water for agricultural and municipal use, and habitat destruction and alteration. Critical habitat for the Owens tui chub exists along 8 miles of the Owens River and 50 feet of riparian vegetation on either side of the river, encompassing a total of approximately 97 acres in the Owens Gorge, and at two spring provinces, including 50 feet of riparian vegetation on either side of spring brooks, encompassing approximately 5 acres at Hot Creek Fish Hatchery. Constituent elements of critical habitat for the Owens 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.

Activities described in the final rule that may adversely modify designated critical habitat include: 1) introduction of exotic aquatic animals; 2) 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; 3) removal of natural riparian and/or submerged vegetation, except what might be required to maintain an open-water habitat for the Owens tui chub; 4) pollution of aquatic habitats or adjacent terrestrial habitats; 5) channelization or diversion of water flows; and 6) overgrazing of adjacent riparian areas. Recovery goals for this species are contained in the Recovery Plan (Service 1998).

The Owens tui chub was described in 1973 as a subspecies of *Gila bicolor* endemic to the Owens Basin (Miller 1973). It is distinguished from its closest relative, the Lahontan tui chub (*G. b. obesus*), by scales with a weakly developed or absent basal shield, lateral and apical radii that number 13 to 29, the structure of its pharyngeal arches, the number of anal fin rays, gill raker counts of 10 to 14, and 52 to 58 lateral line scales (Miller 1973). Dorsal and lateral coloration varies from bronze to dusky green, grading to silver or white on the belly. It may reach a total length of 12 inches. Owens tui chub are believed to be derived from the Lahontan Basin tui chub that entered the Owens Basin from the north during the Pleistocene Epoch (Miller 1973, Smith 1978).

Early fish collections in the Owens Basin documented Owens tui chub in Owens Lake (Gilbert 1893), several sites along the Owens River from Long Valley to Lone Pine, tributary streams near the Owens River in Long Valley and Owens Valley, Fish Slough, and irrigation ditches and ponds near Bishop, Big Pine, and Lone Pine (Snyder 1917, Miller 1973). The scattered distribution of these localities and the ease with which researchers captured fish suggest that Owens tui chub were common and occupied all valley-floor wetlands near the Owens River in Inyo and Mono counties. Tui chub currently occupy many valley-floor habitats in the Owens River and its tributaries. However, few of these populations are genetically pure Owens tui chub. Few populations of unhybridized Owens tui chub are known to exist, and occur only where suitable habitat is isolated from non-native fishes (particularly Lahontan tui chub and predatory fish). Habitats occupied by non-introgressed Owens tui chub populations include the headsprings at Hot Creek Fish Hatchery (McEwan 1990), the Owens River downstream from Crowley Lake (Jenkins 1990), ponds at Cabin Bar Ranch near Lone Pine, and Mule Spring. Owens tui chub populations also occur in Sotcher Lake, Madera County (Middle Fork San Joaquin River drainage), and Silver Lake in the Mono Basin, Mono County. Both of these populations are outside of the Owens tui chub native range, and they were probably established during fish stocking from Hot Creek Fish Hatchery (Service 1998).

McEwan (1990) observed that Owens tui chub prefer pool habitats with low current velocities and dense aquatic vegetation that provide adequate cover and habitat for insect food items. Gut analyses showed that Owens tui chub also consume detritus and aquatic vegetation, which may be incidentally taken with insects.

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Although only a few studies have examined the behavior, life history, and habitat use of the Owens tui chub, a number of aspects of its ecology can be generally surmised from studies of other tui chub subspecies. Tui chub congregate from late winter to early summer to spawn over aquatic vegetation or gravel substrate (Kimsey 1954). Females may produce a large number of eggs. Kimsey (1954) found that an 11 inch female from Lake Tahoe contained 11,200 eggs. Tui chub may reach sexual maturity at 2 years and may live more than 30 years (Scoppettone 1988).

On September 30, 1998, the Service released the Owens Basin Wetland and Aquatic Species Recovery Plan which addressed recovery needs for the Owens tui chub. The Recovery Plan identifies eight conservation areas necessary for the recovery and protection of Owens tui chub. These areas include habitat for the species, characteristic Owens Basin valley-floor wetland landforms and soils, and sufficient buffers to maintain ecological and geological processes necessary to protect aquatic and mesic alkali meadow ecosystems. They are also ecologically diverse and encompass habitats where species richness is highest, impacts of existing land and water uses are minimal, and chances for recovery are greatest. The eight conservation areas for the Owens tui chub are identified in the recovery plan as Little Hot Creek, Hot Creek, Round Valley, Fish Slough, Warm Springs, Mule Spring, Blackrock, and Southern Owens.

ENVIRONMENTAL BASELINE

Mammoth Lakes, in Mono County, California, is a resort town located in the Eastern Sierra Nevada Mountain Range approximately 170 miles south-southwest of Reno, Nevada. The Mammoth Yosemite Airport is seven miles east of the Town of Mammoth Lakes and sits immediately parallel to Highway 395.

The project site is dominated by big sagebrush scrub with a small amount of dry meadow on the east end of the runway. The big sagebrush community occupies well-drained upland sites on sandy to gravelly soils and is dominated by shrubs interspersed with grass and herbaceous species. The big sagebrush community is dominated by big sagebrush (*Artemisia tridentata*), antelope bitterbrush (*Purshia tridentata*), and rubber rabbitbrush (*Chrysothamnus nauseosus*), with scattered desert peach (*Prunus andersonii*) and horsebush (*Tetradymia canescens*). Rabbitbrush is the dominant shrub in some areas. Common grass species include the alien cheatgrass (*Bromus tectorum*), needle-and-thread (*Hesperostipa comata* ssp. *comata*), Indian ricegrass (*Achnatherum hymenoides*), and squirreltail (*Elymus elymoides*). Commonly encountered native herbs include sulphur buckwheat (*Eriogonum umbellatum* ssp. *subaridum*), tall buckwheat (*E. elatum*), spurred lupine (*Lupinus argenteus*), woolystar (*Eriastrum sparsiflorum*), Nuttall's tiquilia (*Tiquilia nuttallii*), and cryptantha (*Cryptantha circumcissa*). The dry meadow found in the eastern portion of the project location is dominated by mostly native hydrophytic rhizomatous grass and grasslike species including Baltic rush (*Juncus balticus*), straight-leaved rush (*Juncus orthophyllus*), clustered field sedge (*Carex praegracilis*), Nebraska sedge (*Carex nebrascensis*), and Kentucky bluegrass (*Poa pratensis*). Common herbaceous forbs of the dry meadow include long-stalked clover (*Trifolium longipes*), long-stalked starwort (*Stellaria longipes* var. *longipes*), and Missouri iris (*Iris missouriensis*).

The Owens tui chub and one of the its two designated critical habitat units occurs less than a mile from the Mammoth Yosemite Airport. The Owens tui chub occurs in two headsprings (AB and CD) at Hot Creek Fish Hatchery. At the AB headsprings the Owens tui chub are concentrated in the upper one-third of the channel between the spring's origin and an artificial rock weir. At the CD headsprings Owens tui chub occurs throughout the spring channel, but are found predominantly in a low velocity side cove approximately midway along the length of the channel. The areas inhabited by Owens tui chub in both AB and CD headsprings support dense aquatic vegetation. Both spring channels terminate at the fish hatchery intake grates effectively isolating the habitat. Hybrid chubs exist below the barriers created by the water intake structures. Trout which are potential predators of the Owens tui chub and which compete with the slower Owens tui chub for invertebrate prey, coexist with Owens tui chub in both headsprings. The Owens tui chub prefer habitats with slowly flowing water and dense aquatic vegetation. The presence of vegetation is important for predator avoidance and reduction of water velocity. Vegetation also serves as a food source itself, as a substrate which supports aquatic invertebrate fauna, and as spawning habitat (McEwan 1990).

Constant water temperature and food availability enable Owens tui chub to remain active year-round in Hot Creek headsprings. McEwan (1990) speculates that adaptation to a constant environment would result in lower tolerance of temperature fluctuations than is present in fish which live in thermally variable environments.

The hydrologic system which underlies the Long Valley Caldera generally consists of a shallow cold water subsystem and a deeper hydro thermal subsystem. Although the dynamics of the aquifer are complex there have been observations of changes in flow and chemistry of the Hot Creek headsprings (Service 1991). Reduction in flows at the Hot Creek headsprings is thought to be attributable to reductions in the non-thermal contributions of water. At reduced flows, temperature in the AB headsprings increase, accompanied by a greater concentration of undesirable chemical components including boron, arsenic, and heavy metals (Chubb and McLean 1990). Arsenic is the element of primary concern. If arsenic concentrations exceed 0.25 milligrams/liter, acute and chronic impacts will probably occur to the Owens tui chub, its food supply and plants within its habitat.

Two previous biological opinions have been issued by the Service for Federal actions associated with the Owens tui chub at the Hot Creek springs (1-1-88-F-3 and 1-1-90-F-4). A draft Jeopardy Biological Opinion (1-6-90-F-43) was transmitted to the U.S. Forest Service on February 13, 1991, for the proposed issuance of a special use permit to the Town of Mammoth Lakes for groundwater pumping (well #11) and its potential affects to the Owens tui chub and its designated critical habitat (Service 1991).

EFFECTS OF THE ACTION

The Mammoth Yosemite Airport expansion is an integral part of a plan to increase visitation to the Eastern Sierra (Mammoth Lakes 2001). The region has year-round recreational attractions

consisting of skiing in the winter and numerous outdoor recreational activities in the spring, summer, and fall. Winter skiing at Mammoth Mountain attracted nearly one million visitors in the 1998/99 winter season. Based on statistics provided by the California Department of Transportation, approximately 1.5 million summer tourists visit the Mammoth Lakes region annually. The Mammoth Lakes Strategic Marketing Plan 2001-2002 estimates the need to increase visitors by approximately 1,000,000 annually to maintain economic viability. Most of the increase visitation is expected to be accomplished through air carrier transport. The proposed action provides no measures to minimize effects to listed species.

Commercial airline service to the Mammoth Yosemite Airport is proposed to begin during the winter season of 2001/2002 with Boeing 757 aircraft serving Dallas/Fort Worth International Airport and Chicago O'Hare International Airport (Mammoth Lakes 2000). This service is scheduled to expand, in following years, to include air carrier and commuter service to other regional and national destinations. Current airport operations require weekly fuel deliveries. At full operation projected services will require daily fuel deliveries. Accidental delivery spills in the vicinity of the airport could have drastic effects on the viability of the Owens tui chub and its designated critical habitat. There also exists the potential threat of aircraft accidents that could contaminate the groundwater associated with the Owens tui chub critical habitat.

The existing drainage from the runways and taxiways begins with sheet flow from the pavement to the infield areas of the airport and then infiltration into the ground (Mammoth Lakes 2000). The drainage from the aircraft parking apron, access roads, and other paved areas begins as sheet flow to drainage inlet structures. The effluent is then piped to an infiltration trench located east of the current ground vehicle building where it infiltrates into the ground. While it is not anticipated that a large quantity of deicing fluids will be used on aircraft, it will be necessary that facilities be available on site when needed. Commercial airline service will generally operate at the airport during Visual Flight Rules conditions when the weather is good. These aircraft will stay on the ground for periods of approximately two to three hours and the aircraft skin will remain cold soaked, thereby making the accumulation of ice or frost difficult. Deicing, when required, would generally be accomplished by the use of glycol diluted to a 50 percent solution by water. If the glycol used in deicing escapes the airfield containment in a large storm event and enters the surface waters of the Hot Creek headsprings there could be a potential risk to the Owens tui chub. The Materials Data Safety Sheet information for ethylene glycol (Mallinckrodt Chemicals 2001) states that when released into water, this chemical will readily biodegrade. There is a negative environmental aspect to biodegradability. When chemicals biodegrade the breakdown process requires oxygen. There are two measures of this, the Biological Oxygen Demand or BOD (demand by the microbes) and the Chemical Oxygen Demand or COD (oxygen used in chemical decomposition). The oxygen demand during the breakdown of chemicals discharged into bodies of water can have very serious short term impact on aquatic life by removing oxygen from the water to the point where aquatic life dies from lack of oxygen.

Airport flight operations generate wastes consisting of oils, grease, deicing fluid, and other complex hydrocarbon compounds. The paved surfaces, existing and proposed for the aircraft

apron and runway and taxiway extensions are impervious to water. Impervious surfaces increase the volume of stormwater runoff and can effect the relative quantity of surface drainage. Construction of a new terminal building and automobile parking facilities would also result in an increase in runoff by increasing the impervious surface area. The Service recognizes the potential beneficial effects to surface and subsurface water quality by the installation of an oil/water separator system to collect all run-off from the proposed commercial airliner parking apron, the automobile parking lot, and the terminal roadway. The system would effectively separate any oils and other petroleum products from stormwater, thus reducing their entry into the local aquifers and possibly the source waters for Hot Creek springs.

Effects of the proposed action to the Owens tui chub-aviation spill contaminations

The soils at the airport have high porosity exhibiting little or no surface runoff, instead the airport runoff will percolate quickly into the subsurface water. Petroleum contamination can cause debilitation or death of fish depending on the duration and concentration of the exposure. Effects can occur and be measured at multiple levels of ecological organization: cellular, organismal, population, community, and ecosystem levels. In general, however, potential ecological effects can be subdivided into acute toxicity, chronic toxicity, physical fouling, and damage from cleanup activities.

Monocyclic aromatic hydrocarbons, which consist primarily of benzene, toluene, ethylbenzene and xylene (BTEX), have been documented in the EA as associated with underground storage tanks at the airport. BTEX toxicity affects fish through induced narcosis. BTEX's are the most abundant aromatic hydrocarbons, but they are the least persistent because of their relatively high vapor pressures. The polycyclic aromatic hydrocarbons (PAH) are the second most abundant class of toxic compounds in petroleum after the BTEX, and are much more persistent. PAH's are a standard product of combustion from airplanes and are found in major petroleum spills and the inestimable minor spills of petroleum products (NASA 2001).

The hydrocarbon contamination threat is not from acutely toxic concentrations that result in immediate fish kills, but in the more subtle effects of low level pollution to sensitive life stages. Incubating fish eggs are very sensitive to long-term exposure to PAH concentrations because they may sequester toxic hydrocarbons from low or intermittent exposures into lipid stores for long periods, and because developing embryos are highly susceptible to the toxic effects of pollutants. PAH can be very persistent, biologically available for a long period of time, and very toxic to sensitive life stages. The result is that fewer juvenile fish survive, so that recruitment from the early life stages is reduced, and adult populations are not replaced at sustainable levels. The effects to juveniles include increased mortality, abnormalities, and reductions in swimming ability, while effects to eggs include altered incubation time and stunted growth in fry. Morphological abnormalities include edema, skeletal defects, finfold defects, and chromosomal aberrations. Several of these effects are not indicative of narcotic forms of toxicity, but of structural and genetic impacts. Eventually, adult populations may be extirpated.

The Service reviewed hydrologic reports that were prepared for projects other than the airport expansion that were the basis of the hydrology information in the EA. It is the Service's opinion that there exists the potential, from a catastrophic accident or the gradual accumulation from airport runoff, for a subsurface plume of contaminants to reach the Hot Creek springs. While the potential for a petroleum contamination event is low it is none the less possible.

Effects of the proposed action to the Owens tui chub-nitrogen oxide (NOx) deposition

During combustion of gas fired engines, oxygen reacts with nitrogen to form nitric oxide (NO), nitrogen dioxide (NO_2), and relatively small amounts of other compounds of oxygen and nitrogen. Both molecular nitrogen (N_2) in the atmosphere and the chemically bound nitrogen in materials being burned (called "fuel nitrogen") can react with oxygen to form oxides of nitrogen (NOx). When ultraviolet light from the sun reacts with a mixture of oxides of nitrogen and hydrocarbons, ozone is formed. Ozone is the major constituent of what is commonly referred to as smog. NOx emissions are produced almost entirely by combustion processes. NOx emissions are one of the principle precursors to tropospheric ozone (smog), and also contribute to fine particulate matter pollution (Cal EPA, 1997). The photochemical reactions in the atmosphere convert oxides of nitrogen into nitrate salts and compounds, which in many areas of California contribute substantially to fine particulate matter pollution and consequently acid rain deposition (Cal EPA 1997).

Acid rain deposition has been well documented in California aquatic systems and results in the "acidification" of these systems. The ecological effects of acid rain are most clearly seen in the aquatic environments of lakes, streams, and ponds (Schindler, 1988). The U.S. Environmental Protection Agency (USEPA) estimates that acid rain has caused acidification in 50% of streams surveyed (USEPA 2001). Wide spread damage to Scandinavian and North American ecosystems was not noticed until the 1930s to 1950s. This is thought to be a result of a few factors: 1) increased construction of large power plants and smelters with tall smokestacks coupled with a decrease in use of coal for home heating, converting the local air pollution problem into a long-range, transboundary one; 2) emissions of NOx and other pollutants that aid in the oxidation of sulfur and nitrogen oxide have increased; and 3) it took years for lakes, streams and their catchments to lose their buffering capabilities, so that lower pH levels were not recognized until some time after the precipitation became acidic (Schindler 1988).

The Atmospheric Acidity Protection Act of 1988 requires the California Environmental Protection Agency-Air Resources Board (Cal EPA) to quantify the potential for damage to aquatic ecosystems due to acidic deposition. In 1994 Aircraft related NOx emissions in California were 33 tons average/day, while all sources were estimated to be 3,600 tons average/day (Cal EPA 1997). In the Great Basin Valleys of California the Cal EPA estimates there were 11 tons/day average NOx emissions (Cal EPA 1997). Airport emissions inventories indicate that in 1999 all sources associated with the Mammoth Airport, primarily autos and aircraft, contributed 1.18 tons/year. By the year 2022, with implementation of the proposed

action, estimates indicate 55.85 tons/year of NOx will be attributed to the Mammoth-Yosemite Airport (Mammoth Lakes 2000).

The final environmental assessment indicates that, "while introducing air carrier service to Mammoth Yosemite Airport would increase aircraft-related pollution in the future...it could significantly reduce highway related emissions in the region as more people access the region by air". However, information provided for NOx indicates otherwise. Table V-12 of the final Environmental Assessment indicates that in the year 2022 the no action alternative would result in 2.07 tons/year of NOx and the proposed action alternative would result in 55.85 tons/year of NOx. California Department of Transportation, in their November 13, 2000, comment letter on the draft Environmental Assessment states that, "[W]e take exception with the conclusion that the potential for increased air pollution will not be significant (Pages V-25 to V-34). The potential degradation of air quality due to the increased motorized traffic needs to be examined."

Acidification of aquatic environments causes a cascade of effects that harm or kill individual fish, reduce fish population numbers and decrease biodiversity (USEPA, 2001). Several species of amphibians were studied as potential indicators of adverse ecological effects of acidic deposition in the Sierra Nevada (Bradford and Gordon 1992). Sublethal effects observed in this study may represent long-term threats to amphibians and by association other life forms such as fish and insects as well. Reduced aquatic pH has a direct negative impact on aquatic organism survival. In addition, when waters are acidified, the metal ion content increases; metals can be toxic to animals. Further, the sensitivity of animals to low pH is greater at low aquatic ionic concentrations. Animals may be most sensitive to reduced pH during the embryo or larval stages. Changes in aquatic chemistry may result in lower hatching and survival and increased deformities (Bradford and Gordon 1992, USEPA 2001). As pH in a stream decreases, aluminum levels increase. Both low pH and increased aluminum levels are directly toxic to fish and cause chronic stress that leads to lower body weight and smaller size and makes fish less able to compete for food and habitat (USEPA, 2001). Effects similar to those that impact fish can impact other aquatic lifeforms including insects, thus, impacting the prey base of the Owens tui-chub.

The critical habitat designation for the Owens tui chub (50FR31592) identifies the "constituent elements that provide the ecological, behavioral, and physiological requirements" of the Owens tui chub. These criteria include, "high quality, cool water with adequate cover in the form of rocks, undercut banks, or aquatic vegetation and a sufficient insect food base". In addition, the designation identified activities that could adversely modify the critical habitat of the tui chub to include, "[A]ctivities that decrease available water or cause significant change in the physical or chemical properties (e.g., temperature, pH, or dissolved gases) of the water;" and " [P]ollution of aquatic habitats or adjacent terrestrial habitats. . .".

As stated in the preceding subsection, increases in airborne nitrogen oxides can result in measurable changes in water chemistry in stream environments (decrease in pH or acidification).

The significant increase in the amount of NOx, as projected in the Environmental Assessment, would result in adverse impacts to water quality in the Hot Creek springs critical habitat unit.

The proposed action anticipates a significant increase (from 1.18 tons/year to 55.85 tons per year) in the amount of NOx attributable to increases of aircraft and automobile traffic at the Mammoth Yosemite Airport expansion. Thus, adverse impacts to water chemistry and consequently water quality would result from these increased levels of NOx. These changes would in turn result in adverse impacts to the endangered Owens tui chub and designated critical habitat.

Based on the available information it is uncertain whether this expected increase in NOx will result in immediate or long-term significant or measurable "localized" changes in water chemistry. Because of the lack of major sources of NOx (factories, power plants, urbanization) the Mammoth-Owens Valley is a relatively "pristine" area relative to the effects of NOx deposition. Therefore, even small increases in NOx and changes in aquatic pH can significantly effect the Owens tui chub which appears to be adapted to a narrow range of water quality criteria. Any changes in the status of this species could significantly reduce the viability of this population over time. Because the preponderance of evidence suggests that increases in NOx emissions result in impacts to aquatic systems we believe that monitoring and adaptive management will be necessary to assure that these expected impacts are detected early and minimized. The project proponent has not proposed any measures to identify or minimize the effects of increased NOx associated with the airport expansion.

The airport stormwater system has been designed to contain runoff from a 20-year storm. The RWQCB has requested that plans should be in place to manage stormwater above the designated capacity of the system. The EA states that the stormwater will be treated using Best Management Practices (BMP). However, the project as proposed did not list BMP's that will be used to treat stormwater. While the EA contains statements that monitoring wells around the airport will be established there is no mention about how or what kind of response there will be to provide for contaminant clean up. The EA refers to three pages of checklists in Appendix D as a Spill Prevention Control and Countermeasure Plan. A detailed plan to implement the containment and clean up for a hazardous materials contamination that could affect the waters of the Hot Creek springs where the Owens tui chub occurs is not discussed in the EA.

Effects of the proposed action to the Owens tui chub-increase water use

The passenger terminal facility and supporting employees will increase the demand on subsurface water resources. Fire protection requirements are the dominant factor in the design of the proposed water supply and transmission facilities. A 1997 study of water and sewer requirements estimated that the maximum daily demand for water was 16,000 gallons (Mammoth Lakes 2000). An average daily water demand for the sewage treatment is projected at 8,000 gallons. A potential reduction in stream flow could have an adverse effect on the waters associated with Owens tui chub critical habitat. The cumulative use of ground waters that are associated with the Hot Creek spring and Owens tui chub critical habitat could have several

consequences. As the cold water component to the springs declines, the relative contribution of the thermal component will increase. This will raise temperatures in the springs. It will also result in increased concentrations of the various chemical present in the thermal waters. These chemicals could affect the chub through direct toxic affects, as well as reduction in spawning. Alteration of the chemical environment could also affect the food source of the chub. Owens tui chubs are omnivores; their diet in Hot Creek is predominately aquatic invertebrates (chironomid and caddis fly larvae) and aquatic vegetation.

Groundwater extraction from the well field upgradient of the Hot Creek headsprings may result in reduced flows and consequently in reduction of the habitat area available to Owens tui chub in AB and CD headsprings. This could reduce the population size of the Owens tui chub at this location. Closed populations, such as those of the Owens tui chub in the AB and CD headsprings, which are maintained at small numbers of individuals over long periods of time, will lose genetic variation through genetic drift, and are also at risk of declines in fitness through inbreeding. Perhaps more importantly, increasingly smaller populations are subject to a greater risk of extinction owing to demographic instability (Soulé 1980).

The Service believes that the airport expansion is essential to the local and regional growth and the affects to groundwater are not adequately known. The additional water extraction or a drought event could result in decline of the Owens tui chub population and adverse modification of its critical habitat. The magnitude of these impacts is not quantifiable or predictable through the use of existing information or technology.

The potential affects to groundwater will become greater with the expansion than present conditions. The proposed build out for the industrial and commercial land uses in the Airport Development District (ADD) all have the potential to adversely affect the Owens tui chub

CUMULATIVE EFFECTS

Cumulative effects include the effects of future State, tribal, local or private actions that are reasonably certain to occur in the action area considered in this biological opinion. Future Federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7(a)(2) of the Act.

There are a number of associated proposed development actions directly associated with and dependent upon the airport expansion (Mammoth Lakes 2000). The airport is situated approximately seven miles east of the city limits and is not contiguous with the Town of Mammoth Lakes. Unincorporated Mono County surrounds the airport. The various land uses designated in the Airport Land Use Plan are intended to be consistent with either the provisions of Title 19, Mono County Zoning and Development Code or Title 17 of the Town of Mammoth Lakes. However, none of the land use designations, plans, or studies have specifically addressed the potential for ground water quality and quantity regarding the long term needs of the Owens tui chub. This issue is compounded by other water uses that exist upstream including snow

making at Mammoth Mountain, geothermal energy facilities, and the development of wells on private lands. In 1991 the Service issued a draft Jeopardy Biological Opinion (1-6-90-F-43) to the USFS for affects to the Owens tui chub (Service 1991), for a well in the airport vicinity.

Lands that surround the airport to the north and west and adjacent to the upstream boundary of the Hot Creek Fish Hatchery have been designated as the Airport Development District (ADD). The intent of the ADD designation is to permit the development of commercial, industrial, and other related land uses. The ADD was specifically created to recognize the economic development potential associated with the expansion of services and facilities at the airport site. Light industrial, manufacturing, and warehousing developments have been identified as necessary for economic stability and growth.

Subject to the constraints associated with the proximity of aircraft activities, the following land uses have been determined as appropriate for the Airport Development District:

-Airport operational facilities
-Aviation products and services
-Housing for airport employees
-Hotel and residential condominium developments
-Light industrial and warehousing
-Office, business, and commercial
-Public buildings
-Retail sales and services ancillary to airport terminal or hotel/motel facilities
-Automobile service stations
-Recreational vehicle park
-Low intensity recreational development

Additional airport improvements were reviewed and approved in 1997 with an Environmental Impact Report prepared under the California Environmental Quality Act. The airport expansion is integral to the improvements. The improvements include the proposed building of 135 private and public use hangers, an aviation fuel storage complex, facilities for the operation of a fixed base operator, hotel and residential condominium complex, retail development, a restaurant complex, and a recreational vehicle park. The Airport Commercial Development Plan and Sierra Business Park projects will require access coordination to avoid traffic congestion.

A privately owned parcel, in the watershed above the Hot Creek Fish Hatchery, has plans for the development of an industrial park. This proposed project, named Sierra Business Park, is located on a 36-acre parcel that formerly was used by the Sierra Quarry. The developers propose to subdivide this parcel into 37 parcels to be used for industrial use.

It is likely these additional improvements would result in impacts to federally listed species, thus, would require coverage under section 7 or 10 of the Act.

CONCLUSION

After reviewing the current status of the Owens tui chub, the environmental baseline for the action area, the effects of the proposed airport expansion and the cumulative effects, it is the Service's biological opinion that the FAA's funding and approval of the airport expansion, as proposed, is not likely to jeopardize the continued existence of the Owens tui chub and is not likely to destroy or adversely modify designated critical habitat. The FAA and the Town of Mammoth Lakes have proposed some measures to monitor contamination from airport operations in surface and groundwater and contain these chemicals during chronic and catastrophic spills. In addition, the project proponents have indicated they would be subject to and comply with applicable State and Federal regulations to protect surface and groundwater.

The take of any Owens tui chub as a result a large catastrophic fuel spill is not considered incidental because it is outside of the standard operation procedures as described to the Service in the biological assessment. Any take resulting from such an event may be considered a violation of section 9 of the Act.

INCIDENTAL TAKE STATEMENT

Section 9 of the Act and Federal regulations pursuant to section 4(d) of the Act prohibit the take of endangered and threatened species, respectively, without special exemption. Take is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. Harm is further defined by the Service to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering. Harass is defined by the Service as intentional or negligent actions that create the likelihood of injury to listed species by annoying it to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to and not intended as part of the agency action is not considered to be prohibited taking under the Act provided that such taking is in compliance with the terms and conditions of this incidental take statement.

The measure described below is non-discretionary and the FAA must make it a binding condition of any authorization issued to the Town of Mammoth Lakes for the exemption in section 7(o)(2) to apply. The FAA has a continuing duty to regulate the activity covered by this incidental take statement. If the Town of Mammoth Lakes fails to implement the terms and conditions of the incidental take statement, the protective coverage of section 7(o)(2) may lapse. To monitor the impact of incidental take, the FAA or the Town of Mammoth Lakes must report the progress of the action and its impact on the species to the Service as specified in the incidental take statement.

Amount or Extent of Take

Given the distance of the Hot Creek Fish Hatchery from the Mammoth Yosemite Airport and the protective measures proposed, we anticipate that few Owens tui chub will be killed or injured as a result of activities at the Mammoth Yosemite Airport in any given year. Estimating a precise number is impossible because of the secretive nature of the Owens tui chub, the available dense cover, and natural population fluctuations. Furthermore, changes in numbers of Owens tui chub at the Hot Creek Fish Hatchery can be attributed to several factors, not solely to the activities at the Mammoth Yosemite Airport. Because we are unable to anticipate with a great deal of certainty the number that may be killed or injured, the Service shall contact the FAA whenever the Owens tui chub population decreases substantially and the cause of death or injury is unknown or may have been caused by FAA activities. Provided that the protective measures proposed by the FAA and the term and condition of this biological opinion are being fully implemented, operations need not cease while the cause of death is being determined. Once the cause of death or injury has been determined, the Service and FAA shall decide whether any additional protective measures are required to address the cause of the loss of the Owens tui chub.

REASONABLE AND PRUDENT MEASURES

The Service believes the following reasonable and prudent measure is necessary and appropriate to minimize take of Owens tui chub:

1. Minimize impacts to the water quality of the Hot Creek springs.

TERMS AND CONDITIONS

To be exempt from the prohibitions of section 9 of the Act, the FAA must comply with or ensure the Town of Mammoth Lakes complies with the following term and condition, which implements the reasonable and prudent measure described above. This term and condition is non-discretionary.

1. The following term and condition implements reasonable and prudent measure 1:

   Prior to construction the FAA shall assure that a Fish and Wildlife Service and Regional Water Quality Control Board approved monitoring, response and containment plan is developed and implemented to detect changes, identify and correct impacts to water quality and quantity in Hot Creek that may result from NOx emissions and hydrocarbon contamination and associated water use.

REPORTING REQUIREMENTS

The FAA shall ensure that a report is presented to the Service within one month of a spill event

REPORTING REQUIREMENTS

The FAA shall ensure that a report is presented to the Service within one month of a spill event or when monitoring wells indicate contaminates are present in the monitoring sample as indicated in term and condition 1 above. The report shall include details of clean up implementation and any potential affects to the Owens tui chub or its designated critical habitat.

CONSERVATION RECOMMENDATIONS

Section 7(a)(1) of the Act directs Federal agencies to use their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities to minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information.

1. The Service recommends that the FAA assists, both technically and financially, the Town of Mammoth Lakes and Mono County to develop an HCP to provide protection for the local and regional federally listed species within the sphere of influence of projected growth.

2. Because the airport expansion is integral to the growth needed for economic viability, the FAA should assist the Town of Mammoth to monitor groundwater use and the effects to the Hot Creek headsprings and develop and implement a protection plan that ensures the long term viability of the Owens tui chub.

3. The FAA should assist the Town of Mammoth Lakes to develop and implement a Service approved plan to establish a transplanted Owens tui chub population away from the area of groundwater downdrafting and potential contamination. Such a site should be located where non-native fish will not affect the refugia. Any such action should be in accordance with the goals and purposes of the Owens Basin Wetland and Aquatic Species Recovery Plan (Service 1998).

4. The Service recommends that the FAA require the Mammoth Yosemite Airport to construct and maintain an information kiosk that serves for public education regarding conservation of endangered and threatened species. The Service, if requested, will work with Mammoth Yosemite Airport on developing information for the kiosk.

REINITIATION NOTICE

This concludes formal consultation on FAA's proposed permitting and funding of proposed facility expansion to accommodate commercial aircraft at the Mammoth Yosemite Airport. As provided in 50 CFR §402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been retained (or is authorized by

law) and if: (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion; (3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat not considered in this opinion; or (4) a new species is listed or critical habitat designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, any operations causing such take must cease pending reinitiation.

If you have any questions regarding this biological opinion, please contact Tim Thomas of my staff at (760) 255-8890.

Sincerely,

Diane K. Noda
Field Supervisor

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Appendix K - Revegetation Requirements

Airport Expansion Project Mitigation/Gravel Pit Revegetation

The following revegetation plan may be implemented on designated sites as mitigation for the airport expansion project. Successful implementation of this plan will help to replace wildlife habitat lost to the airport expansion, as well as prevent soil erosion in the gravel pit, aid in the re-establishment of the main components of a sagebrush/bitterbrush scrub community, and prevent the establishment of new populations, or spread of existing populations of any non-native weed species.

The following seed mix will be applied to all areas designated as mitigation sites for the airport expansion project:

Big sagebrush (Artemisia tridentata)		.5 PLS lb/ac
Desert peach (Prunus andersonii)		5 PLS lbs/ac
Indian ricegrass (Achnatherum hymenoides)		3 PLS lbs/ac
Western needlegrass (Achnatherum occidentalis)		2 PLS lbs/ac
Squirreltail (Elymus elymoides)		3 PLS lbs/ac
Sliver lupine (Lupinus argenteus)		1 PLS lbs/ac
Blazing star (Mentzelia laevicaulis)		1 PLS lb/ac
Chicalote, prickly poppy (Argemone munita)		1 PLS lb/ac
	TOTAL:	16.5 PLS lbs/ac

PLS = Pure Live Seed

In addition, antelope bitterbrush (Purshia tridentata var. tridentata) seedlings will be planted on 2 meter centers.

The project area is in the Mono Section/Crowley Flowlands Subsection of the Ecological Subregions of California (Miles and Goudey 1997). If it is not possible to collect/obtain seed from the immediate vicinity of the project, due to poor seed availability, seed from anywhere within the Mono Section will be acceptable; however, efforts will be made to obtain seed from within the Crowley Flowlands. Subsection. Seed collection will be restricted to areas no more than 500 feet higher or lower in elevation than the project site.

Bitterbrush seedlings will be planted in the fall (approximately late September), late enough to avoid summer heat, but early enough to allow seedlings to become established prior to soil freezing. Protection from browsing will be provided for the seedlings, using vexar tubing or similar methods. Mulch will be applied around the base of the seedlings as further protection. Supplemental water will be provided as needed for seedling survival, depending on site conditions and local weather variations. I would anticipate watering seedlings once or twice/week, depending on temperatures, until freezing conditions and/or significant precipitation events occur.

Seeding of other species will be conducted in the late fall, preferably just prior to the onset of winter snows, in order to minimize seed predation losses. A harrow or other acceptable method would be used to cover seed once it has been spread, followed by application of an approved mulch, e.g. certified weed free rice straw, or native mulch. No soil amendments will be added.

In addition, non-native species not already present on the site prior to the project will be removed manually. The significance of other weed species that may occur will be evaluated upon receipt of the revegetation monitoring reports, and control measures required if deemed necessary, based on density and potential effects on the revegetation goals. All non-native weed species, including cheatgrass (Bromus tectorum) as well as those species mentioned above, will account for no more than 5% total of the relative cover at the end of the 5 year evaluation period.

Success standards for this project are as follows:

- At least 3 shrubs and 8 perennial grasses and/or forbs per 4 square meters will be established on the site.
- Perennial grasses will account for at least 10% of the relative cover.
- Antelope bitterbrush survival will be at least 75%.
- All non-native weed species will account for no more than 5% total of the relative cover at the end of the 5 year evaluation period (see above).

The revegetation project will be monitored for compliance with the success standards defined above, and a report provided to the Forest Service 1, 3, and 5 years following completion of the project. Failure to meet the success standards will require additional planting and/or weed control, as appropriate.

References:

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Appendix L – Traffic Impact Analysis

MAMMOTH LAKES - YOSEMITE VALLEY AIRPORT TRAFFIC IMPACT ANALYSIS

~~*November 30, 2000*~~*Revised August 31, 2001*

Prepared for:

Mammoth Lakes Airport
Route 1 Box 209
Mammoth Lakes, California 93546

Prepared by:

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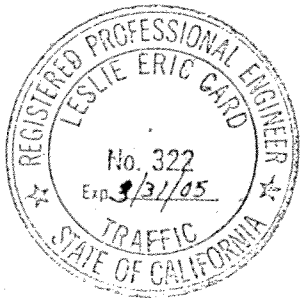
This traffic study has been prepared under the supervision of Leslie E. Card, P.E.

Signed Les Card 8/31/01



MAMMOTH LAKES - YOSEMITE VALLEY AIRPORT TRAFFIC IMPACT STUDY AUGUST, 2001

EXECUTIVE SUMMARY

This traffic study has been prepared to assess the airport specific short-range and long-range impacts, and to consider the cumulative impacts of two adjacent development projects: Hot Creek Resort and Sierra Business Park. The study examines conditions in 2000 and 2020 and considers growth in through traffic on U.S. Route 395 (US-395). Information for the Sierra Business Park is taken from the traffic study dated May, 2000, and November, 2000, prepared by Traffic Safety Engineers.

Several different development combinations are considered in order to isolate substantial impacts and to consider proportionate share responsibilities. An additional access to US-395 at the existing Benton Crossing intersection is considered with the Hot Creek Resort project only.

As part of the initial airport expansion program, minor mitigation improvements will be installed at the US-395 intersection with Hot Creek Fish Hatchery Road. Those mitigation improvements include both northbound US-395 right turn deceleration and acceleration lanes and the lengthening of the southbound US-395 left turn deceleration lane. These mitigation improvements will be consistent with the design requirements of Topic 405 - Intersection Design Standards of the *Highway Design Manual* (July 1, 1995).

When the intersection of US-395 at Hot Creek Road drops below level of service (LOS) D, mitigation is recommended. In this case, a traffic signal is not considered acceptable by Caltrans due in part to the high vehicular speeds; therefore, either minor intersection channelization is recommended or alternative access locations on US-395.

The tables on the following page illustrate the various land use and access alternatives and provide the LOS results.

In summary, mitigation in the long range is necessary only in the case of all three projects without a Benton Crossing access.

Mitigation in the form of restriping the center median lanes to provide separate eastbound and westbound left and through lanes or construction of a connector road to Benton Crossing from the airport would be required to reduce the impacts. The costs of either improvement should be spread to the contributing projects on a proportionate basis in relation to their respective peak hour trip generation.

If the Sierra Business Park is not approved or otherwise is not developed, no mitigation is necessary in the short range and long range for the Airport and Hot Creek Resort.

YEAR 2000

	US-395/Hot Creek Road[1]						
	Intersection Delay/LOS			NB/SB Queue Lengths		EB/WB Queue Lengths	
Scenario	Max Delay[2]	Approach	LOS	Max Queue[2]	Movement	Max Queue[2]	Movement
WITH EXISTING CIRCULATION SYSTEM							
Existing Year 1999/2000 Conditions[4]	10.8 sec.	westbound	B	0.04 veh.	SB-L	0.09 veh.	WB-LTR
Existing + Airport	10.9 sec.	westbound	B	0.29 veh.	SB-L	0.49 veh.	WB-LTR
Existing + Airport + Hot Creek Resort	18.5 sec.	westbound	C	0.65 veh.	SB-L	3.29 veh.	WB-LTR
Existing + Sierra Business Park	14.6 sec.	eastbound	B	0.04 veh.	SB-L	1.54 veh.	EB-LTR
Existing + Airport + Hot Creek Resort + Sierra Business Park	27.2 sec.	eastbound	D	0.65 veh.	SB-L	3.57 veh.	WB-LTR
WITH CONNECTION TO BENTON CROSSING[5]							
Existing + Airport + Hot Creek Resort	11.6 sec.	westbound	B	0.57 veh.	SB-L	1.20 veh.	WB-LTR
Existing + Airport + Hot Creek Resort + Sierra Business Park	25.3 sec.	eastbound	D	0.57 veh.	SB-L	2.98 veh.	EB-LTR

Note: See Table A for footnotes.

YEAR 2020

	US-395/Hot Creek Road[1]						
	Intersection Delay/LOS			NB/SB Queue Lengths		EB/WB Queue Lengths	
Scenario	Max Delay[2]	Approach	LOS	Max Queue[2]	Movement	Max Queue[2]	Movement
WITH EXISTING CIRCULATION SYSTEM							
Year 2020 Baseline Conditions[4]	11.6 sec.	westbound	B	0.04 veh.	SB-L	0.10 veh.	WB-LTR
2020 + Airport	11.6 sec.	westbound	B	0.33 veh.	SB-L	0.54 veh.	WB-LTR
2020 + Airport + Hot Creek Resort	22.2 sec.	westbound	C	0.74 veh.	SB-L	4.13 veh.	WB-LTR
2020 + Sierra Business Park	16.4 sec.	eastbound	C	0.04 veh.	SB-L	1.82 veh.	EB-LTR
2020 + Airport + Hot Creek Resort + Sierra Business Park - *with mitigation*	***37.4 sec.*** *31.1 sec*	***eastbound*** *eastbound*	***E*** *D*	0.74 veh.	SB-L	4.59 veh. 3.53 veh.	EB-LTR EB-L
WITH CONNECTION TO BENTON CROSSING[5]							
2020 + Airport + Hot Creek Resort	12.5 sec.	westbound	B	0.65 veh.	SB-L	1.36 veh.	WB-LTR
2020 + Airport + Hot Creek Resort + Sierra Business Park	34.1 sec.	eastbound	D	0.65 veh.	SB-L	4.17 veh.	EB-LTR

Note: See Table C for footnotes.

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INTRODUCTION

Project Description and Location

The proposed project consists of the expansion of the existing Mammoth Lakes-Yosemite Valley Airport. Figure 1 illustrates the location of the project.

The Mammoth Lakes-Yosemite Valley Airport Expansion project would occur in conjunction with the tourist/skier developments planned in the Town of Mammoth Lakes. These developments partially rely on the expansion of the existing airport to add to the transportation infrastructure and bring additional business to these resort developments. The airport is currently located on the east side of US-395, with primary access at Hot Creek Fish Hatchery Road. Based on discussions with airport staff, the airport expansion would allow for 2,760 passengers on a daily basis during the peak winter season.

In addition, two other development projects surrounding the existing Mammoth Lakes-Yosemite Valley Airport are proposed: the Hot Creek Aviation Mixed-Use Development and the Sierra Business Park Specific Plan. Figure 1 illustrates the locations of these projects.

The Hot Creek Aviation Mixed-Use Development is an approved mixed retail/residential use development. This project would occur only with the expansion of the existing airport. Planned land uses include: 24 pump gasoline service station, 188 units of townhouses, a 62 room hotel, a recreation vehicle park with 100 sites, and sit-down restaurants totaling 100 seats. This project would be located north of and adjacent to the airport. In addition to the land uses planned, this project is considering the construction of a roadway connection from the airport area, south to Benton Crossing (which also has access to US-395).

The proposed Sierra Business Park Specific Plan is planned to be developed as a light industrial use park; the existing concrete batch plant would remain as part of the development. The entire Specific Plan area will consist of 36 acres. This project is located directly across from the airport, on the west side of US-395. This project will upgrade its current access on US-395 to Caltrans' standards. Traffic data used for the Sierra Business Park Specific Plan are based on the traffic analysis and the addendum traffic analysis for this project prepared by Traffic Safety Engineers in May and November, 2000.[1]

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[1] Traffic Impact Study for the Sierra Business Park Specific Plan, Traffic Safety Engineers (TSE), May, 2000.

Addendum to the Traffic Impact Study for the Sierra Business Park Specific Plan, TSE, November, 2000.

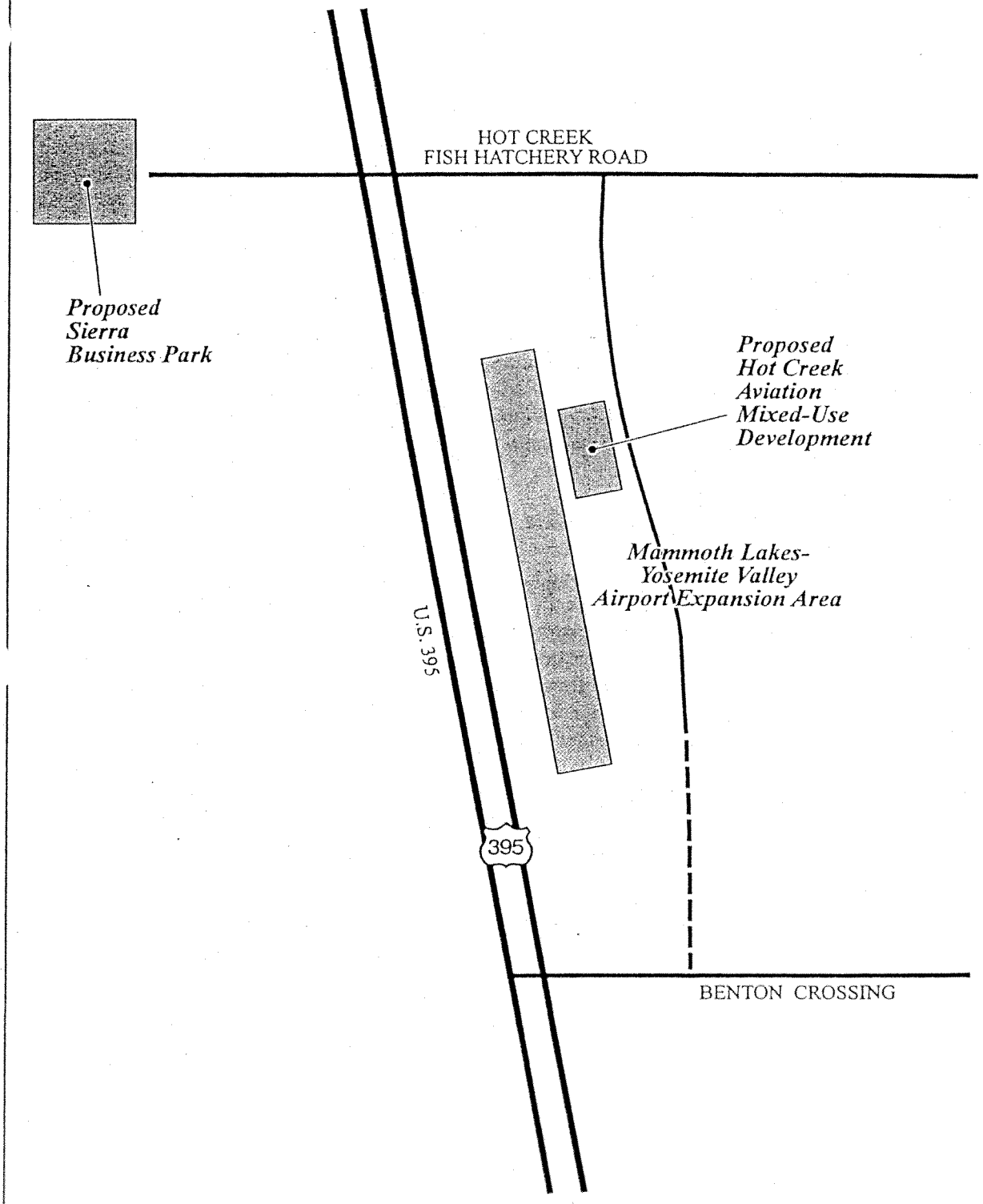

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Figure 1

LSA Schematic - Not to Scale

Project Study Area and
Future Project Locations

METHODOLOGY

The traffic analysis for the Mammoth Lakes-Yosemite Valley Airport expansion been prepared to be generally consistent with the Guide for the Preparation of Traffic Impact Studies (Caltrans, October, 2000). The Highway Capacity Software 2000 (HCS2000) and the TRAFFIX (version 7.5) level of service software packages were utilized to determine the intersection levels of service at the unsignalized US-395/Hot Creek Road and US-395/Benton Crossing intersections. Both HCS2000 and TRAFFIX are consistent with the 2000 *Highway Capacity Manual* (HCM) methodology for the analysis of unsignalized intersections.

In previous traffic analyses dated November, 2000, the 1997 HCM method was used to analyze the US-395/Hot Creek Road intersection. As a limitation of the 1997 HCM, the US-395/Hot Creek Road intersection was analyzed as two separate intersections due to the width of the existing median. However, the current HCS2000 and TRAFFIX 7.5 software packages are able to analyze US-395/Hot Creek Road as a single intersection with a "two-stage gap acceptance" process (Chapter 17 of the HCM2000).

The existing median is approximately 70 feet in width. Assuming a standard vehicle length of 22 feet per vehicle, which includes front and rear clearance space, approximately three vehicles can be stored in the median. A vehicle queuing analysis has been conducted consistent with the HCM2000 methodology. The queuing analysis will determine the length of forecast vehicle queues at the US-395/Hot Creek Fish Hatchery Road intersection, specifically within the 70 foot wide median storage lanes. In particular, the northbound and southbound left turn queues from US-395 were analyzed to ensure that vehicles already stored within the median would not be blocked from their intended maneuvers. The time period analyzed for both intersections is the winter Friday p.m. peak hour, since this period would yield the greatest amount of traffic from all three projects as a whole.

Additional LOS analysis was conducted for the intersection of Benton Crossing and US-395 in both existing and year 2020 conditions. These analyses indicate that LOS is not significantly affected and will not exceed LOS C in the year 2020 plus project condition. The worksheets for these analyses are provided in Appendix B.

Project impacts for the proposed project (airport), Hot Creek Development, Sierra Business Park, and all three developments were analyzed for the following scenarios:

Existing + Project Scenario

1. Existing conditions
2. Existing + airport expansion
3. Existing + airport expansion + Hot Creek Aviation (with and without connection to Benton Crossing)
4. Existing + Sierra Business Park
5. Existing + airport expansion + Hot Creek Aviation + Sierra Business Park (with and without connection to Benton Crossing)

Year 2020 + Project Scenario

1. Year 2020 baseline conditions
2. Year 2020 + airport expansion
3. Year 2020 + airport expansion + Hot Creek Aviation (with and without connection to Benton Crossing)
4. Year 2020 + Sierra Business Park
5. Year 2020 + airport expansion + Hot Creek Aviation + Sierra Business Park (with and without connection to Benton Crossing)

According to Caltrans' guidelines, the minimum acceptable level of service for intersections is LOS D. Therefore, when an intersection is forecast to operate at LOS E or LOS F, mitigation would be required to bring the intersection level of service to LOS D or better.

EXISTING CONDITIONS

Circulation Network

Figure 1 illustrates the local and regional circulation networks of the project area. Regional access to the proposed project is from US-395. North of the project site, US-395 provides access to the Town of Mammoth Lakes and the Lake Tahoe region. South of the project site, US-395 provides access to Crowley Lake, Bishop, and Southern California. Local access to the airport is provided via Hot Creek Fish Hatchery Road (Hot Creek Road). Hot Creek Road is an undivided, two lane road with an at-grade intersection with US-395. An approximately 70 foot wide median exists on US-395 at its intersection with Hot Creek Road. This intersection is characterized with high vehicle speeds on US-395 (60 to 70 mph), and stop control along Hot Creek Road, including the vehicle storage lanes within the median.

Volumes and Levels of Service

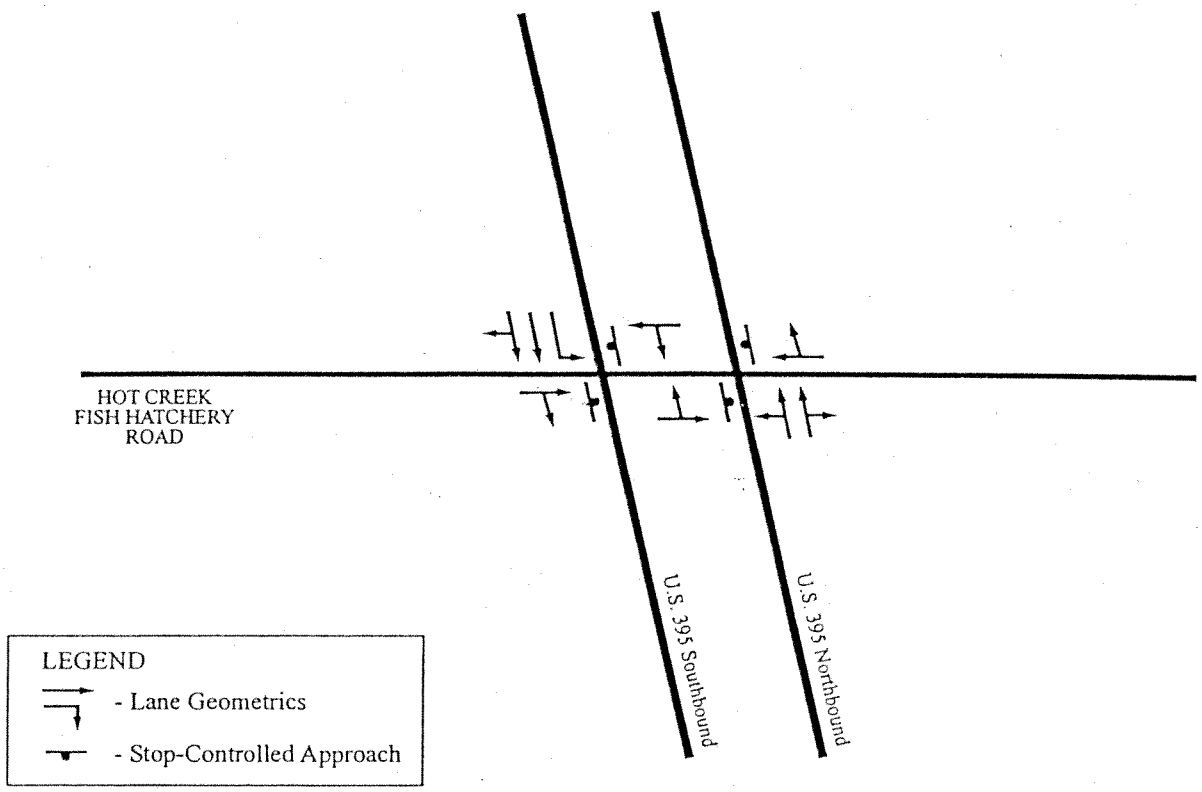
Figure 2 presents the existing intersection geometrics and weekday p.m. peak hour traffic volumes for a typical winter condition. The existing traffic volumes for the US-395 mainline were provided by Caltrans staff (Tom Meyers, District 9, 11/17/00). Peak hour traffic volumes on Hot Creek Road were based on a manual count collected by LSA on November 16, 2000, and are provided in Appendix A. Table A presents the existing intersection levels of service for the intersection of US-395 at Hot Creek Road. According to the table, the US-395 intersection at Hot Creek Road currently operates with a satisfactory level of service at LOS B (10.8 seconds). Appendix B contains the level of service worksheets.

PROJECT TRIP GENERATION AND ASSIGNMENT

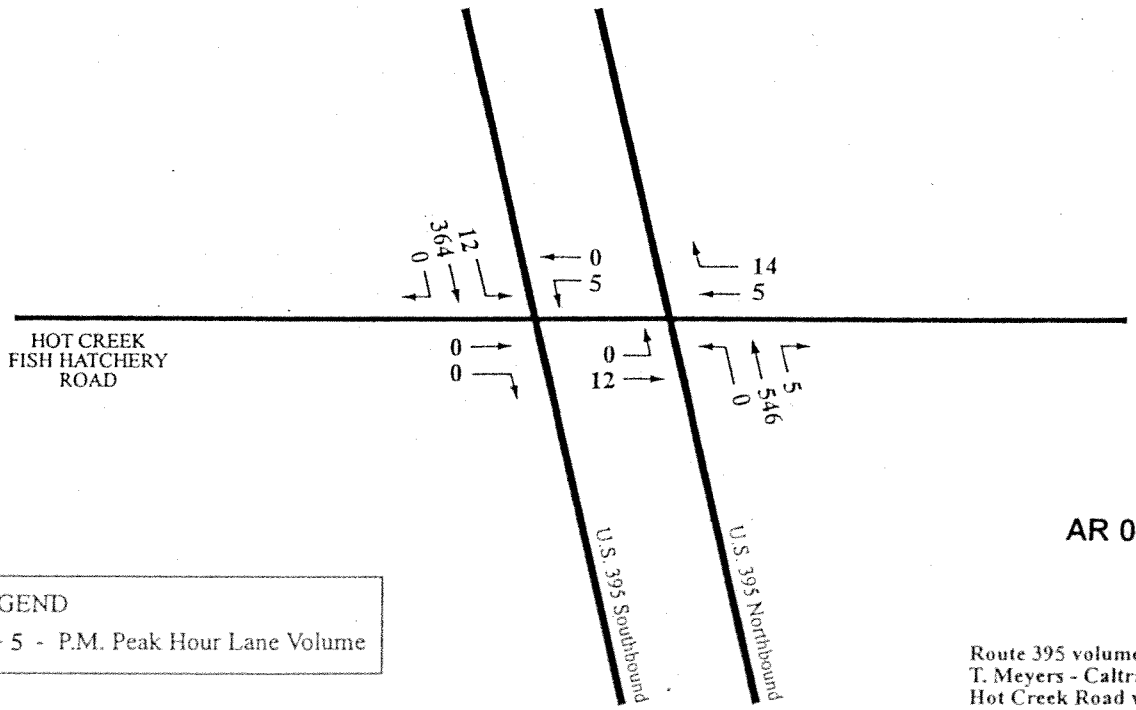
Mammoth Lakes-Yosemite Valley Airport

Table B presents the trip generation for the three projects within the airport area (airport expansion, Hot Creek Resort, and Sierra Business Park). Trip generation data for the Mammoth Lakes-Yosemite

EXISTING GEOMETRICS



EXISTING P.M. PEAK HOUR VOLUMES



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Route 395 volumes provided by T. Meyers - Caltrans District 9. Hot Creek Road volumes per 11/16/2000 traffic count.

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Figure 2

LSA Schematic - Not to Scale

Existing Geometrics and Weekday P.M. Peak Hour Traffic Volumes for Typical Winter Conditions

Table A - Existing and Existing Plus Project Intersection Level of Service Summary

Scenario	US-395/Hot Creek Road[1]					
	Intersection Delay/LOS			B/SB Queue Length		B/WB Queue Lengt
	ax Delay Approach		LOS	ax Queu	ovement	ax Queu ovement
WITH EXISTING CIRCULATION SYSTEM						
Existing Year 1999/2000 Conditions[4]	10.8 sec.	westboun	B	0.04 veh.	SB-L	0.09 veh. WB-LTR
Existing + Airport	10.9 sec.	westboun	B	0.29 veh.	SB-L	0.49 veh. WB-LTR
Existing + Airport + Hot Creek Resort	18.5 sec.	westboun	C	0.65 veh.	SB-L	3.29 veh. WB-LTR
Existing + Sierra Business Park	14.6 sec.	eastbound	B	0.04 veh.	SB-L	1.70 veh. EB-LTR
Existing + Airport + Hot Creek Resort + Sierra Busi	32.3 sec.	eastbound	D	0.65 veh.	SB-L	4.59 veh. EB-LTR
WITH CONNECTION TO BENTON CROSSING[5]						
Existing + Airport + Hot Creek Resort	11.6 sec.	westboun	B	0.57 veh.	SB-L	1.20 veh. WB-LTR
Existing + Airport + Hot Creek Resort + Sierra Busi	29.9 sec.	eastbound	D	0.57 veh.	SB-L	4.22 veh. EB-LTR

Notes:

[1] Due to the current intersection configuration, the northbound and southbound approaches on US-395 are separate intersections. However, HCS 2000 software allows for analysis of single intersection with a "two-stage" gap acceptance with 3 vehicles stored

[2] Intersections are analyzed through the Highway Capacity Manual (HCM) 2000 Operations Analysis.
Delay is expressed in seconds of average delay per vehicle. LOS = Level of Service. Vehicle queues are expressed in numbers o

[3] SB-L movement consists of vehicles travelling south on US-395 turning left at Hot Creek Road destined to Airport, Hot Creek R
EB- and WB-LTR movements consists of vehicles on Hot Creek Fish Hatchery Road destined towards its intersection with US-3

[4] Existing conditions are based on Caltrans 1999 counts on mainline segments, and manual p.m. peak hour counts on Hot Creek Fish Hatchery Road conducted in November, 2000.

[5] A roadway connection to Benton Crossing may be provided with the Hot Creek Aviation and Airport projects.

Table B - Mammoth Lakes -Yosemite Valley Airport Area Trip Generation

Land Use	Size	Units	ADT	P.M. Peak Hour In	Out	Total
TRIP RATES						
Mammoth Lakes-Yosemite Valley Airport[1]	*based on data provided by Mammoth Lakes-Yosemite Valley Airport*					
Hot Creek Aviation Mixed-Used Development[2]						
Gasoline/Service Station w/ Convenience Market	per fueling position (FP)		162.78	6.69	6.69	13.38
Residential High Density (MF) Seasonal	per dwelling unit (DU)		8.00	0.50	0.25	0.75
Hotel	per occupied room		8.92	0.35	0.36	0.71
Campground/Recreational Vehicle Park	per occupied campsite		4.00	0.20	0.20	0.39
High Turnover Sit-Down Restaurant	per seat		4.83	0.24	0.18	0.42
Sierra Business Park Specific Plan[3]	*based on data provided in Sierra Business Park Specific Plan TIA*					
TRIP GENERATION						
Mammoth Lakes-Yosemite Valley Airport	702	passengers	898	79	79	158
Hot Creek Aviation Mixed-Used Development						
Gasoline/Service Station w/ Convenience Market	24	FPs	3,907	161	161	321
Residential High Density (MF) Seasonal[4]	150	DUs	1,203	76	37	113
Hotel[4]	50	rooms	442	17	18	35
Campground/Recreational Vehicle Park[4]	80	campsites	320	16	16	31
High Turnover Sit-Down Restaurant	100	seats	483	24	18	42
Sierra Business Park Specific Plan	36	acres	1,487	48	181	229
Total Trip Generation			**8,740**	**420**	**509**	**929**
TRIP REDUCTIONS						
Hot Creek Aviation Mixed-Use Development						
Gasoline/Service Station w/ Convenience Market[5]	(90 percent reduction)		-3,516	-145	-145	-289
Residential High Density (MF) Seasonal[6]	(60 percent reduction)		-722	-45	-22	-68
Hotel[7]	(75 percent reduction)		-332	-13	-13	-26
Campground/Recreational Vehicle Park	*no trip reductions anticipated*					
High Turnover Sit-Down Restaurant[8]	(100 percent reduction)		-483	-24	-18	-42
Total Trip Reductions			-5,053	-227	-198	-425
NET EFFECTIVE TRIP GENERATION			**3,688**	**193**	**311**	**504**

[1] Year 2020 airport trip generation data provided by Mammoth Lakes-Yosemite Valley Airport staff (Tom Cornell-Ricondo).

[2] Trip rates for Hot Creek Mixed-Use Development provided in *Trip Generation*, 6th Edition, Institute of Transportation Engineers (ITE), 1997. Trip rates for the Residential High Density (MF) Seasonal are based on the Mammoth Lakes Transportation Model (MTM). Daily trip rate for RV Park based on SANDAG rates for campsite uses; p.m. peak hour rates for RV Park are based on ITE rates.

[3] Trip generation data provided in *Traffic Impact Study Addendum for Sierra Business Park Specific Plan*, Traffic Safety Engineers (TSE), 11/00.

[4] Unit counts for residential/lodging components are based on 80% occupancy rate which is consistent with Town of Mammoth "typical" winter conditions. Build out unit counts are 188 multi-family homes, 62 hotel rooms, and 100 campsites.

[5] A 90% reduction was applied due to a majority of pass-by trip making for vehicles travelling on Highway 395. Approximately 10% (new trips) may originate from existing communities south of the Airport.

[6] A 60% reduction was applied due to shuttle service provided to residents destined to Mammoth Lakes and Mammoth Mountain Ski Area. A majority of residents will arrive to the Hot Creek Mixed-Used development via airline service to Mammoth Lakes-Yosemite Valley Airport.

[7] A 75% reduction was applied due to shuttle service provided to residents destined to Mammoth Lakes and Mammoth Mountain Ski Area. A majority of residents will arrive to the Hot Creek Mixed-Used development via airline service to Mammoth Lakes-Yosemite Valley Airport.

[8] A 75% internal trip capture, and 25% pass-by trip reduction was applied for vehicles travelling on Highway 395. No new trips are anticipated for this land use.

Valley Airport were furnished by airport staff (Tom Cornell, Ricondo & Associates) and are provided in Appendix C. According to airport staff, the airport expansion project would generate approximately 898 daily trips and 158 p.m. peak hour trips. The p.m. peak hour trip generation indicates that 79 vehicles (shuttles, taxis, buses, etc.) would be entering and exiting the airport once during the p.m. peak hour. Each vehicle would generate an inbound and an outbound trip; therefore, a total of 158 trips would occur in the p.m. peak hour (79 vehicles trips x 2 trips per vehicle = 158 trips).

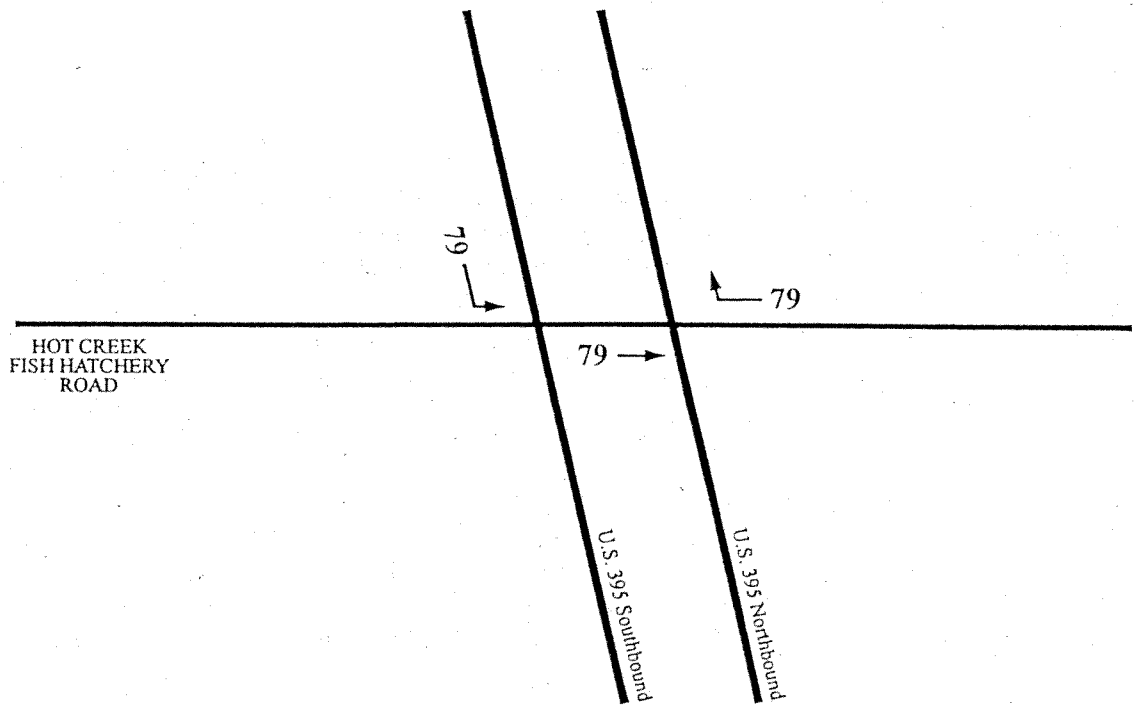
Figure 3 illustrates the airport's trip assignment. It is anticipated that all p.m. peak hour trips associated with the airport would originate from and be destined to the Town of Mammoth Lakes.

Hot Creek Aviation Mixed-Use Development

The trip generation estimates for the approved Hot Creek Development are based on trip rates provided in the Institute of Transportation Engineers' (ITE) *Trip Generation*, 6th Edition (1997). Based on the project description of the lodging component of the Hot Creek resort, a total of 188 multifamily townhomes, a 62 room hotel, and a 100 site RV park would be developed. An 80 percent occupancy rate was factored for these lodging type land uses to account for the "typical" winter conditions consistent with Town of Mammoth Lakes methodology. Therefore, trips were generated for Hot Creek resort's lodging component, which consisted of 150 multifamily townhomes, a 50 room hotel, and an 80 site RV park during the "typical"winter condition. According to Table B, the approved Hot Creek resort would generate a total of 6,355 daily trips and 542 p.m. peak hour trips.

In addition to the 80 percent occupancy factor for the lodging components, trip reductions for the multifamily rental townhomes and hotel were applied due to the available shuttle service for residents of the townhomes and hotel guests to the resort areas of the Town (i.e., Mammoth Mountain Ski Area - MMSA). The planned shuttle service would be available to guests of the townhomes and hotel on a regular basis throughout the day, and would be operated to minimize passenger vehicle traffic between the Hot Creek resort and the MMSA. A 60 percent reduction was applied to the trip generation of the townhomes; a 75 percent reduction was applied to the hotel's trip generation estimates.

To account for the pass-by trip making for the retail components of Hot Creek, a 90 percent reduction in new trips generated by the gas station and a 25 percent reduction in new trips generated by the restaurant were applied. In addition, a 75 percent reduction in restaurant trips was applied for the internal trip capture of lodging residents and airport patrons who would utilize the restaurants on site. It should be noted that 100 percent of the restaurant trips were removed from the overall trip generation (75 percent via internal trip capture and 25 percent via pass-by trips). Based on the reductions for occupancy, shuttle service, pass-by trip making, and internal trip capture, a total of 5,053 daily and 425 p.m. peak hour trips were removed from the total Hot Creek resort total trip generation. Therefore, according to Table B the Hot Creek resort would generate approximately 1,302 new daily trips and a 117 new p.m. peak hour trips.



LEGEND
← 5 - P.M. Peak Hour Trip Assignment

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Figure 3

LSA Schematic - Not to Scale

Mammoth Lakes-Yosemite Valley
Airport Trip Assignment

Figure 4 illustrates the trip assignment for the Hot Creek Development with and without the connection to Benton Crossing. It should be noted that reductions on the northbound and southbound through movements on US-395 were made to account for the pass-by trips of the gas station and restaurant components. In other words, a pass-by trip is a through trip that is diverted into the project via southbound left or northbound right turn and then reassigned to US-395 via another right or left turn back onto US-395.

Sierra Business Park

Trip generation estimates and the trip assignment for the Sierra Business Park were obtained from the traffic impact study addendum completed by Traffic Safety Engineers (TSE). Appendix D contains the trip generation and trip assignment completed by TSE for this specific project. Based on Table B, the Sierra Business Park would generate 1,487 daily trips, and 229 p.m. peak hour trips. Figure 5 presents the trip assignment as prepared by TSE.

According to Table B, when trip generation estimates for all three development projects are added together, the projects would generate a total of 8,740 daily trips and 929 p.m. peak hour trips (420 inbound and 509 outbound). With the trip reductions for the occupancy, shuttle service, pass-by trip making, and internal trip capture for the components of the Hot Creek resort development applied to the total trip generation, the new trips generated by all three projects are 3,688 daily trips and 504 p.m. peak hour trips (193 inbound and 311 outbound). Figure 6 illustrates the trip assignment for all three development projects.

EXISTING + PROJECT LEVELS OF SERVICE

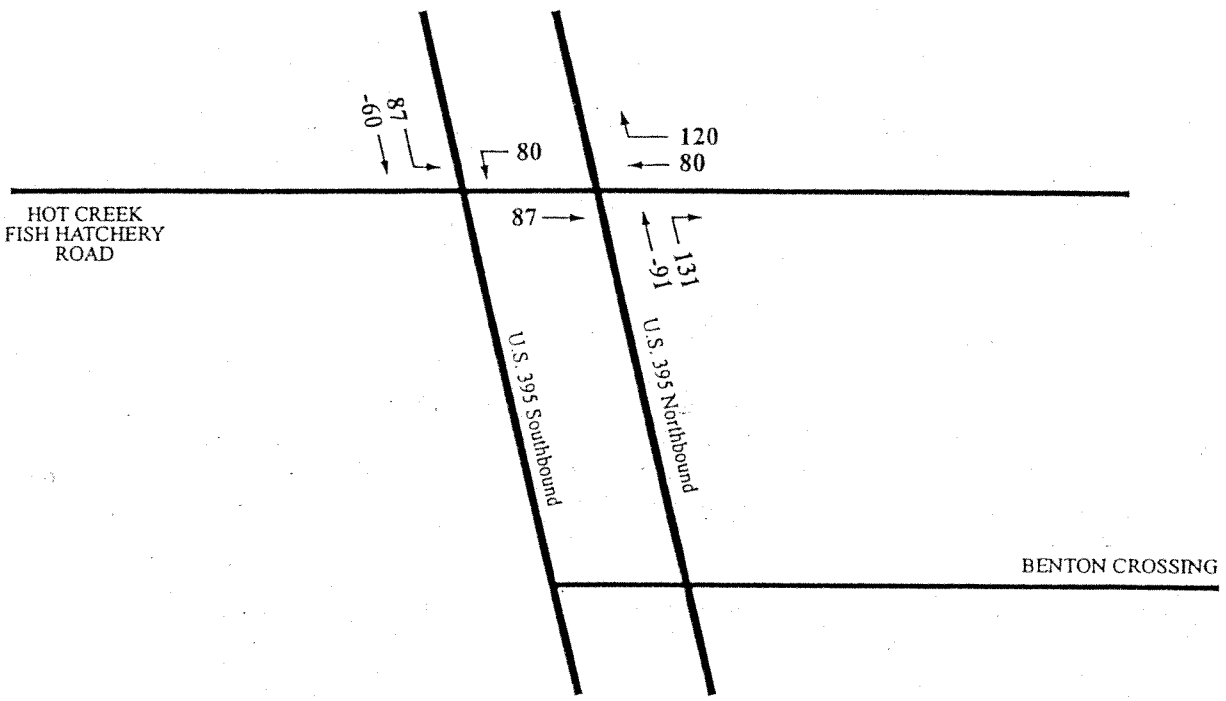
The existing traffic volumes at the US-395/Hot Creek Road intersection were added to the project trip assignments discussed above, and intersection levels of service were determined for the existing + airport expansion; existing + airport expansion + Hot Creek resort (with and without connection to Benton Crossing); existing + Sierra Business Park; and existing + airport expansion + Hot Creek resort + Sierra Business Park (with and without connection to Benton Crossing) scenarios. Figures 7, 8, 9, and 10 illustrate the existing plus project(s) scenarios p.m. peak hour traffic volumes at the US-395/Hot Creek Road intersection. Table A also presents the results of the existing + project(s) level of service analysis, with and without Benton Crossing. Appendix B contains the level of service worksheets.

Based on the level of service analysis results provided in Table A, all of the analysis scenarios are forecast to operate with satisfactory levels of service (LOS D or better) in the existing conditions.

YEAR 2020 BASELINE CONDITIONS

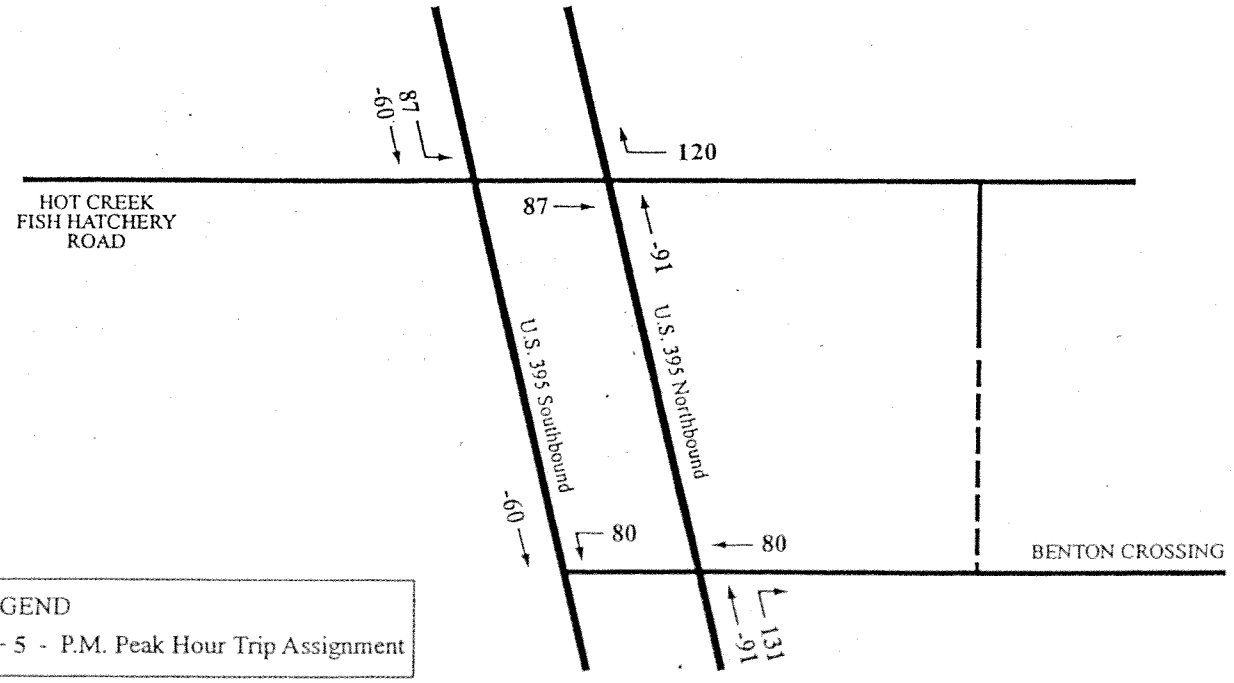
Per direction by Caltrans staff (Tom Meyers - District 9), a 1.0 percent annual growth rate, compounded, was applied to the northbound and southbound through volumes for US-395. This rate constitutes a growth of 22 percent from 2000 to 2020. Figure 11 presents the 2020 weekday p.m.

HOT CREEK AVIATION TRIP ASSIGNMENT



Negative volumes represent diverted trips.

HOT CREEK AVIATION TRIP ASSIGNMENT WITH BENTON CROSSING CONNECTION



Negative volumes represent diverted trips.

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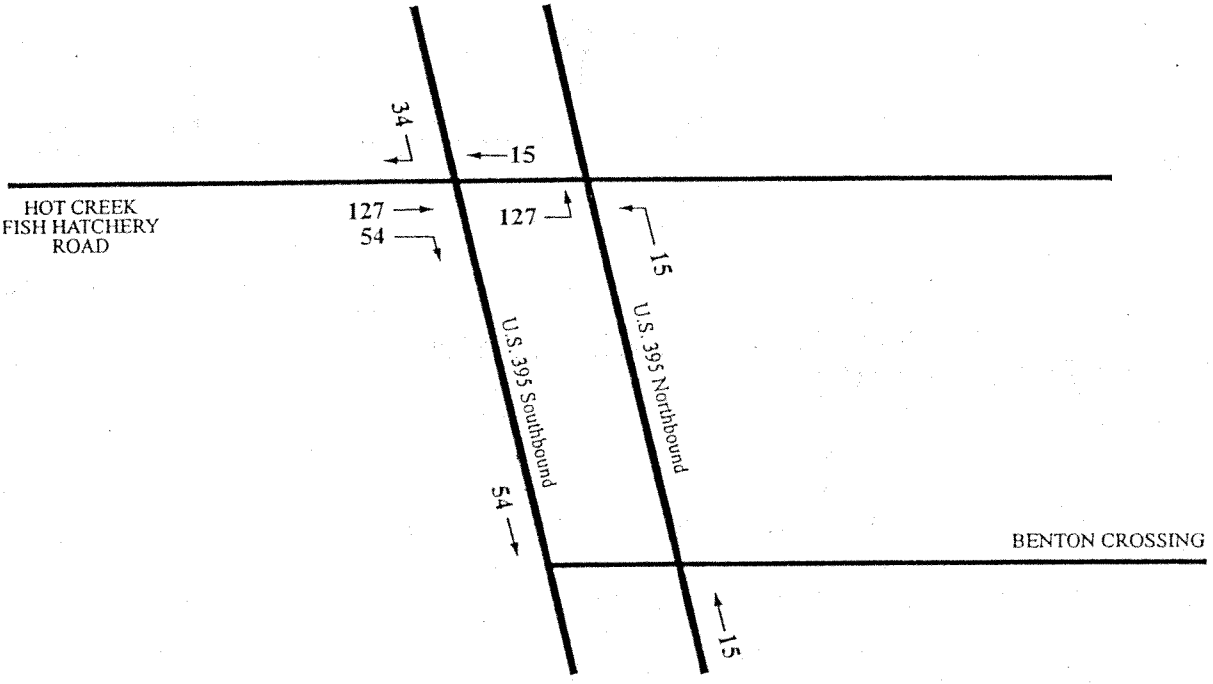
Figure 4

LSA Schematic - Not to Scale

Hot Creek Aviation Mixed-Use Development
Trip Assignment



LEGEND
← 5 - P.M. Peak Hour Trip Assignment

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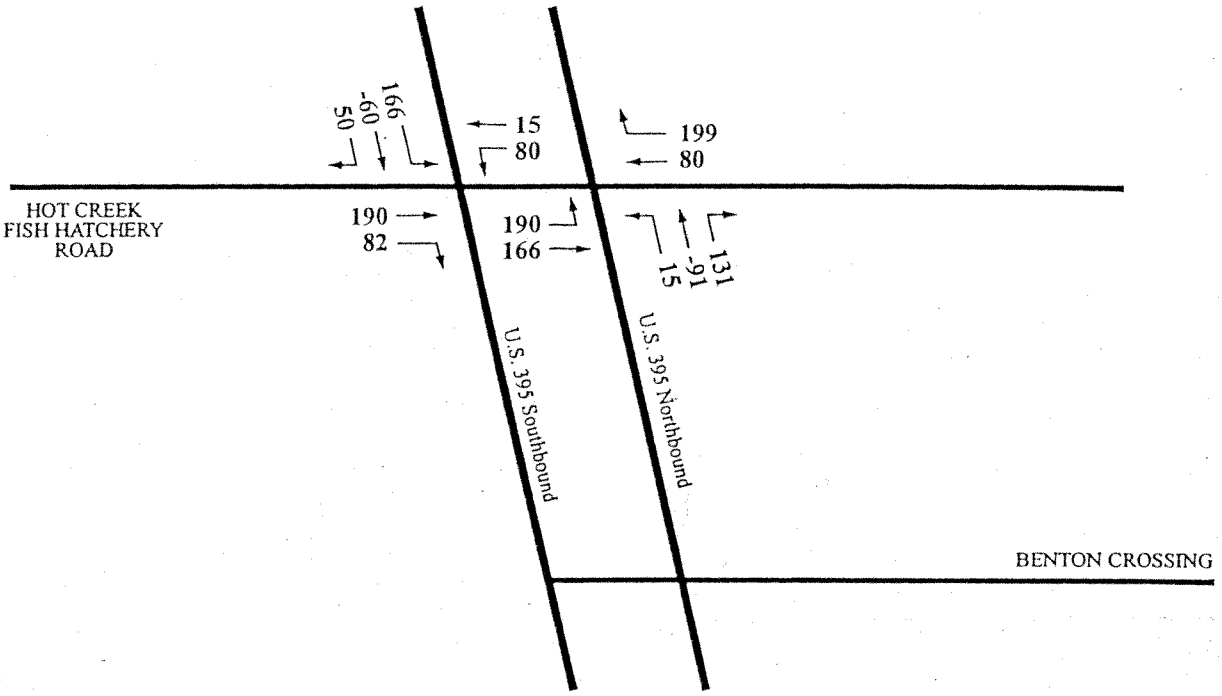
Figure 5

LSA Schematic - Not to Scale

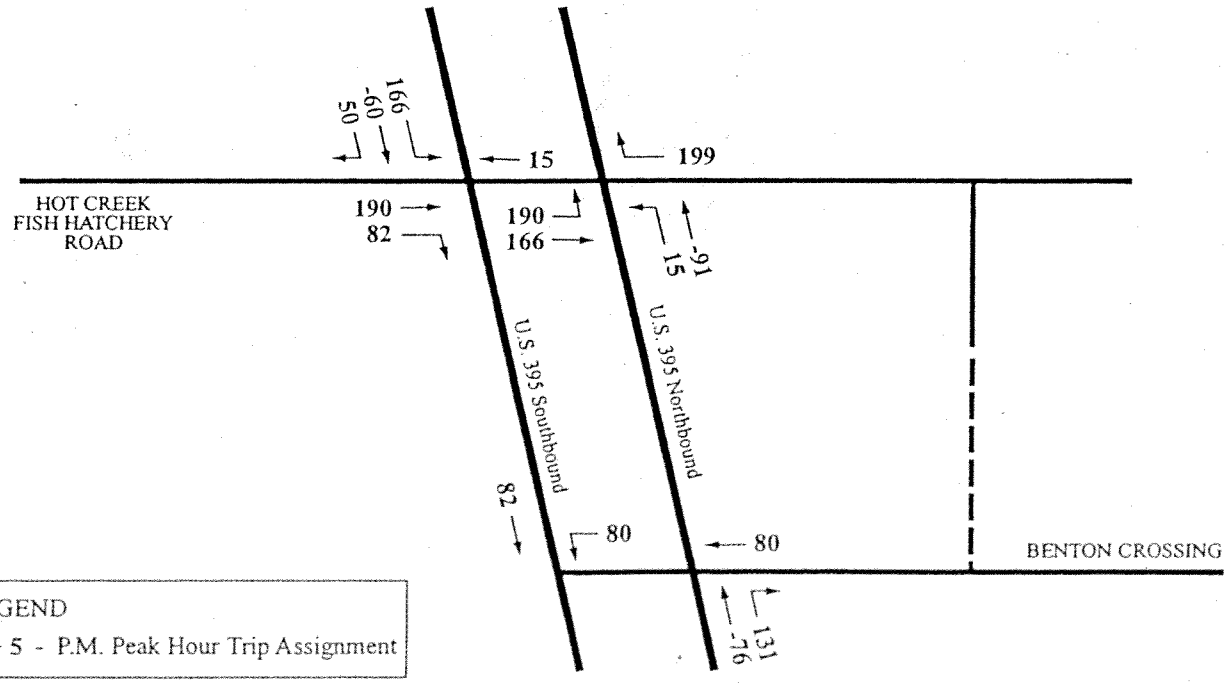
Sierra Business Park Trip Assignment

AIRPORT + HOT CREEK + INDUSTRIAL TRIP ASSIGNMENT



Negative volumes represent diverted trips.

AIRPORT + HOT CREEK + INDUSTRIAL TRIP ASSIGNMENT WITH BENTON CROSSING CONNECTION



Negative volumes represent diverted trips.

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Figure 6

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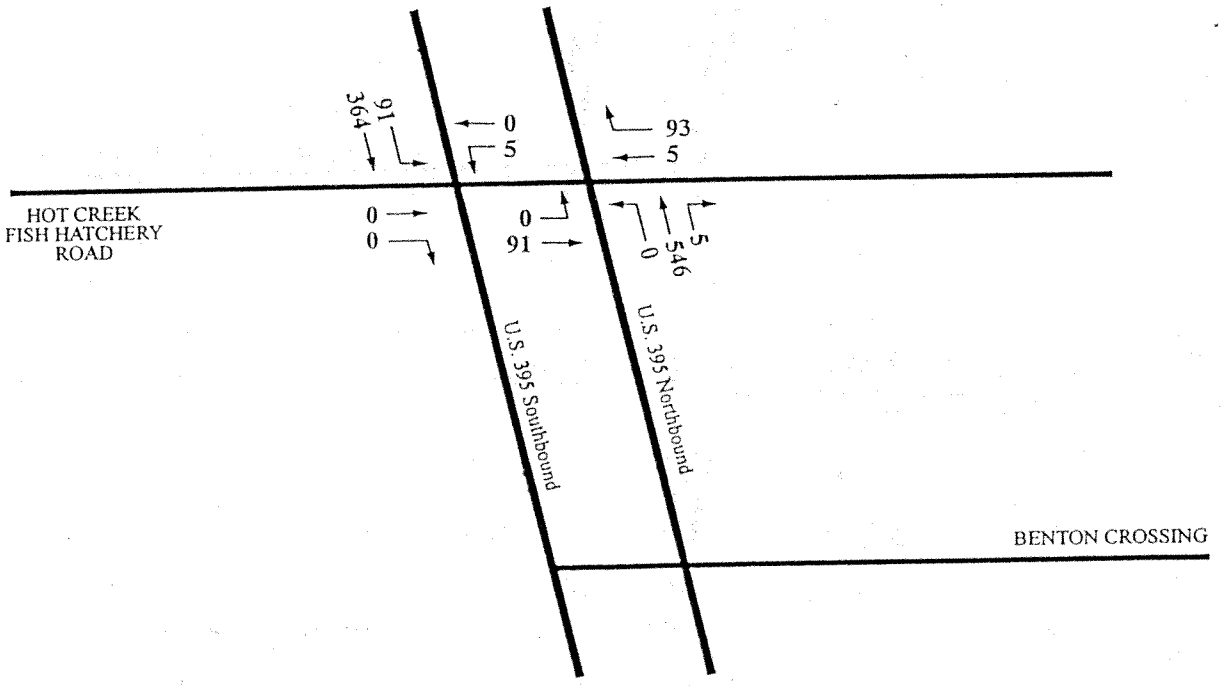
LSA Schematic - Not to Scale

Cumulative Projects Trip Assignment



LEGEND
← 5 - P.M. Peak Hour Lane Volume

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Figure 7

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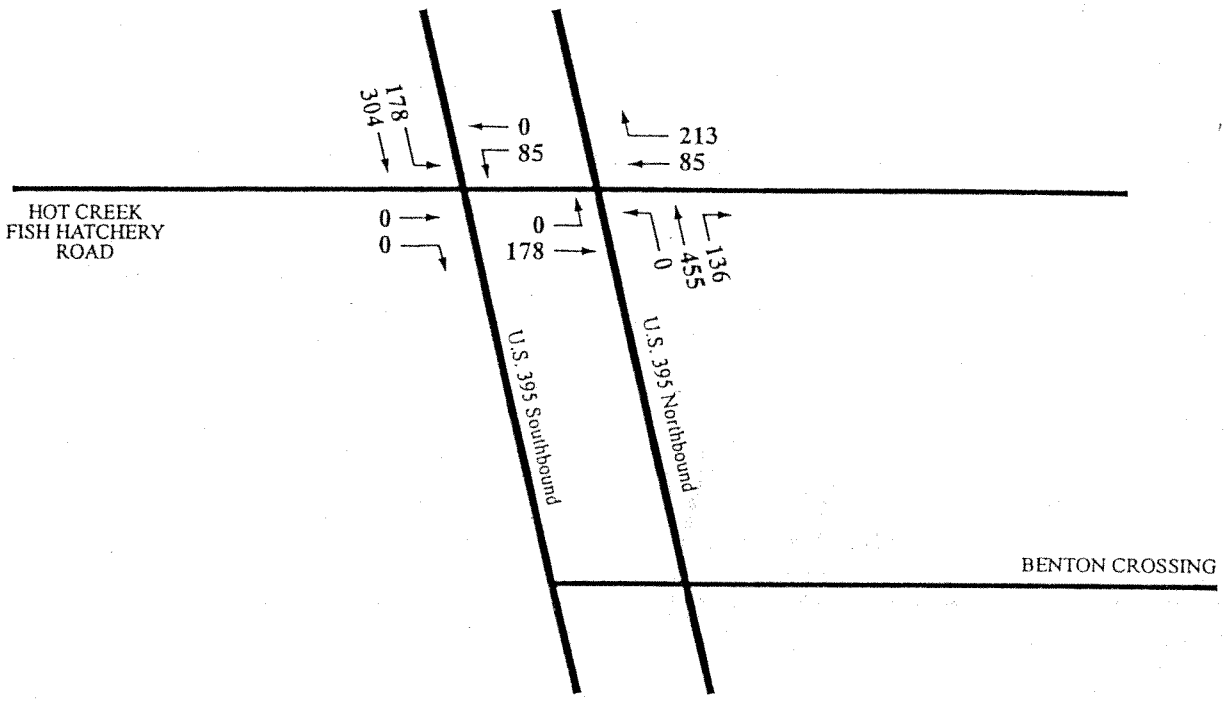
LSA Schematic - Not to Scale

Existing + Airport P.M. Peak Hour Traffic Volumes

EXISTING + AIRPORT + HOT CREEK TRAFFIC VOLUMES



EXISTING + AIRPORT + HOT CREEK TRAFFIC VOLUMES WITH BENTON CROSSING CONNECTION

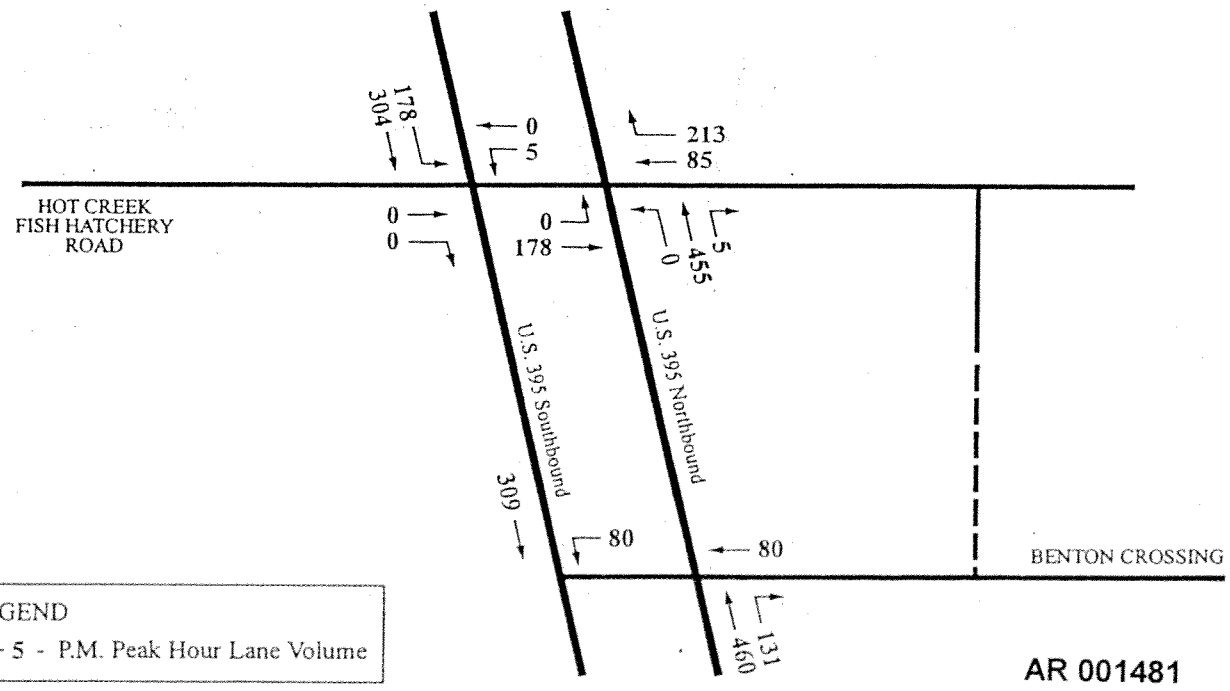


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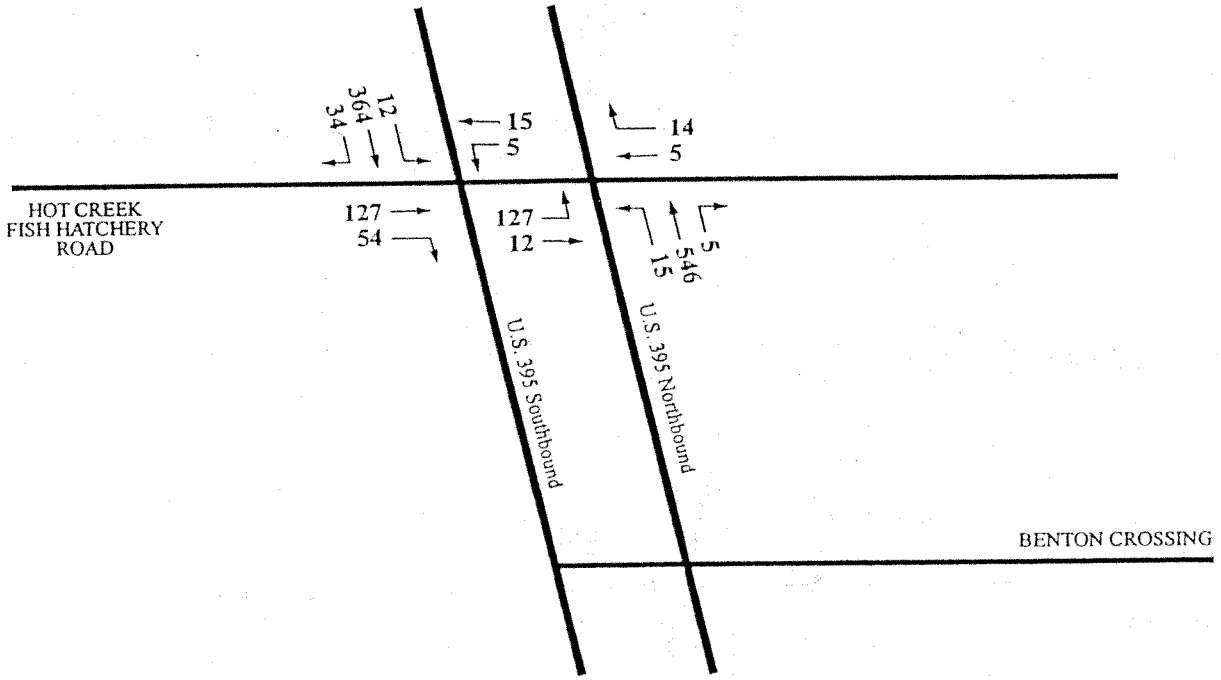
Figure 8

LSA Schematic - Not to Scale

Existing + Airport + Hot Creek
P.M. Peak Hour Traffic Volumes



LEGEND
← 5 - P.M. Peak Hour Lane Volume

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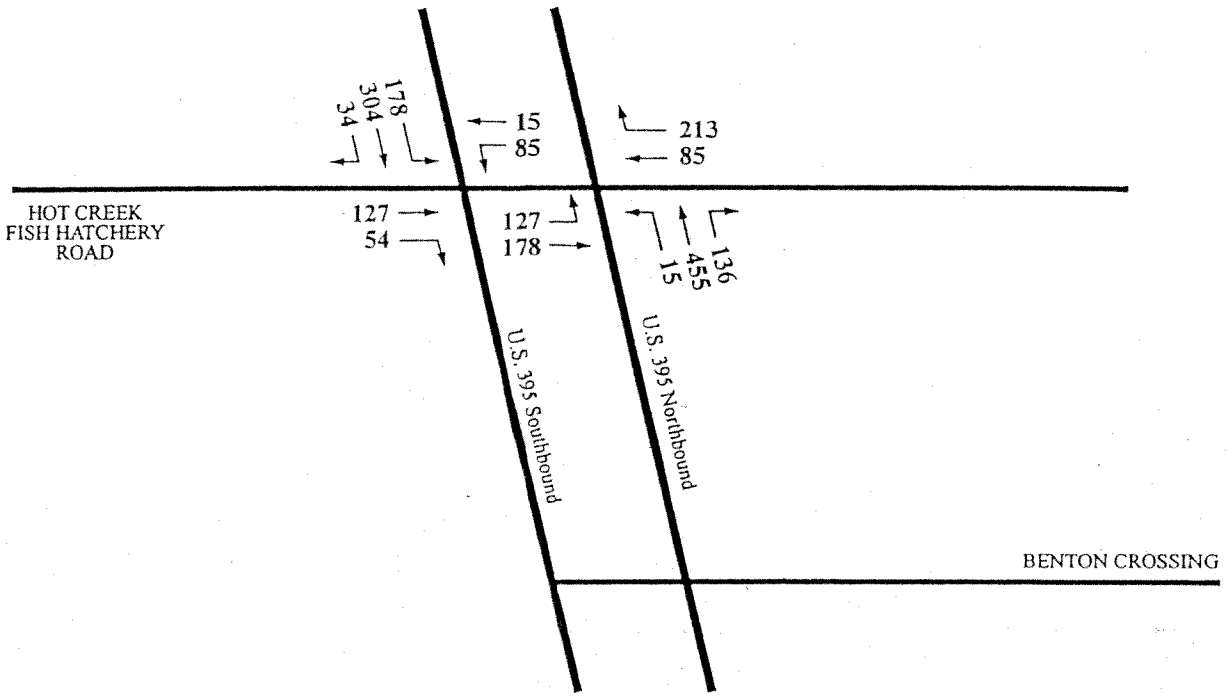
1/28/00(TML030)

Figure 9

LSA Schematic - Not to Scale

Existing + Industrial Park
P.M. Peak Hour Traffic Volumes

EXISTING + AIRPORT + HOT CREEK + INDUSTRIAL PARK TRAFFIC VOLUMES



EXISTING + AIRPORT + HOT CREEK + INDUSTRIAL PARK TRAFFIC VOLUMES WITH BENTON CROSSING CONNECTION

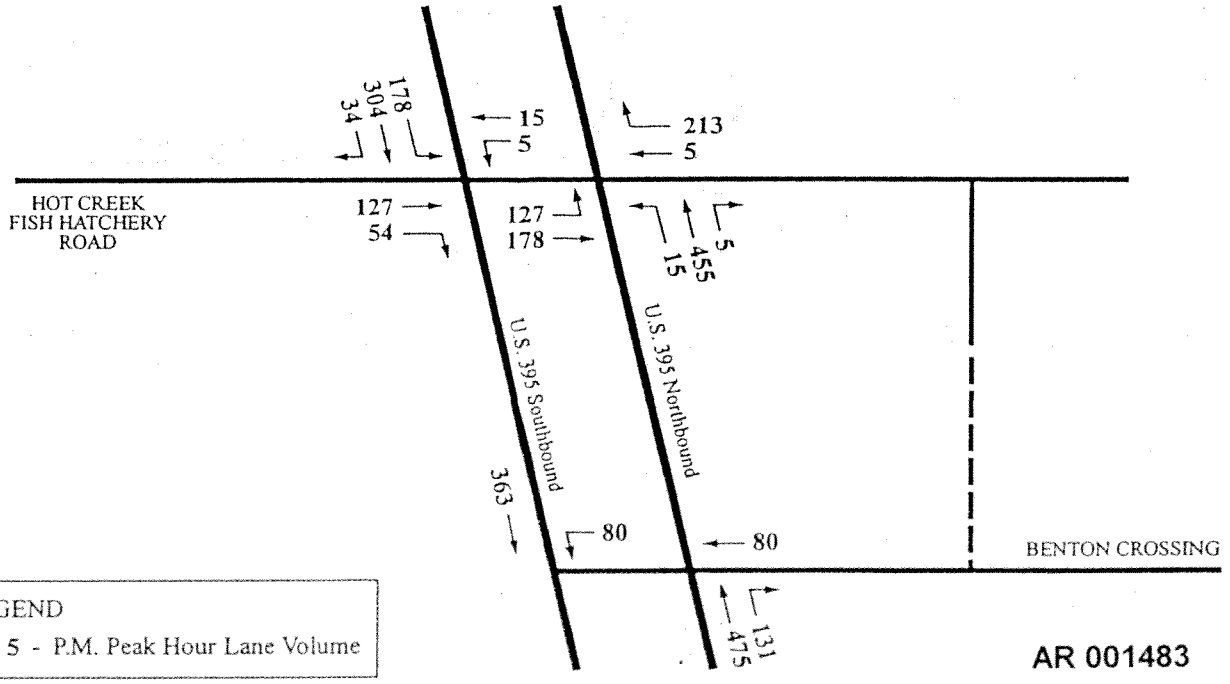


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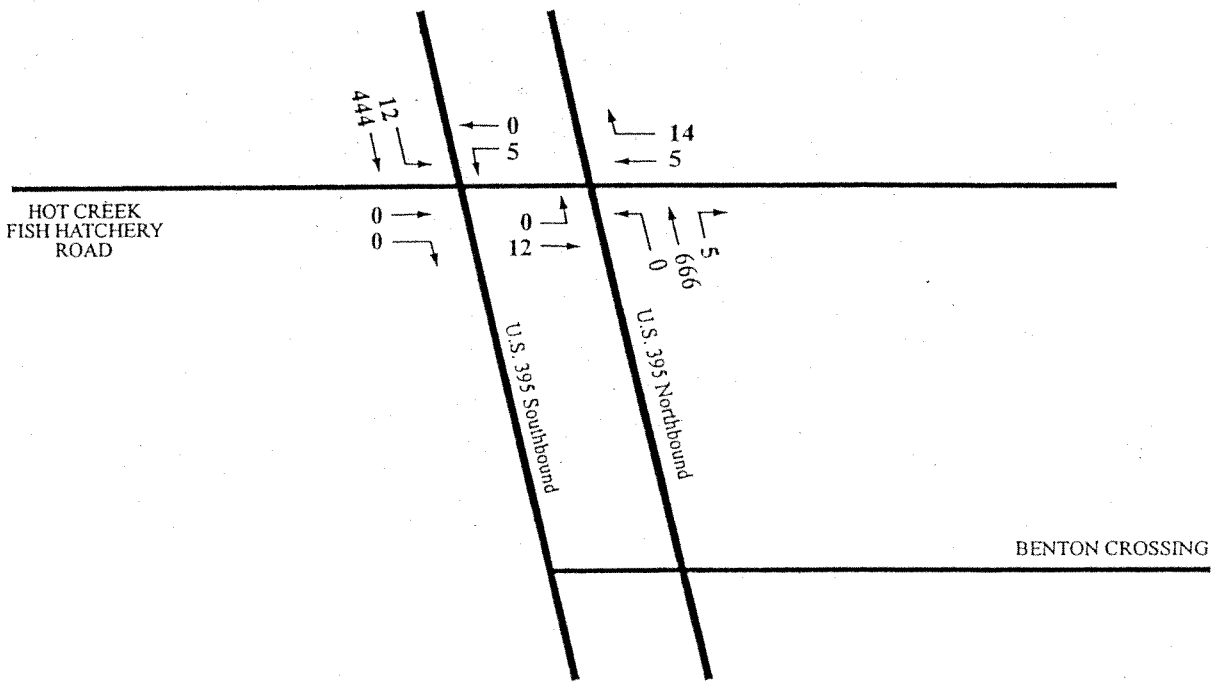
Figure 10

LSA Schematic - Not to Scale

Existing + Airport + Hot Creek + Industrial Park
P.M. Peak Hour Traffic Volumes



LEGEND
← 5 - P.M. Peak Hour Lane Volume

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1/28/00(TML030)

Figure 11

N

LSA Schematic - Not to Scale

Year 2020 Baseline P.M. Peak Hour Traffic Volumes for Typical Winter Conditions

peak hour traffic volumes for a typical winter condition. Existing geometrics were assumed for the 2020 baseline scenario. Table C presents the 2020 baseline intersection levels of service for the northbound and southbound intersections of US-395 at Hot Creek Road. According to the table, the US-395 intersection at Hot Creek Road is forecast to continue to operate with a satisfactory level of service at LOS B (11.6 seconds). Appendix B contains the level of service worksheets.

YEAR 2020 + PROJECT LEVELS OF SERVICE

The 2020 baseline traffic volumes at the US-395/Hot Creek Road intersection (northbound and southbound) were added to the project trip assignments discussed previously, and intersection levels of service were determined for the 2020 + airport expansion; 2020 + airport expansion + Hot Creek resort (with and without connection to Benton Crossing); 2020 + Sierra Business Park; and 2020 + airport expansion + Hot Creek resort + Sierra Business Park (with and without connection to Benton Crossing) scenarios. Figures 12, 13, 14, and 15 illustrate the year 2020 plus project(s) scenarios p.m. peak hour traffic volumes at the US-395/Hot Creek Road intersection. Table C also presents the results of the year 2020 + project(s) level of service analysis, with and without Benton Crossing. Appendix B contains the level of service worksheets.

Based on the level of service analysis results provided in Table C, most of the analysis scenarios are forecast to operate with satisfactory levels of service (LOS D or better) in the cumulative conditions except for the 2020 + airport expansion + Hot Creek resort (without Benton Crossing) + Sierra Business Park scenario. This scenario is forecast to operate at LOS E (37.4 seconds) due to the volume and delay of eastbound left turning vehicles from the Sierra Business Park, and eastbound through traffic volumes destined to the airport and the Hot Creek resort. Mitigation measures are required for this scenario to bring the US-395/Hot Creek Road intersection to LOS D or better.

CONCLUSIONS AND MITIGATION MEASURES

In summary, in the short range (existing conditions) minor mitigation measures are committed for the intersection of US-395/Hot Creek Road as described in the Executive Summary. In the long range (2020) additional mitigation measures are necessary when all three projects are developed without access to Benton Crossing.

Mitigation in the form of restriping the center median lanes to provide separate eastbound and westbound left and through lanes, or constructing a connector road to Benton Crossing from the airport developments, would be required to reduce the impacts and maintain LOS D or better conditions. The resultant LOS in the full project development scenario is shown on Tables A and C.

A minimum nose to nose width of 48 feet in the median is required to provide separate eastbound and westbound left and through lanes. A figure illustrating the median lanes is provided in Appendix E. The costs of either improvement (Benton Crossing access or restriping the center median) should be spread to the contributing projects on a proportionate basis in relation to their respective peak hour trip generation. With either mitigation measure constructed, long-term levels of service for the baseline + airport expansion + Hot Creek Aviation + Sierra Business Park scenarios would operate with satisfactory levels of service (LOS D or better).

Table C - Year 2020 Baseline and Year 2020 Plus Project Intersection Level of Service Summary

Scenario	US-395/Hot Creek Road[1]					
	Intersection Delay/LOS			B/SB Queue Length		B/WB Queue Lengt
	ax Delay	Approach	LOS	ax Queu	ovement	ax Queu ovement
WITH EXISTING CIRCULATION SYSTEM						
Year 2020 Baseline Conditions[4]	11.6 sec.	westboun	B	0.04 veh.	SB-L	0.10 veh. WB-LTR
2020 + Airport	11.6 sec.	westboun	B	0.33 veh.	SB-L	0.54 veh. WB-LTR
2020 + Airport + Hot Creek Resort	22.2 sec.	westboun	C	0.74 veh.	SB-L	4.13 veh. WB-LTR
2020 + Sierra Business Park	16.4 sec.	eastbound	C	0.05 veh.	NB-L	2.00 veh. EB-LTR
2020 + Hot Creek Resort + Airport + Sierra Busines	*>50 sec.*	*eastbound*	*F*	0.74 veh.	SB-L	7.09 veh. EB-LTR
- with Mitigation	*37.8 sec.*	*eastbound*	*E*	0.74 veh.	SB-L	5.07 veh. EB-L
WITH CONNECTION TO BENTON CROSSING[5]						
2020 + Airport + Hot Creek Resort	12.5 sec.	westboun	B	0.65 veh.	SB-L	1.36 veh. WB-LTR
2020 + Airport + Hot Creek Resort + Sierra Busines	*45.3 sec.*	*eastbound*	*E*	0.64 veh.	SB-L	6.18 veh. EB-LTR
- with Mitigation	*33.6 sec.*	*eastbound*	*D*	0.64 veh.	SB-L	4.47 veh. EB-L

Notes:

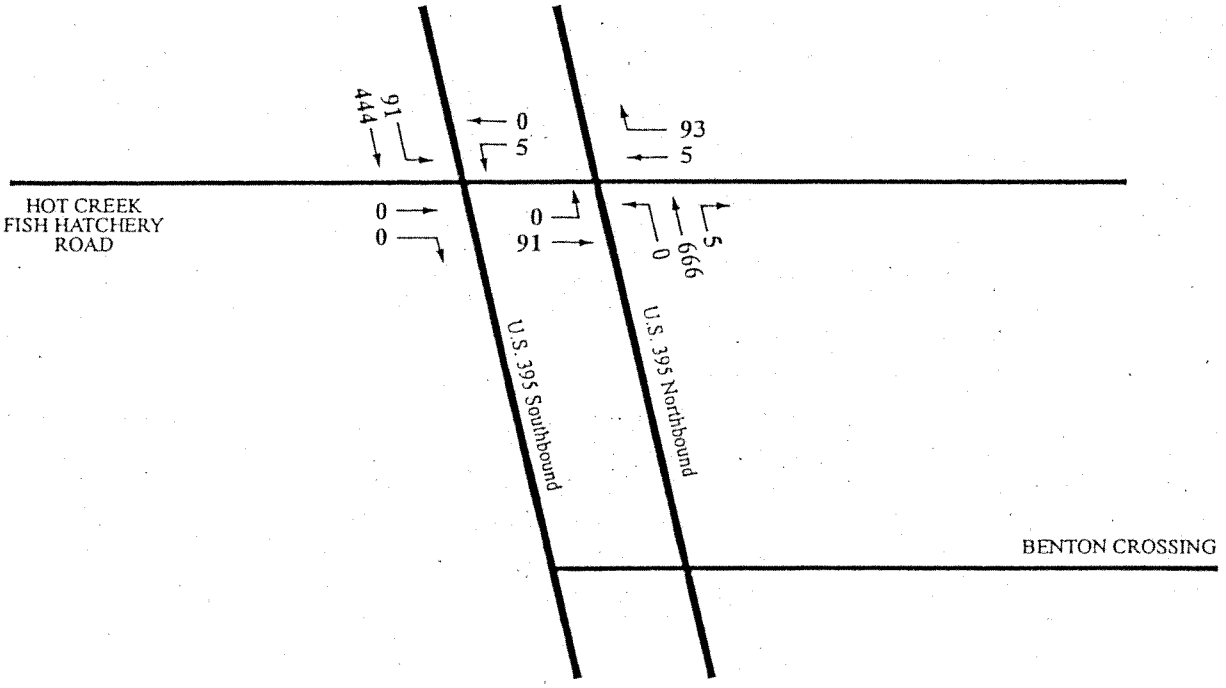
[1] Due to the current intersection configuration, the northbound and southbound approaches on US-395 are separate intersections. However, HCS 2000 software allows for analysis of single intersection with a "two-stage" gap acceptance with 3 vehicles stored

[2] Intersections are analyzed through the Highway Capacity Manual (HCM) 2000 Operations Analysis. Delay is expressed in seconds of average delay per vehicle. LOS = Level of Service. Vehicle queues are expressed in numbers o

[3] SB-L movement consists of vehicles travelling south on US-395 turning left at Hot Creek Road destined to Airport, Hot Creek R EB- and WB-LTR movements consists of vehicles on Hot Creek Fish Hatchery Road destined towards its intersection with US-3

[4] Per Caltrans, District 9, a 1.0% per year growth rate compounded annually was used to determine the 2020 baseline volumes on US-395. This rate constitutes a growth of 22.0% from 2000 to 2020.

[5] A roadway connection to Benton Crossing may be provided with the Hot Creek Aviation and Airport projects.



LEGEND
← 5 - P.M. Peak Hour Lane Volume

AR 001487

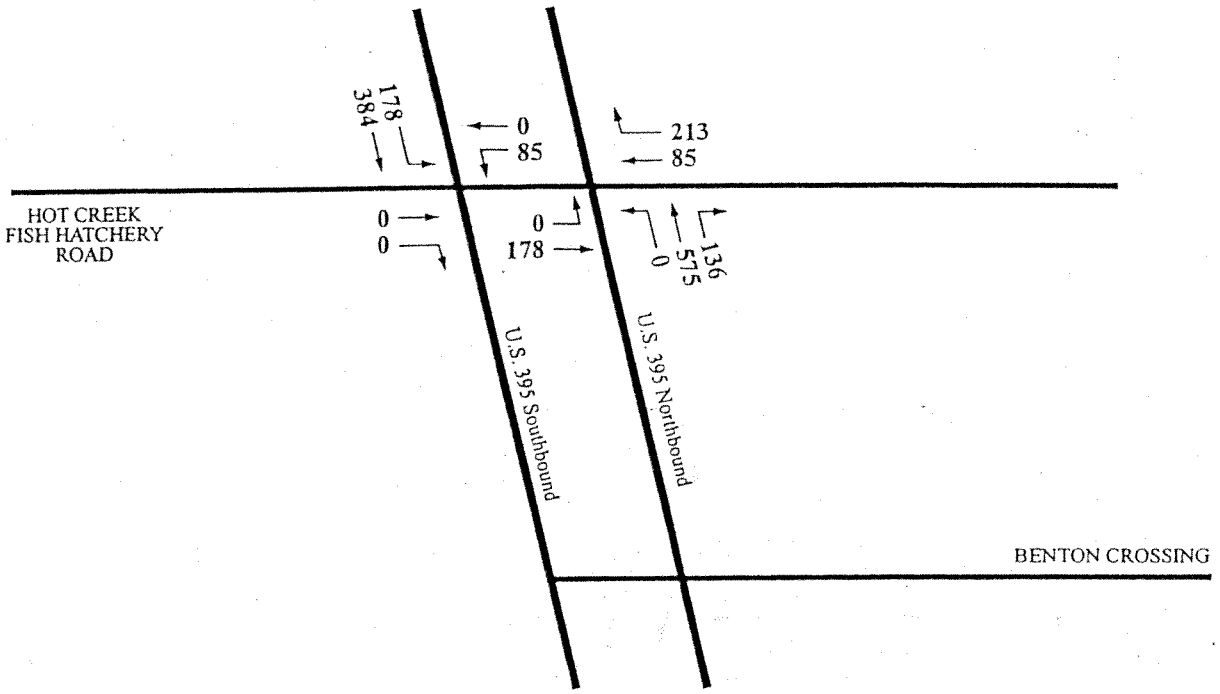
11/28/00(TML030)

Figure 12

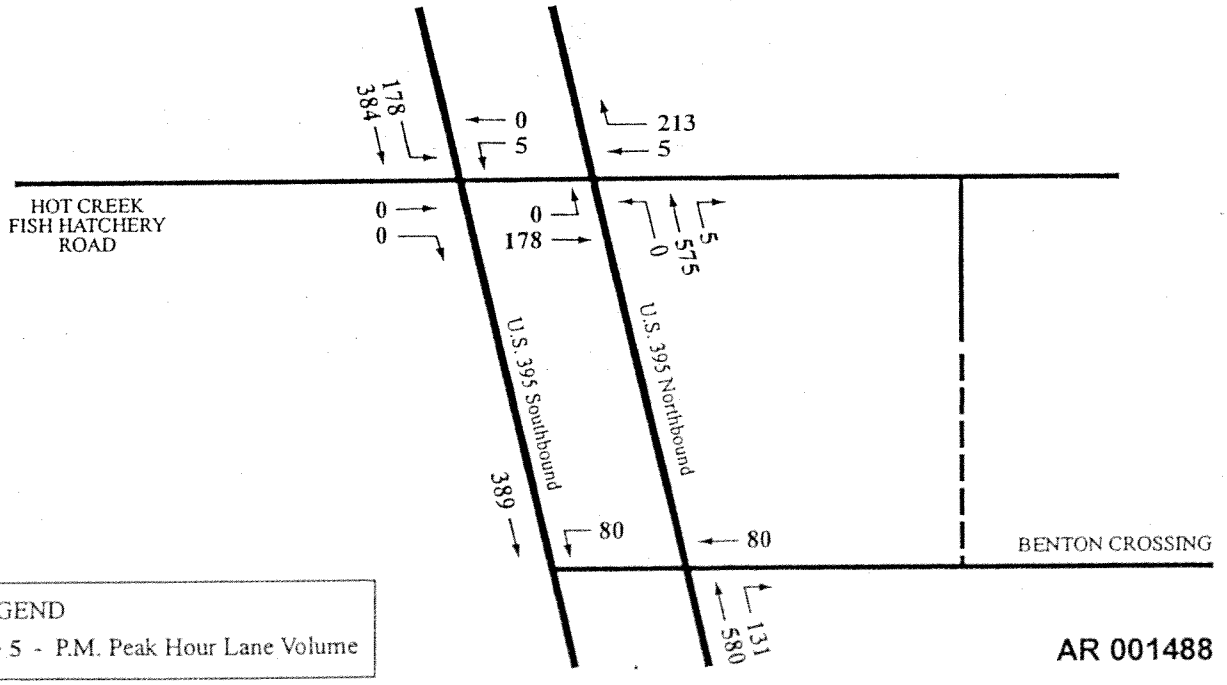
SA Schematic - Not to Scale

Year 2020 + Airport P.M. Peak Hour Traffic Volumes

YEAR 2020 + AIRPORT + HOT CREEK TRAFFIC VOLUMES



YEAR 2020 + AIRPORT + HOT CREEK TRAFFIC VOLUMES
WITH BENTON CROSSING CONNECTION



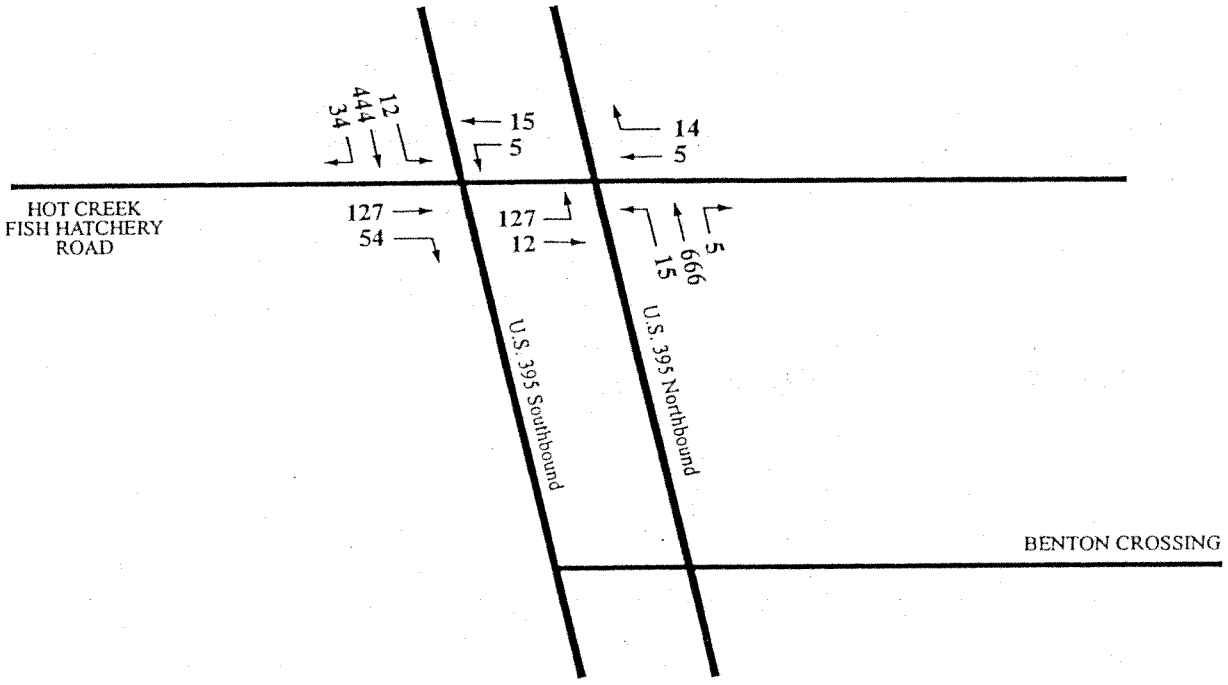
AR 001488

11/28/00(TML030)

Figure 13

LSA Schematic - Not to Scale

Year 2020 + Airport + Hot Creek
P.M. Peak Hour Traffic Volumes



LEGEND
← 5 - P.M. Peak Hour Lane Volume

AR 001489

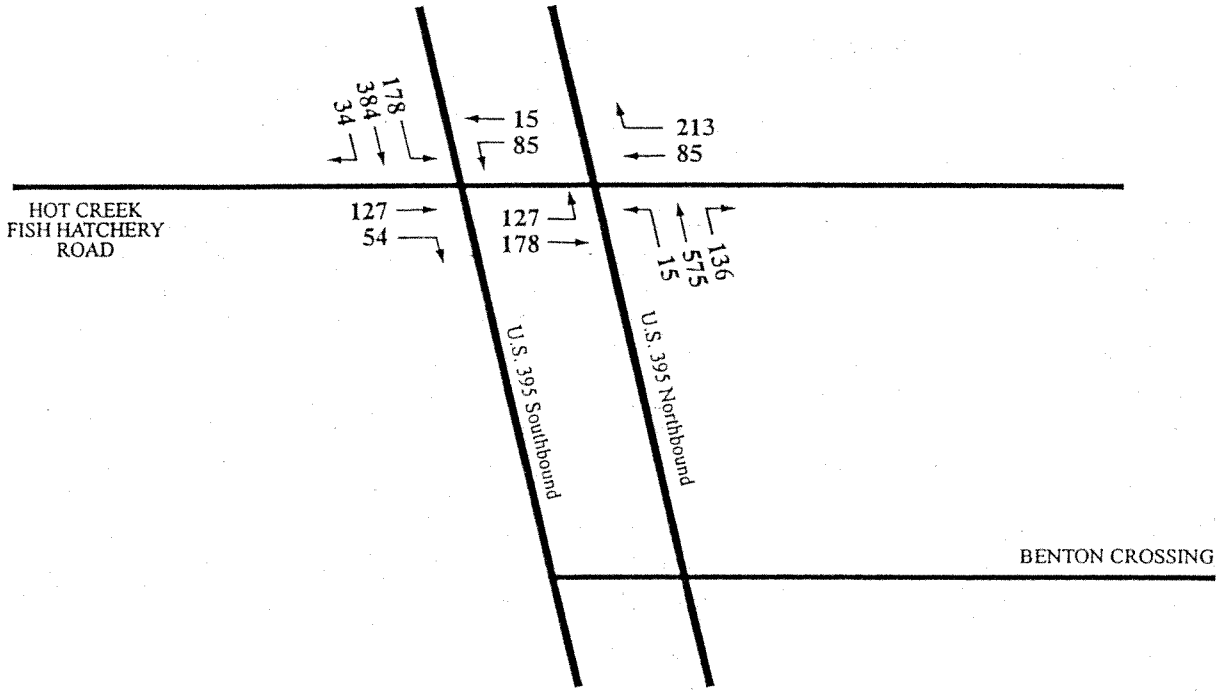
11/28/00(TML030)

Figure 14

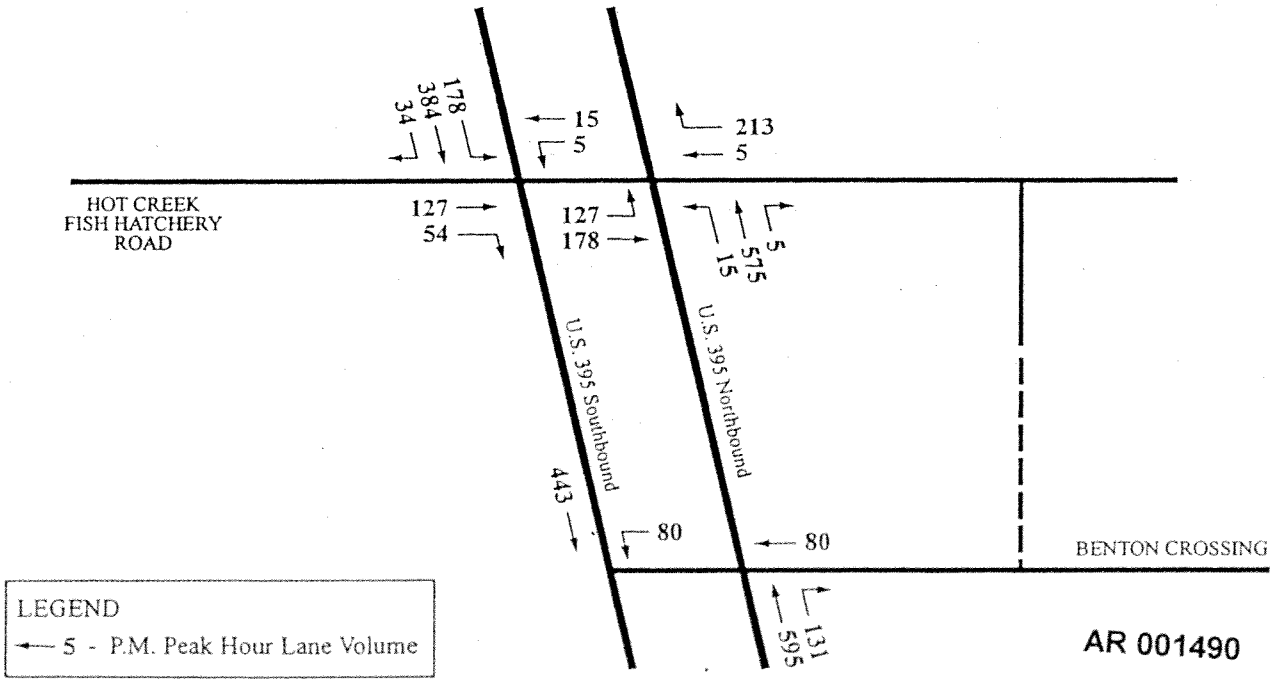
LSA Schematic - Not to Scale

Year 2020 + Industrial Park
P.M. Peak Hour Traffic Volumes

YEAR 2020 + AIRPORT + HOT CREEK + INDUSTRIAL PARK TRAFFIC VOLUMES



YEAR 2020 + AIRPORT + HOT CREEK + INDUSTRIAL PARK TRAFFIC VOLUMES WITH BENTON CROSSING CONNECTION



AR 001490

1/28/00(TML030)

Figure 15

LSA Schematic - Not to Scale

Year 2020 + Airport + Hot Creek + Industrial Park
P.M. Peak Hour Traffic Volumes

The specific phasing and absorption of each cumulative project cannot be reasonably projected at this time and, therefore, specific timing for the implementation of the alternative mitigation measures cannot be specified. However, to provide assurance that adequate LOS is maintained for capacity and safety benefits, an annual monitoring program is recommended.

The annual monitoring reports would begin at the onset of airport expansion and report the traffic counts and LOS at the Hot Creek Fish Hatchery Road intersection with US-395. The objective of the monitoring reports is to implement mitigation measures prior to reaching LOS E. To achieve this, Caltrans project development activities for either mitigation measure would be initiated when LOS D is reached.

It is further recommended that both summer and winter conditions be reported and that the monitoring program objective be aimed at collecting peak and/or design level traffic data.

If the Sierra Business Park is not approved or otherwise is not developed, no mitigation is necessary. In addition, if the Benton Crossing access is constructed prior to being triggered by the monitoring program then the annual report would be suspended.

APPENDIX A

HOT CREEK ROAD TRAFFIC COUNTS

4 to 6 pm
11/14/00

TYPE OF VEH
L or R.

N

S

INTERSECTION

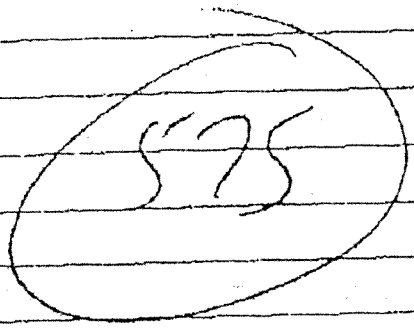
R	Bus
L	CAR
L	CAR
R	CAR
R	TRUCK
L	Bus
L	CAR
L	CAR
L	CAR
L	CAR
L	Bus
R	CAR
R	TRUCK
R	TRUCK
R	TRUCK
R	CAR
R	TRUCK
R	TRUCK
L	CAR
L	CAR
R	CAR
L	TRUCK
R	CAR
R	TRUCK
L	TRUCK
L	CAR
R	CAR

328

Type of VEH
2 DIR

N S

INTERSECTION



R CAR
R CAR
L TRUCK
L TRUCK
L CAR
L BUS
L TRUCK
R TRUCK
R TRUCK
L TRUCK
L TRUCK
R TRUCK
R TRUCK
R TRUCK
R CAR
R CAR
R CAR
R CAR
L CAR
L TRUCK
L TRUCK
R TRUCK
L TRUCK
L CAR

23 R = NORTH
24 L = SOUTH

949-553-8076

APPENDIX B

LEVEL OF SERVICE WORKSHEETS

EXISTING AND EXISTING + PROJECT(S) SCENARIOS

HCS2000: Unsignalized Intersections Release 4.1

TWO-WAY STOP CONTROL SUMMARY

Analyst: Meghan Macias
Agency/Co.: Town of Mammoth Lakes
Date Performed: 8/30/01
Analysis Time Period: PM Peak Hour
Intersection: US395/Hot Creek Road
Jurisdiction: Caltrans
Analysis Year: Existing
Project ID: Mammoth Lakes - Yosemite Valley Airport
East/West Street: Hot Creek Road
North/South Street: US395

Intersection Orientation: NS Study period (hrs): 1.00

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	0	546	5	12	364	
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	
Hourly Flow Rate, HFR	0	546	5	12	364	
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	Raised curb					
RT Channelized?						
Lanes	0	2	0	1	2	
Configuration		LT	TR	L	T	
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	5	0	14	0	0	0
Peak Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR	5	0	14	0	0	0
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)		0			0	
Median Storage 3						
Flared Approach: Exists?		No			No	
Storage						
RT Channelized?						
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LT	L		LTR			LTR	
v (vph)	0	12		19			0	
C(m) (vph)	1206	1029		635			0	
v/c	0.00	0.01		0.03				
95% queue length	0.00	0.04		0.09				
Control Delay	8.0	8.5		10.8				
LOS	A	A		B			F	
Approach Delay				10.8				
Approach LOS				B				

HCS2000: Unsignalized Intersections Release 4.1

TWO-WAY STOP CONTROL SUMMARY

Analyst: Meghan Macias
Agency/Co.: Town of Mammoth Lakes
Date Performed: 8/30/01
Analysis Time Period: PM Peak Hour
Intersection: US395/Hot Creek Road
Jurisdiction: Caltrans
Analysis Year: Existing + Airport
Project ID: Mammoth Lakes - Yosemite Valley Airport
East/West Street: Hot Creek Road
North/South Street: US395

Intersection Orientation: NS Study period (hrs): 1.00

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	0	546	5	91	364	
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	
Hourly Flow Rate, HFR	0	546	5	91	364	
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	Raised curb					
RT Channelized?						
Lanes	0	2	0	1	2	
Configuration		LT	TR	L	T	
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	5	0	93	0	0	0
Peak Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR	5	0	93	0	0	0
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)		0			0	
Median Storage	3					
Flared Approach: Exists?		No			No	
Storage						
RT Channelized?						
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LT	L		LTR			LTR	
v (vph)	0	91		98			0	
C(m) (vph)	1206	1029		703			0	
v/c	0.00	0.09		0.14				
95% queue length	0.00	0.29		0.49				
Control Delay	8.0	8.8		10.9				
LOS	A	A		B			F	
Approach Delay				10.9				
Approach LOS				B				

AR 001498

HCS2000: Unsignalized Intersections Release 4.1

TWO-WAY STOP CONTROL SUMMARY

Analyst:	Meghan Macias
Agency/Co.:	Town of Mammoth Lakes
Date Performed:	8/30/01
Analysis Time Period:	PM Peak Hour
Intersection:	US395/Hot Creek Road
Jurisdiction:	Caltrans
Analysis Year:	Existing + Airport + Hot Creek
Project ID:	Mammoth Lakes - Yosemite Valley Airport
East/West Street:	Hot Creek Road
North/South Street:	US395

Intersection Orientation: NS Study period (hrs): 1.00

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	0	455	136	178	304	
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	
Hourly Flow Rate, HFR	0	455	136	178	304	
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	Raised curb					
RT Channelized?						
Lanes	0	2	0	1	2	
Configuration		LT	TR	L	T	
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	85	0	213	0	0	0
Peak Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR	85	0	213	0	0	0
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)		0			0	
Median Storage	3					
Flared Approach: Exists?		No			No	
Storage						
RT Channelized?						
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LT	L		LTR			LTR	
v (vph)	0	178		298			0	
C(m) (vph)	1268	995		563			0	
v/c	0.00	0.18		0.53				
95% queue length	0.00	0.65		3.29				
Control Delay	7.8	9.4		18.5				
LOS	A	A		C			F	
Approach Delay				18.5				
Approach LOS				C				

AR 001499

HCS2000: Unsignalized Intersections Release 4.1

TWO-WAY STOP CONTROL SUMMARY

Analyst: Meghan Macias
Agency/Co.: Town of Mammoth Lakes
Date Performed: 8/30/01
Analysis Time Period: PM Peak Hour
Intersection: US395/Hot Creek Road
Jurisdiction: Caltrans
Analysis Year: Existing + Industrial
Project ID: Mammoth Lakes - Yosemite Valley Airport
East/West Street: Hot Creek Road
North/South Street: US395

Intersection Orientation: NS Study period (hrs): 1.00

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	15	546	5	12	364	34
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR	15	546	5	12	364	34
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	Raised curb					
RT Channelized?						
Lanes	1	2	0	1	2	0
Configuration	L	T	TR	L	T	TR
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	5	15	14	127	12	54
Peak Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR	5	15	14	127	12	54
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)		0			0	
Median Storage 3						
Flared Approach: Exists?		No			No	
Storage						
RT Channelized?						
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	L	L		LTR			LTR	
v (vph)	15	12		34			193	
C(m) (vph)	1172	1029		525			566	
v/c	0.01	0.01		0.06			0.34	
95% queue length	0.04	0.04		0.21			1.54	
Control Delay	8.1	8.5		12.3			14.6	
LOS	A	A		B			B	
Approach Delay				12.3			14.6	
Approach LOS				B			B	

AR 001500

HCS2000: Unsignalized Intersections Release 4.1

TWO-WAY STOP CONTROL SUMMARY

Analyst: Meghan Macias
Agency/Co.: Town of Mammoth Lakes
Date Performed: 8/30/01
Analysis Time Period: PM Peak Hour
Intersection: US395/Hot Creek Road
Jurisdiction: Caltrans
Analysis Year: Exist+Airprt+HotCrk+Industrial
Project ID: Mammoth Lakes - Yosemite Valley Airport
East/West Street: Hot Creek Road
North/South Street: US395

Intersection Orientation: NS Study period (hrs): 1.00

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	15	455	136	178	304	34
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR	15	455	136	178	304	34
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	Raised curb					
RT Channelized?						
Lanes	1	2	0	1	2	0
Configuration	L	T	TR	L	T	TR
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	85	0	213	127	0	54
Peak Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR	85	0	213	127	0	54
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)		0			0	
Median Storage	3					
Flared Approach: Exists?		No			No	
Storage						
RT Channelized?						
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	L	L		LTR			LTR	
v (vph)	15	178		298			181	
C(m) (vph)	1232	995		541			342	
v/c	0.01	0.18		0.55			0.53	
95% queue length	0.04	0.65		3.57			3.24	
Control Delay	8.0	9.4		19.7			27.2	
LOS	A	A		C			D	
Approach Delay				19.7			27.2	
Approach LOS				C			D	

HCS2000: Unsignalized Intersections Release 4.1

TWO-WAY STOP CONTROL SUMMARY

Analyst: Meghan Macias
Agency/Co.: Town of Mammoth Lakes
Date Performed: 8/30/01
Analysis Time Period: PM Peak Hour
Intersection: US395/Hot Creek Road
Jurisdiction: Caltrans
Analysis Year: Exstng+Airprt+HotCrk w/Benton
Project ID: Mammoth Lakes - Yosemite Valley Airport
East/West Street: Hot Creek Road
North/South Street: US395

Intersection Orientation: NS Study period (hrs): 1.00

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	0	455	5	178	304	
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	
Hourly Flow Rate, HFR	0	455	5	178	304	
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	Raised curb					
RT Channelized?						
Lanes	0	2	0	1	2	
Configuration		LT	TR	L	T	
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	5	0	213	0	0	0
Peak Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR	5	0	213	0	0	0
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)		0			0	
Median Storage	3					
Flared Approach: Exists?		No			No	
Storage						
RT Channelized?						
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LT	L		LTR			LTR	
v (vph)	0	178		218			0	
C(m) (vph)	1268	1112		762			0	
v/c	0.00	0.16		0.29				
95% queue length	0.00	0.57		1.20				
Control Delay	7.8	8.9		11.6				
LOS	A	A		B			F	
Approach Delay				11.6				
Approach LOS				B				

AR 001502

HCS2000: Unsignalized Intersections Release 4.1

TWO-WAY STOP CONTROL SUMMARY

Analyst:	Meghan Macias
Agency/Co.:	Town of Mammoth Lakes
Date Performed:	8/30/01
Analysis Time Period:	PM Peak Hour
Intersection:	US395/Hot Creek Road
Jurisdiction:	Caltrans
Analysis Year:	Exstng+Airprt+HtCrk+Ind w/Bntn
Project ID:	Mammoth Lakes - Yosemite Valley Airport
East/West Street:	Hot Creek Road
North/South Street:	US395

Intersection Orientation: NS Study period (hrs): 1.00

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	15	455	5	178	304	34
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR	15	455	5	178	304	34
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	Raised curb					
RT Channelized?						
Lanes	1	2	0	1	2	0
Configuration	L	T	TR	L	T	TR
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	5	0	213	127	0	54
Peak Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR	5	0	213	127	0	54
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)		0			0	
Median Storage	3					
Flared Approach: Exists?		No			No	
Storage						
RT Channelized?						
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	L	L		LTR			LTR	
v (vph)	15	178		218			181	
C(m) (vph)	1232	1112		758			357	
v/c	0.01	0.16		0.29			0.51	
95% queue length	0.04	0.57		1.21			2.98	
Control Delay	8.0	8.9		11.7			25.3	
LOS	A	A		B			D	
Approach Delay				11.7			25.3	
Approach LOS				B			D	

YEAR 2020 AND YEAR 2020 + PROJECT(S) SCENARIOS

HCS2000: Unsignalized Intersections Release 4.1

TWO-WAY STOP CONTROL SUMMARY

Analyst:	Meghan Macias
Agency/Co.:	Town of Mammoth Lakes
Date Performed:	8/30/01
Analysis Time Period:	PM Peak Hour
Intersection:	US395/Hot Creek Road
Jurisdiction:	Caltrans
Analysis Year:	2020 Baseline
Project ID:	Mammoth Lakes - Yosemite Valley Airport
East/West Street:	Hot Creek Road
North/South Street:	US395

Intersection Orientation: NS Study period (hrs): 1.00

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1 L	2 T	3 R	4 L	5 T	6 R
Volume	0	666	5	12	444	
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	
Hourly Flow Rate, HFR	0	666	5	12	444	
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	Raised curb					
RT Channelized?						
Lanes	0	2	0		1	2
Configuration		LT	TR		L	T
Upstream Signal?		No				No

Minor Street: Approach	Westbound			Eastbound		
Movement	7 L	8 T	9 R	10 L	11 T	12 R
Volume	5	0	14	0	0	0
Peak Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR	5	0	14	0	0	0
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)		0			0	
Median Storage Exists?	3	No			No	
Flared Approach: Storage						
RT Channelized?						
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LT	L		LTR			LTR	
v (vph)	0	12		19			0	
C(m) (vph)	1127	929		566			0	
v/c	0.00	0.01		0.03				
95% queue length	0.00	0.04		0.10				
Control Delay	8.2	8.9		11.6			F	
LOS	A	A		B				
Approach Delay				11.6				
Approach LOS				B				

AR 001505

HCS2000: Unsignalized Intersections Release 4.1

TWO-WAY STOP CONTROL SUMMARY

Analyst: Meghan Macias
Agency/Co.: Town of Mammoth Lakes
Date Performed: 8/30/01
Analysis Time Period: PM Peak Hour
Intersection: US395/Hot Creek Road
Jurisdiction: Caltrans
Analysis Year: 2020 + Airport
Project ID: Mammoth Lakes - Yosemite Valley Airport
East/West Street: Hot Creek Road
North/South Street: US395

Intersection Orientation: NS Study period (hrs): 1.00

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	0	666	5	91	444	
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	
Hourly Flow Rate, HFR	0	666	5	91	444	
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	Raised curb					
RT Channelized?						
Lanes	0	2	0	1	2	
Configuration		LT	TR	L	T	
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	5	0	93	0	0	0
Peak Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR	5	0	93	0	0	0
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)		0			0	
Median Storage	3					
Flared Approach: Exists?		No			No	
Storage						
RT Channelized?						
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LT	L		LTR			LTR	
v (vph)	0	91		98			0	
C(m) (vph)	1127	929		640			0	
v/c	0.00	0.10		0.15				
95% queue length	0.00	0.33		0.54				
Control Delay	8.2	9.3		11.6				
LOS	A	A		B			F	
Approach Delay				11.6				
Approach LOS				B				

AR 001506

HCS2000: Unsignalized Intersections Release 4.1

TWO-WAY STOP CONTROL SUMMARY

Analyst:	Meghan Macias
Agency/Co.:	Town of Mammoth Lakes
Date Performed:	8/30/01
Analysis Time Period:	PM Peak Hour
Intersection:	US395/Hot Creek Road
Jurisdiction:	Caltrans
Analysis Year:	2020 + Airport + Hot Creek
Project ID:	Mammoth Lakes - Yosemite Valley Airport
East/West Street:	Hot Creek Road
North/South Street:	US395

Intersection Orientation: NS Study period (hrs): 1.00

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1 L	2 T	3 R	4 L	5 T	6 R
Volume	0	575	136	178	384	
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	
Hourly Flow Rate, HFR	0	575	136	178	384	
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	Raised curb					
RT Channelized?			0			1
Lanes	0	2	0			2
Configuration		LT	TR			L T
Upstream Signal?		No				No

Minor Street: Approach	Westbound			Eastbound		
Movement	7 L	8 T	9 R	10 L	11 T	12 R
Volume	85	0	213	0	0	0
Peak Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR	85	0	213	0	0	0
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)		0			0	
Median Storage	3					
Flared Approach: Exists?		No			No	
Storage						
RT Channelized?			0			0
Lanes	0	1	0		1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LT	L		LTR			LTR	
v (vph)	0	178		298			0	
C(m) (vph)	1186	898		506			0	
v/c	0.00	0.20		0.59				
95% queue length	0.00	0.74		4.13				
Control Delay	8.0	10.0-		22.2			F	
LOS	A	A		C				
Approach Delay				22.2				
Approach LOS				C				

HCS2000: Unsignalized Intersections Release 4.1

TWO-WAY STOP CONTROL SUMMARY

Analyst: Meghan Macias
Agency/Co.: Town of Mammoth Lakes
Date Performed: 8/30/01
Analysis Time Period: PM Peak Hour
Intersection: US395/Hot Creek Road
Jurisdiction: Caltrans
Analysis Year: 2020 + Industrial
Project ID: Mammoth Lakes - Yosemite Valley Airport
East/West Street: Hot Creek Road
North/South Street: US395

Intersection Orientation: NS Study period (hrs): 1.00

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	15	666	5	12	444	34
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR	15	666	5	12	444	34
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	Raised curb					
RT Channelized?						
Lanes	1	2	0	1	2	0
Configuration	L	T	TR	L	T	TR
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	5	15	14	127	12	54
Peak Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR	5	15	14	127	12	54
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)		0			0	
Median Storage	3					
Flared Approach: Exists?		No			No	
Storage						
RT Channelized?						
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	L	L		LTR			LTR	
v (vph)	15	12		34			193	
C(m) (vph)	1095	929		464			507	
v/c	0.01	0.01		0.07			0.38	
95% queue length	0.04	0.04		0.24			1.82	
Control Delay	8.3	8.9		13.4			16.4	
LOS	A	A		B			C	
Approach Delay				13.4			16.4	
Approach LOS				B			C	

AR 001508

HCS2000: Unsignalized Intersections Release 4.1

TWO-WAY STOP CONTROL SUMMARY

Analyst:	Meghan Macias
Agency/Co.:	Town of Mammoth Lakes
Date Performed:	8/30/01
Analysis Time Period:	PM Peak Hour
Intersection:	US395/Hot Creek Road
Jurisdiction:	Caltrans
Analysis Year:	2020+Airprt+HotCrk+Industrial
Project ID:	Mammoth Lakes - Yosemite Valley Airport
East/West Street:	Hot Creek Road
North/South Street:	US395

Intersection Orientation: NS Study period (hrs): 1.00

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	15	575	136	178	384	34
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR	15	575	136	178	384	34
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	Raised curb					
RT Channelized?						
Lanes	1	2	0	1	2	0
Configuration	L	T	TR	L	T	TR
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	85	0	213	127	0	54
Peak Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR	85	0	213	127	0	54
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)		0			0	
Median Storage	3					
Flared Approach: Exists?		No			No	
Storage						
RT Channelized?						
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	L	L		LTR			LTR	
v (vph)	15	178		298			181	
C(m) (vph)	1152	898		486			290	
v/c	0.01	0.20		0.61			0.62	
95% queue length	0.04	0.74		4.54			4.59	
Control Delay	8.2	10.0		24.0			37.4	
LOS	A	A		C			E	
Approach Delay				24.0			37.4	
Approach LOS				C			E	

AR 001509

HCS2000: Unsignalized Intersections Release 4.1

TWO-WAY STOP CONTROL SUMMARY

Analyst: Meghan Macias
Agency/Co.: Town of Mammoth Lakes
Date Performed: 8/30/01
Analysis Time Period: PM Peak Hour
Intersection: US395/Hot Creek Road
Jurisdiction: Caltrans
Analysis Year: 2020+Airport+HotCrk+Ind w/ MIT
Project ID: Hot Creek Aviation Mixed-Use Development
East/West Street: Hot Creek Road
North/South Street: US395

Intersection Orientation: NS Study period (hrs): 1.00

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	15	575	136	178	384	34
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR	15	575	136	178	384	34
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	Raised curb					
RT Channelized?						
Lanes	1	2	0	1	2	0
Configuration	L	T	TR	L	T	TR
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	85	0	213	127	0	54
Peak Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR	85	0	213	127	0	54
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)		0			0	
Median Storage 3						
Flared Approach: Exists?		No			No	
Storage						
RT Channelized?						
Lanes	1	1	0	1	1	0
Configuration	L		TR	L		TR

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	L	L	L		TR	L		TR
v (vph)	15	178	85		213	127		54
C(m) (vph)	1152	898	300		646	228		803
v/c	0.01	0.20	0.28		0.33	0.56		0.07
95% queue length	0.04	0.74	1.17		1.47	3.53		0.22
Control Delay	8.2	10.0-	21.7		13.3	40.2		9.8
LOS	A	A	C		B	E		A
Approach Delay			15.7			31.1		
Approach LOS			C			D		

AR 001510

HCS2000: Unsignalized Intersections Release 4.1

TWO-WAY STOP CONTROL SUMMARY

Analyst:	Meghan Macias
Agency/Co.:	Town of Mammoth Lakes
Date Performed:	8/30/01
Analysis Time Period:	PM Peak Hour
Intersection:	US395/Hot Creek Road
Jurisdiction:	Caltrans
Analysis Year:	2020+Airprt+HotCrk w/Benton
Project ID:	Mammoth Lakes - Yosemite Valley Airport
East/West Street:	Hot Creek Road
North/South Street:	US395

Intersection Orientation: NS Study period (hrs): 1.00

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	0	575	5	178	384	
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	
Hourly Flow Rate, HFR	0	575	5	178	384	
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	Raised curb					
RT Channelized?						
Lanes	0	2	0	1	2	
Configuration		LT	TR	L	T	
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	5	0	213	0	0	0
Peak Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR	5	0	213	0	0	0
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)		0			0	
Median Storage	3					
Flared Approach: Exists?		No			No	
Storage						
RT Channelized?						
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LT	L		LTR			LTR	
v (vph)	0	178		218			0	
C(m) (vph)	1186	1004		696			0	
v/c	0.00	0.18		0.31				
95% queue length	0.00	0.65		1.36				
Control Delay	8.0	9.4		12.5			F	
LOS	A	A		B				
Approach Delay				12.5				
Approach LOS				B				

AR 001511

HCS2000: Unsignalized Intersections Release 4.1

TWO-WAY STOP CONTROL SUMMARY

Analyst:	Meghan Macias
Agency/Co.:	Town of Mammoth Lakes
Date Performed:	8/30/01
Analysis Time Period:	PM Peak Hour
Intersection:	US395/Hot Creek Road
Jurisdiction:	Caltrans
Analysis Year:	2020+Airprt+HtCrk+Ind w/Bntn
Project ID:	Mammoth Lakes - Yosemite Valley Airport
East/West Street:	Hot Creek Road
North/South Street:	US395

Intersection Orientation: NS Study period (hrs): 1.00

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	15	575	5	178	384	34
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR	15	575	5	178	384	34
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	Raised curb					
RT Channelized?						
Lanes	1	2	0	1	2	0
Configuration	L	T	TR	L	T	TR
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	5	0	213	127	0	54
Peak Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR	5	0	213	127	0	54
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)		0			0	
Median Storage	3					
Flared Approach: Exists?		No			No	
Storage						
RT Channelized?						
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	L	L		LTR			LTR	
v (vph)	15	178		218			181	
C(m) (vph)	1152	1004		693			303	
v/c	0.01	0.18		0.31			0.60	
95% queue length	0.04	0.65		1.37			4.17	
Control Delay	8.2	9.4		12.6			34.1	
LOS	A	A		B			D	
Approach Delay				12.6			34.1	
Approach LOS				B			D	

APPENDIX C

AIRPORT TRIP GENERATION

Les Card

From: John Bergener [J_Bergener@Ricondo.com]
Sent: Thursday, November 16, 2000 4:41 PM
To: les.card@lsa-assoc.com
Subject: [Fwd: MMH Trip Generation]

MMH_GT3.xls

-------- Original Message --------
Subject: MMH Trip Generation
Date: Thu, 16 Nov 2000 16:18:02 -0800
From: John Bergener <J_Bergener@Ricondo.com>
Reply-To: J_Bergener@Ricondo.com
Organization: Ricondo & Associates, Inc.
To: les.card@lsa-oc.com
CC: T_Cornell@ricondo.com

Vehicle trip generation numbers as we discussed.
--
John Bergener
Ricondo & Associates, Inc.
221 Main St. Suite 1460
San Francisco, CA 94105
Phone: (415) 547-1930
FAX: (415) 547-1940
_Bergener@Ricondo.com

	Vehicle trip generation at MMH (Winter)				
	PAL 1		PAL 5 (year 2020)		
	Airport peak hour (12-1 p.m.)	Daily	Airport peak hour (12-1 p.m.)	Traffic peak period (4-6 p.m.)	Daily
Passengers					
Arriving	249	351	452	252	1,380
Departing	254	351	294	260	1,380
Vehicles					
Buses	7	10	11	7	41
Shuttle vans	7	10	10	7	37
Rental cars	32	45	51	33	189
Private vehicles, parking	11	15	18	12	67
Private vehicles, dropoff/pickup	20	28	31	20	115
Total Vehicle Trips [a]	77	108	121	79	449

(a) One vehicle trip equals one round trip from the town of Mammoth Lakes, CA to the Mammoth Lakes-Yosemite Valley Airport and back to the town of Mammoth Lakes, CA.

APPENDIX D

TSE REVISED TRIP GENERATION AND TRIP ASSIGNMENT

TRAFFIC SAFETY ENGINEERS

November 27, 2000

Ms. Sandra Bauer
Bauer Environmental Services
15901 Red Hill Avenue, Suite 210
Irvine, CA 92614

Subject: Sierra Business Park Specific Plan

Dear Ms. Bauer:

In response to Caltrans' letter of comments dated November 8, 2000 for the subject development, our responses to the specific traffic comments are as follows:

1. Comment: Based on our preliminary review of the submitted traffic analysis, we do not agree with the conclusions for the full buildout because of other developments within this vicinity.

   Response: In conjunction with the future Mammoth Lakes/ Yosemite Airport Expansion Plan, the Hot Creek Aviation Mixed-use Development is also proposed. This development is to be located immediately adjacent to the airport. Anticipated site uses include a 24-fuel pump gasoline/service station with convenience market, 188 units of high-density residential/lodging, a 62-room hotel, a 100-campsite recreational park and a 100-seat restaurant. The Airport Expansion Plan and the Hot Creek Aviation Mixed-use Project are the only two known significant developments within the vicinity of the proposed Sierra Business Park Project.

   According to LSA's traffic impact study, both the Airport Expansion and Hot Creek Mixed-use Developments will generate a total of 3,688 daily trips and 504 trips during the P.M. peak traffic hour (see Exhibit "A"). Figure 1 shows the project trips assigned to the intersection of Highway 395 and Hot Creek Fish Hatchery Road.

3100 MARYWOOD DR. ORANGE, CA 92867 (714) 974-7863 FAX (714) 974-1043

2. Comment: A thorough traffic intersection operation study needs to be completed to assess the potential impacts to and remediation measures required for U.S. Highway 395.

Response: Figure 2 shows the existing P.M. peak hour traffic turning movements at the intersection of Highway 395 and Sierra Business Park Project Entrance/Hot Creek Fish Hatchery Road.

Traffic volume data for Highway 395 were provided by Caltrans. These traffic volumes represent the existing P.M. peak hour counts during the peak traffic season of the year, i.e. winter months.

Future project traffic volumes for the proposed Sierra Business Park Project were forecasted based on trip generation rate established by the Institute of Transportation Engineers (ITE) for Land Use Code (130), Industrial Park. Traffic counts were recently conducted at an existing industrial/business park center located in the Town of Mammoth Lake. Results of this traffic survey indicate that the derived trip rate from this industrial site is consistent with the trip generation rate established by ITE for an industrial park land use. For this reason, ITE's trip generation rate for Land Use Code (130), Industrial Park is determined to be most appropriate for forecasting future traffic for the proposed Sierra Business Park Project.

Table A, below, shows the trip generation forecasts for the proposed Sierra Business Park Project .

TABLE A

Site Use	A.M. Peak Hour			P.M. Peak Hour			Daily Traffic
	Inbound	Outbound	Total	Inbound	Outbound	Total	
Generation Rate: Industrial Park (Trips/Acre)	8.88	1.82	10.7	2.35	8.82	11.17	72.7
Traffic Generated: Industrial Park 36.7 - 12.64(*) = 24.06 acres	215	44	259	56	213	269	1,749
** Less 15% pass-by and work trips	-32	-7	-39	-8	-32	-40	-262
Net Project Traffic	183	37	220	48	181	229	1,487

(*) Total unbuildable areas = 4.1 acres for internal streets, plus 2.8 acres for existing concrete plant plus 1.04 acres for Lot 15 which is reserved for utility and water wells plus 4.7 acres for perimeter maintenance zone.

** A 15% reduction was applied due to pass-by trips and existing employment trips originated from communities south of the Town of Mammoth Lakes that no longer need to work in the Town because of the proposed project.

Figure 3 shows the project trips assigned to the intersection of Highway 395 and project entrance/Hot Creek Fish Hatchery Road.

Intersection Traffic Impact Analysis

Exhibit "B" shows the detailed volume-to-capacity ratio and level of service calculations for existing traffic, existing traffic plus Sierra Business Park traffic, and existing traffic plus Sierra Business Park traffic plus Airport Expansion traffic plus Hot Creek Mixed-use Project traffic including Year 2020 traffic analysis at the intersection of Highway 395 and Project Entrance/Hot Creek Fish Hatchery Road. These detailed volume-to-capacity and level of service calculations were provided by LSA, traffic consultant for the Airport Expansion and Hot Creek Projects, and are re-outlined below for comparison.

TABLE B

Scenario	Highway 395/Hot Creek Fish Hatchery Road[1] Northbound Delay[2]	LOS	Southbound Delay	LOS
WITH EXISTING CIRCULATION SYSTEM				
Existing Year 1999/2000 Conditions[3]	13.3 sec.	B	9.6 sec.	A
Existing + Sierra Business Park	12.7 sec.	B	13.2 sec.	C
Existing + Airport Expansion	15.2 sec.	C	10.7 sec.	B
Existing + Airport Expansion + Hot Creek	19.6 sec.	C	13.1 sec.	B
Existing + Sierra Business Park + Airport Expansion+ Hot Creek	36.8 sec.	E	21.9 sec	C
Existing + Sierra Business Park + Airport Expansion+ Hot Creek (with median mitigation)	19.6 sec.	C	-	-
WITH CONNECTION TO BENTON CROSSING[4]				
Existing + Airport Expansion + Hot Creek	16.1 sec.	C	11.9 sec.	B
Existing + Airport Expansion + Hot Creek + Sierra Business Park	23.4sec.	C	17.6 sec.	C

Notes:

[1] Due to the current intersection configuration, the northbound and southbound approaches on US-395 can be analyzed as separate intersections.

[2] Intersections are analyzed through the Highway Capacity Manual (HCM) 1997 Operations Analysis. Delay is expressed in seconds of average delay per vehicle, LOS = Level of Service.

[3] Existing conditions are based on Caltrans 1999 counts on mainline segments, and manual p.m. peak hour counts on Hot Creek Fish Hatchery Road conducted in November , 2000

[4] A roadway connection to Benton Crossing may be provided with the Hot Creek Aviation Mixed-use and Airport Expansion projects.

TABLE C

Scenario	Highway 395/Hot Creek Fish hatchery Road[1] Northbound Delay[2]	LOS	Southbound Delay	LOS
WITH EXISTING CIRCULATION SYSTEM				
Year 2020 Baseline[3]	14.8 sec.	B	9.9 sec.	A
2020 + Sierra Business Park	13.8 sec.	B	14.4 sec.	B
2020 + Airport Expansion	17.4 sec.	C	11.0 sec.	B
2020 + Airport Expansion + Hot Creek	24.3 sec.	C	13.7 sec.	B
2020 + Sierra Business Park + Airport Expansion + Hot Creek	58.7 sec.	F	24.7 sec	C
Existing + Sierra Business Park + Airport Expansion+ Hot Creek (with median mitigation)	24.0 sec.	C	-	-
WITH CONNECTION TO BENTON CROSSING[4]				
2020 + Sierra Business park + Airport Expansion + Hot Creek	19.2 sec.	C	12.3 sec.	B
2020 + Sierra Business park+ Airport Expansion + Hot Creek	31.7 sec.	D	19.8 sec.	C

Notes:

[1] Due to the current intersection configuration, the northbound and southbound approaches on US-395 can be analyzed as separate intersections.

[2] Intersections are analyzed through the Highway Capacity Manual (HCM) 1997 Operations Analysis. Delay is expressed in seconds of average delay per vehicle, LOS = Level of Service.

[3] Per Caltrans, District 9, a 1.0% per year growth rate compounded annually was used to determine the 2020 baseline volumes on US-395. This rate constitutes a growth of 22.0% from 2000 to 2020.

[4] A roadway connection to Benton Crossing may be provided with the Hot Creek Aviation Mixed-use and Airport Expansion projects.

As indicated in Tables B and C, the intersection of Highway 395 and Project Entrance/Hot Creek Fish Hatchery Road will continue to maintain an acceptable 'C" level of service or better with the addition of traffic from the proposed Sierra Business Park Project for both Current Year and Year 2020 traffic conditions. However, with additional traffic from the Sierra Business Park Project, the Airport Expansion Project and the Hot Creek Aviation Mixed-use Project, the intersection will operate at an unacceptable "E" level of service for current traffic condition and "F" for Year 2020 traffic conditions. To mitigate traffic impacts, installation of separate left-turn and through traffic lanes in the median opening area of Highway 395 or construction of a connector road to the Benton

Crossing with Highway 395 from the airport developments would be required (see Figure 4). With either mitigation improvements implemented, the intersection level of service would operate with a satisfactory D or better.

We trust that the above information/clarifications will be of assistance to Caltrans. If you have any questions or need additional information, please do not hesitate to call us.

Respectfully submitted,

C. Hui Lai, P.E.
Traffic Engineer

FIGURES

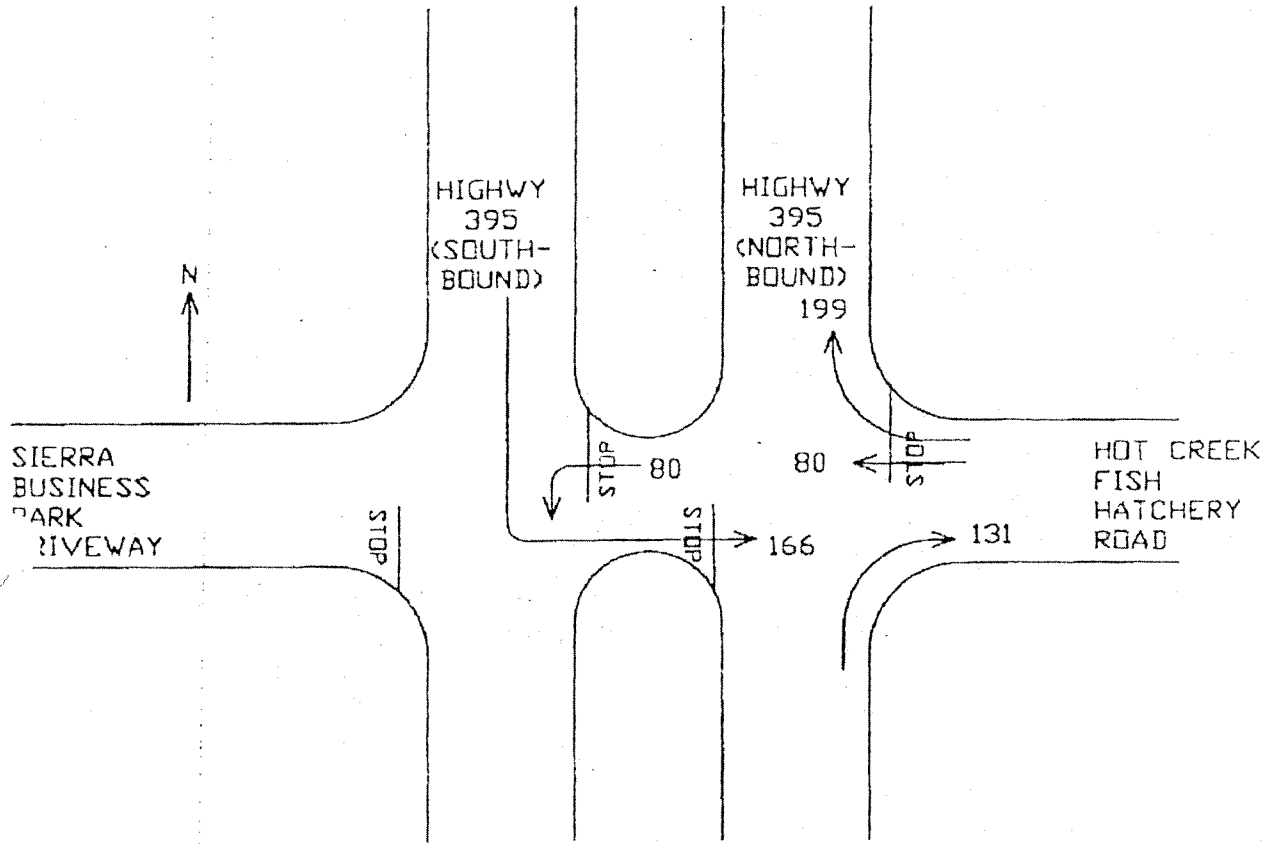


FIGURE 1

CUMULATIVE MAMMOTH LAKES/YOSEMITE AIRPORT
EXPANSION PROJECT TRAFFIC PLUS HOT CREEK
MIXED-USE PROJECT TRAFFIC (P.M. PEAK TRAFFIC HOUR)

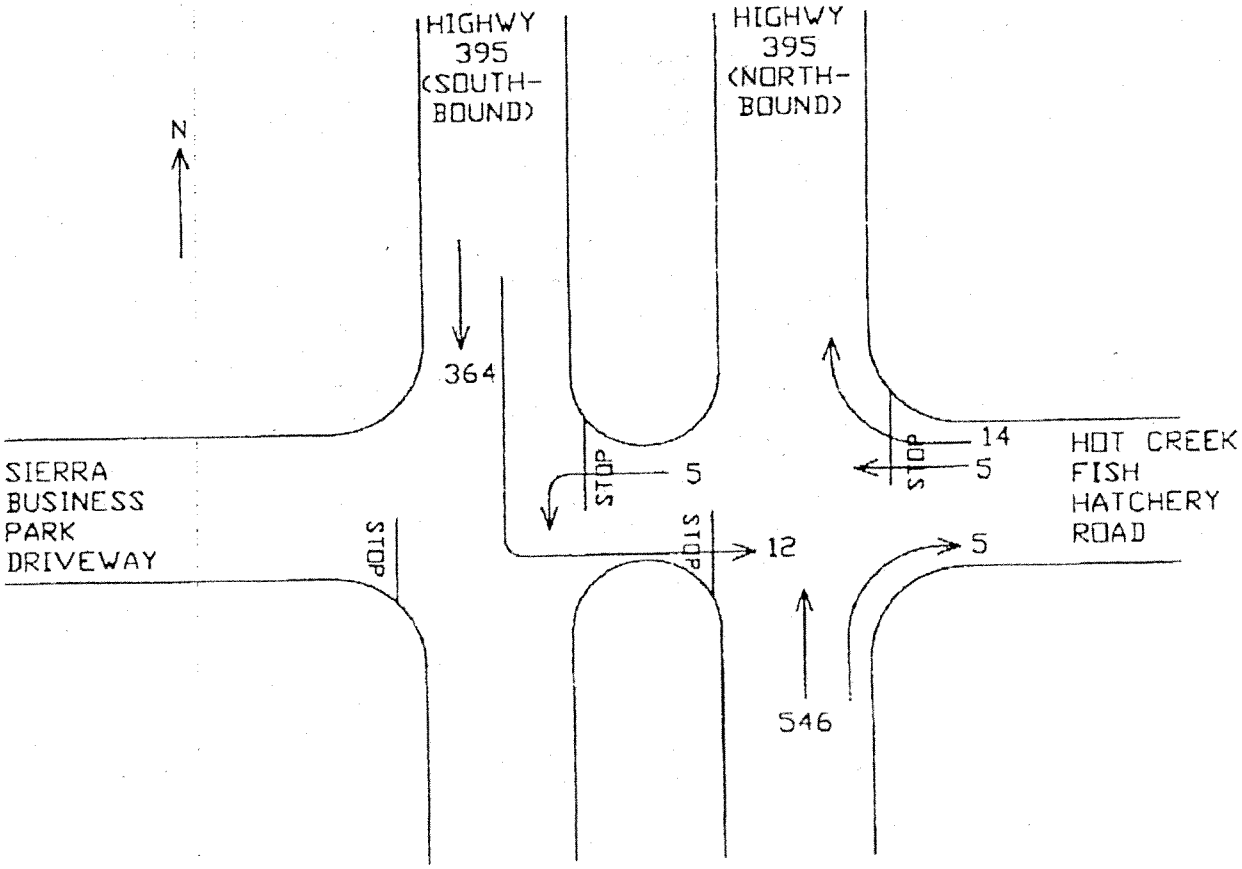


FIGURE 2

EXISTING P.M. PEAK HOUR TRAFFIC

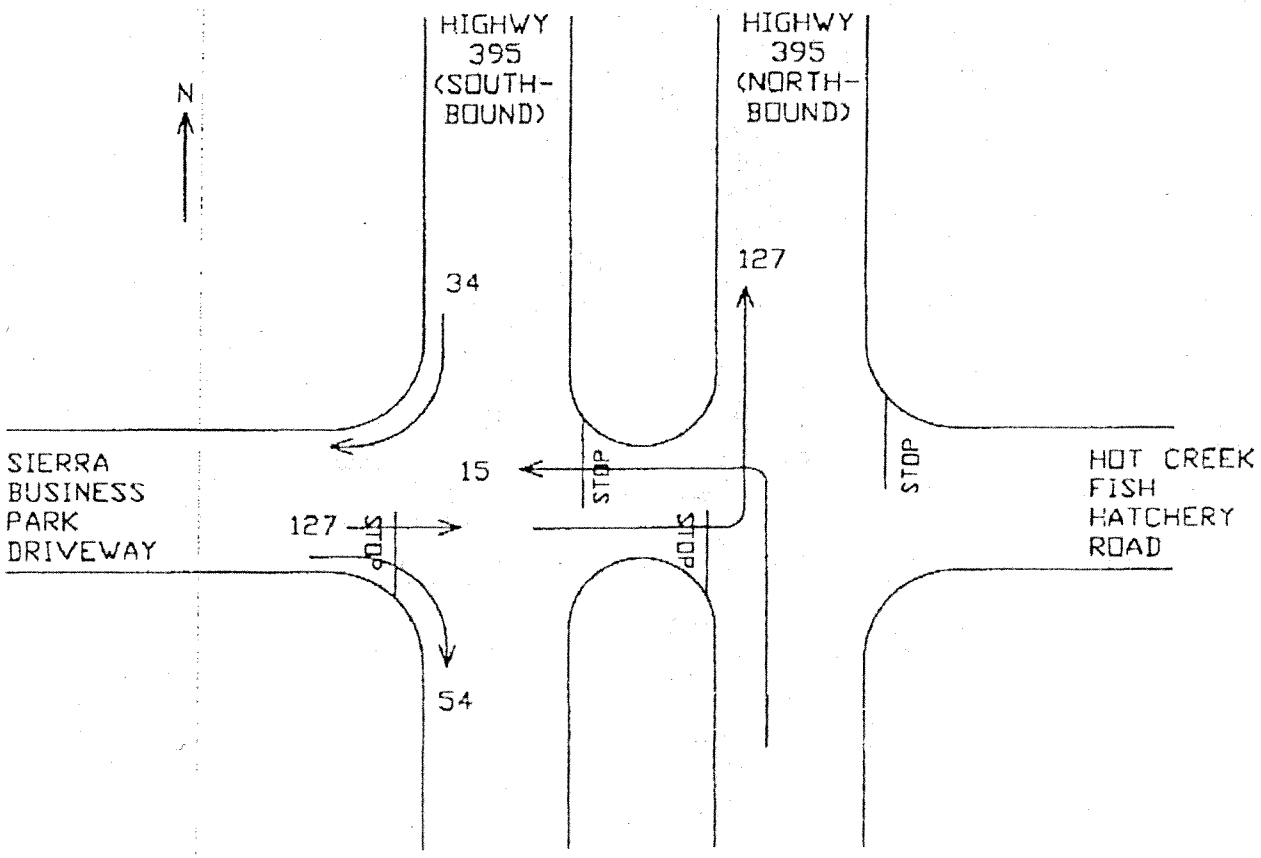


FIGURE 3

P.M. PEAK TRAFFIC HOUR
SIERRA BUSINESS PARK TRAFFIC

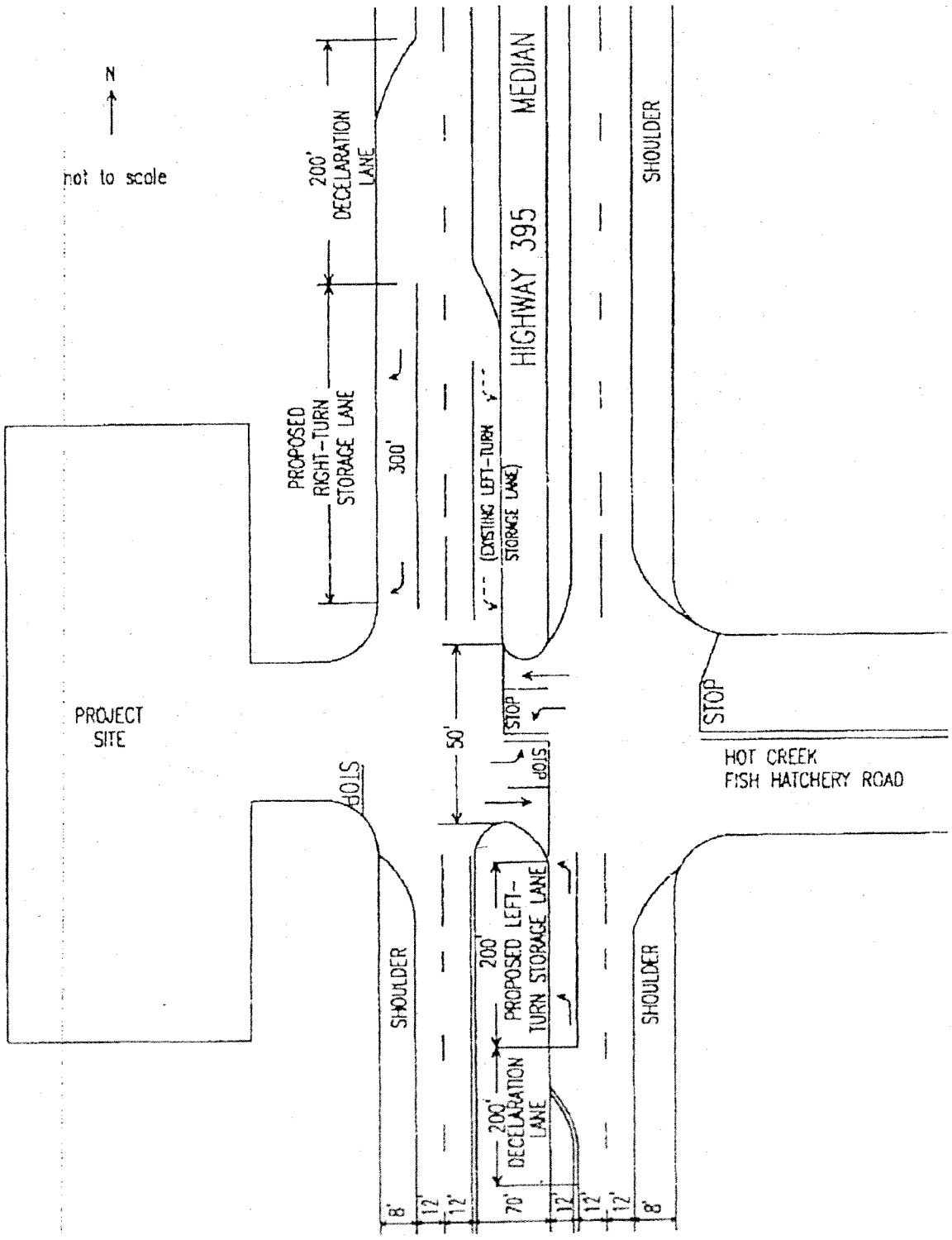


FIGURE 4
PROPOSED INTERSECTION TRAFFIC TURN LANE CONFIGURATIONS

EXHIBIT "A"

AIRPORT EXPANSION AND HOT CREEK MIXED-USE PROJECT TRIP GENERATION

Table B - Mammoth Lakes -Yosemite Valley Airport Area Trip Generation

Land Use	Size	Units	ADT	P.M. Peak Hour In	P.M. Peak Hour Out	P.M. Peak Hour Total
TRIP RATES						
Mammoth Lakes-Yosemite Valley Airport[1]	*based on data provided by Mammoth Lakes-Yosemite Valley Airport*					
Hot Creek Aviation Mixed-Used Development[2]						
Gasoline/Service Station w/ Convenience Market	per fueling position (FP)		162.78	6.69	6.69	13.38
Residential High Density (MF) Seasonal	per dwelling unit (DU)		8.00	0.50	0.25	0.75
Hotel	per occupied room		8.92	0.35	0.36	0.71
Campground/Recreational Vehicle Park	per occupied campsite		4.00	0.20	0.20	0.39
High Turnover Sit-Down Restaurant	per seat		4.83	0.24	0.18	0.42
Sierra Business Park Specific Plan[3]	*based on data provided in Morgan Industrial Park Specific Plan TIA*					
TRIP GENERATION						
Mammoth Lakes-Yosemite Valley Airport	702 passengers		898	79	79	158
Hot Creek Aviation Mixed-Used Development						
Gasoline/Service Station w/ Convenience Market	24 FPs		3,907	161	161	321
Residential High Density (MF) Seasonal[4]	150 DUs		1,203	76	37	113
Hotel[4]	50 rooms		442	17	18	35
Campground/Recreational Vehicle Park[4]	80 campsites		320	16	16	31
High Turnover Sit-Down Restaurant	100 seats		483	24	18	42
Sierra Business Park Specific Plan	36 acres		1,487	48	181	229
Total Trip Generation			8,740	420	509	929
TRIP REDUCTIONS						
Hot Creek Aviation Mixed-Use Development						
Gasoline/Service Station w/ Convenience Market[5]	(90 percent reduction)		-3,516	-145	-145	-289
Residential High Density (MF) Seasonal[6]	(60 percent reduction)		-722	-45	-22	-68
Hotel[7]	(75 percent reduction)		-332	-13	-13	-26
Campground/Recreational Vehicle Park	*no trip reductions anticipated*					
High Turnover Sit-Down Restaurant[8]	(100 percent reduction)		-483	-24	-18	-42
Total Trip Reductions			-5,053	-227	-198	-425
NET EFFECTIVE TRIP GENERATION			3,688	193	311	504

[1] Year 2020 airport trip generation data provided by Mammoth Lakes-Yosemite Valley Airport staff (Tom Cornell-Ricondo).

[2] Trip rates for Hot Creek Mixed-Use Development provided in *Trip Generation*, 6th Edition, Institute of Transportation Engineers (ITE), 1997. Trip rates for the Residential High Density (MF) Seasonal are based on the Mammoth Lakes Transportation Model (MTM). Daily trip rate for RV Park based on SANDAG rates for campsite uses; p.m. peak hour rates for RV Park are based on ITE rates.

[3] Trip generation data provided in *Traffic Impact Study Addendum for Sierra Business Park Specific Plan*, Traffic Safety Engineers (TSE), Novem

[4] Unit counts for residential/lodging components are based on 80% occupancy rate which is consistent with Town of Mammoth "typical" winter conditions. Build out unit counts are 188 multi-family homes, 62 hotel rooms, and 100 campsites.

[5] A 90% reduction was applied due to a majority of pass-by trip making for vehicles travelling on Highway 395. Approximately 10% (new trips) may originate from existing communities south of the Airport.

[6] A 60% reduction was applied due to shuttle service provided to residents destined to Mammoth Lakes and Mammoth Mountain Ski Area. A majority of residents will arrive to the Hot Creek Mixed-Used development via airline service to Mammoth Lakes-Yosemite Valley Airport.

[7] A 75% reduction was applied due to shuttle service provided to residents destined to Mammoth Lakes and Mammoth Mountain Ski Area. A majority of residents will arrive to the Hot Creek Mixed-Used development via airline service to Mammoth Lakes-Yosemite Valley Airport.

[8] A 75% internal trip capture, and 25% pass-by trip reduction was applied for vehicles travelling on Highway 395. No new trips are anticipated for this land use.

11/30/2000 (P:\TML030\model.xls\gen)

EXHIBIT "B"

H.C.M. CALCULATIONS

REFER TO APPENDIX B OF LSA REPORT

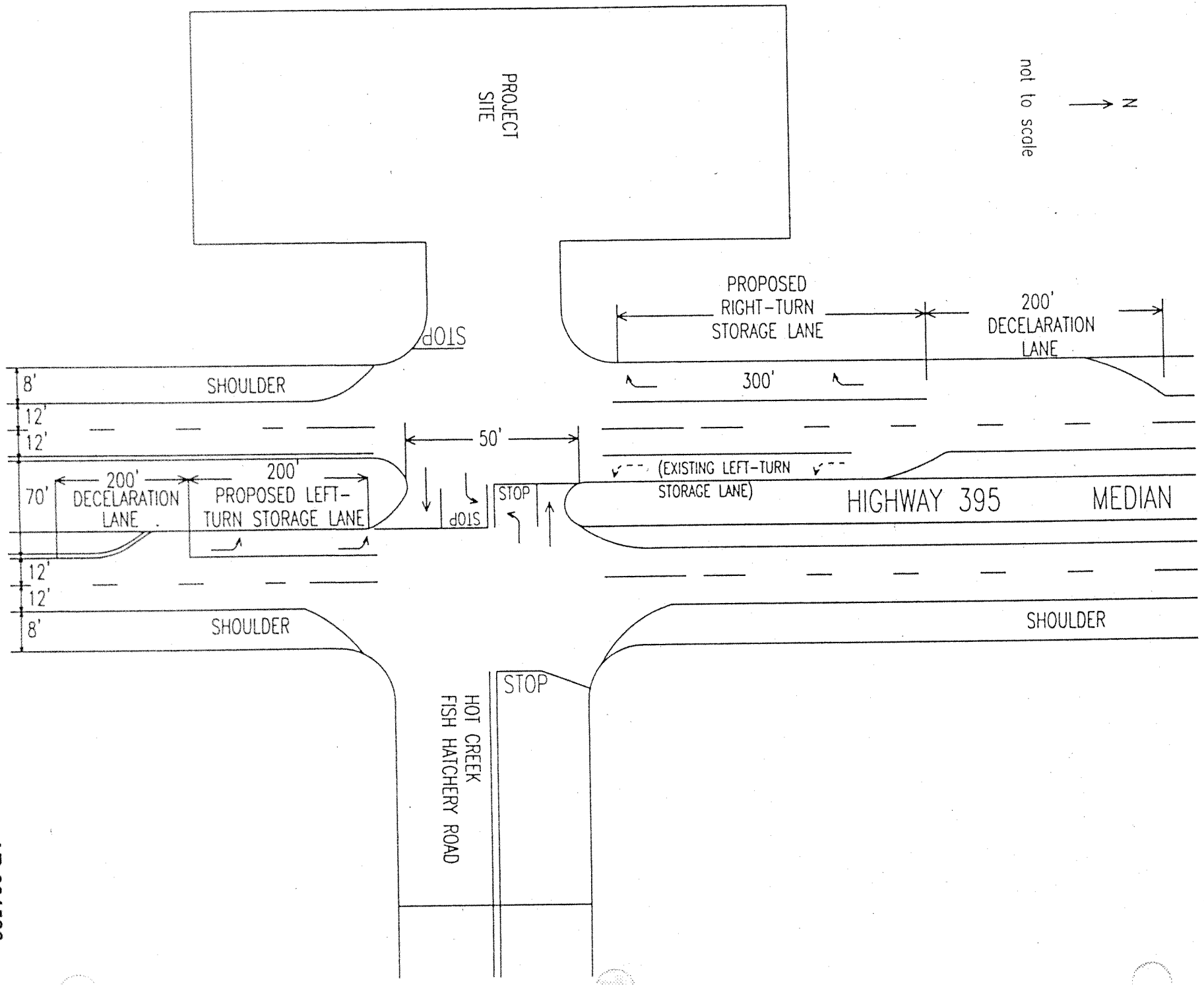
EXHIBIT "C"

H.C.M. CALCULATION WITH TRAFFIC MITIGATION

REFER TO APPENDIX B OF LSA REPORT

APPENDIX E

MEDIAN IMPROVEMENTS


PROJECT SITE
not to scale
N
PROPOSED RIGHT-TURN STORAGE LANE
200' DECELARATION LANE
300'
STOP
8'
SHOULDER
12'
12'
50'
70'
200' DECELARATION LANE
200' PROPOSED LEFT-TURN STORAGE LANE
(EXISTING LEFT-TURN STORAGE LANE)
HIGHWAY 395
MEDIAN
STOP
STOP
12'
12'
8'
SHOULDER
SHOULDER
HOT CREEK FISH HATCHERY ROAD
STOP

AR 001533

Appendix M – Air Services Agreement

AIR SERVICE AGREEMENT

This Air Service Agreement (this "Agreement") is made and entered into as of the 30 day of May, 2000, by and between American Airlines, Inc. ("American"), a Delaware corporation having its principal offices at P.O. Box 619616, Dallas/Fort Worth International Airport, Texas 75261-9616, and Mammoth Mountain Ski Area ("Mammoth"), a California corporation having its principal offices at Box 24, Mammoth Lakes, CA 93546.

RECITALS

WHEREAS, American is an air carrier engaged in the transportation of persons, property, and mail; and

WHEREAS, Mammoth desires to have American provide air transportation service between Chicago O'Hare ("ORD") and Mammoth Lakes, CA ("MMH"), and between Dallas/Forth Worth International Airport ("DFW") and MMH; and

WHEREAS, American desires to provide such air transportation at a reasonable return on its investment; and

WHEREAS, American and Mammoth wish to enter into this Agreement regarding air transportation between ORD and MMH and between DFW and MMH.

NOW, THEREFORE, in consideration of the mutual covenants set forth herein, the parties agree as follows:

1. Air Service

(a) American, subject to using its reasonable efforts to procure all necessary governmental approvals and subject to the existence of adequate operating facilities at MMH, shall provide regularly scheduled passenger air service between ORD and MMH and between DFW and MMH (the "Air Service," with each flight and "Air Service Flight") during Mammoth's 2001-2002, 2002-2003, 2003-2004, 2004-2005 and 2005-2006 ski seasons (each, a "Ski Season" or an "Air Service Period"). Notwithstanding the foregoing, it is understood and agreed that either party may terminate this Agreement as follows: (i) with respect to the 2002-2003 Ski Season, by giving written notice to the other party on or before May 15, 2002, and (ii) with respect to any subsequent Ski Seasons, by giving written notice to the other party on or before the May 15, prior to such Ski Season. Upon giving such notice, this Agreement shall terminate as to all Ski Seasons which have not yet commenced as of the date such notice was given.

(b) It is anticipated that Mammoth's 2001-2002 Ski Season will run from December 15, 2001 through April 6, 2002 (inclusive), provided however, that the exact operating dates for 2001-2002 Ski Season shall be mutually agreed to by the parties on or before May 15, 2001. The dates of each subsequent Ski Season shall be mutually

agreed by the parties by the May 15, preceding such Ski Season. Should the parties be unable to agree on such dates by the deadlines set forth in this Paragraph 1 (b), then such failure to agree shall cause this Agreement to immediately terminate as to all Ski Seasons which have not yet commenced as of such deadline.

(c) American agrees to operate one daily round-trip, plus a second round-trip each Saturday, between MMH and DFW and one daily round-trip, plus a second round-trip each Saturday, between MMH and ORD during each Air Service Period. Operating times for such flights shall be determined by American, in its sole discretion, taking into consideration Mammoth's advice. It is the currently the intent of both American and Mammoth to increase the Air Service over the term of the Agreement, as outlined in Table 1. Any such increase, however, shall be subject to the mutual agreement of the parties, as to the terms and conditions applicable to such increased service.

(d) American agrees to schedule Boeing 757 aircraft to perform the Air Service hereunder. American's Boeing 757 aircraft are presently scheduled to be configured with 176 seats, however, the actual number of seats on such aircraft shall be subject to change if American, in its sole discretion, deems a change appropriate.

2. **Term**

This Agreement shall commence upon the date first written above, and unless sooner terminated as provided for herein, shall remain in full force and effect until June 15, 2006 (the "Term").

3. **Minimum Revenue Requirement**

(a) American and Mammoth agree that the Total Revenue (as that term is defined in Paragraph 4 (b) of this Agreement) for each Air Service Period, must equal or exceed the Minimum Revenue Requirement (as that term is defined in the next sentence) for that same Air Service Period or Mammoth shall be required to pay the Revenue Shortfall (as that term is defined in Paragraph 5 of this Agreement). For purposes of this Agreement, the "Minimum Revenue Requirement" for each Air Service Period shall mean the Base Charge (as set forth in Subparagraph 3(b) below) for each round-trip Air Service Flight, multiplied by the actual number of round-trip Air Service Flights operated by American during the relevant Air Service Period, plus the Per Revenue Passenger Charge (as that term is defined in Subparagraph 3(c) of this Agreement) for each round-trip revenue Air Service Passenger who actually travels during such Air Service Period, plus the Miscellaneous Expenses (as that term is defined in Subparagraph 3(d) of this Agreement) applicable to such Air Service Period.

(b) The "Base Charge" is [redacted] Dollars ([redacted]) per round-trip DFW-MMH Air Service Flight and [redacted]

[redacted]0) per round-trip ORD-MMH Air Service Flight.

(c) The "Per Revenue Passenger Charge" is [redacted] per round-trip revenue passenger carried on the DFW-MMH Air Service Flights, and [redacted] per round-trip revenue passenger carried on the ORD-MMH Air Service Flights.

(d) "Miscellaneous Expenses" shall mean:

(i) The actual and reasonable cost of de-icing for flights at MMH; plus

(ii) The actual and reasonable cost directly associated with the diversion of a flight originating at DFW or ORD due to weather conditions at MMH; it being understood that if a flight is diverted for reasons other than airport conditions or weather related problems at MMH (e.g., mechanical problems), then American shall pay all additional costs associated with such diversion and such additional cost shall be included as part of Miscellaneous Expenses hereunder.

(e) American, in its sole discretion, may change the "Base Charge" and "Per Revenue Passenger Charge" for the 2001-2002 Ski Season by giving written notice to Mammoth of such change(s), no later than June 15, 2001.

(f) American, in its sole discretion, may change the "Base Charge" and "Per Revenue Passenger Charge" for all subsequent Ski Seasons by giving written notice to Mammoth of such change(s), no later than the May 1, preceding each such Ski Season.

4. Revenue Calculation

(a) The "Net Revenue" for each Air Service Flight shall be established by deducting [redacted]%) from the Segment On-Board Revenue (as that term is defined below and as calculated by American using American's Marketing Information Report System ("MIRS") for such Air Service Flight). (American and Mammoth agree that the foregoing [redacted]%) deduction is an agreed upon amount that reflects all cost attributable to credit card fees, commissions, and overrides, and that there shall be no other deductions with respect to such fees, commission, and overrides in connection with the calculation of Net Revenue or Total Revenue hereunder). For purposes of this Agreement, the "Segment On-Board Revenue" for each Air Service Flight shall be the total amount paid by passengers in connection with the applicable Air Service Flight, less applicable taxes, and shall be rate-prorated by segment. A rate-prorate is used to divide total on-board revenue paid per Air Service Flight among the actual number of segments flown by an Air Service Passenger according to the ratio of each segment's local fare to the sum of all the local fares applicable to the passenger's actual itinerary.

(b) For purposes of this Agreement, "Total Revenue" shall mean the Net Revenue for each Air Service Flight times the actual number of Air Service Flights operated by American during the relevant Air Service Period.

(c) MIRS shall be the sole source of information for calculating Segment On-Board Revenue, Net Revenue, and Total Revenue hereunder. Notwithstanding the foregoing, Mammoth shall have the right, upon providing at least five (5) business days' prior written notice to American to conduct, at Mammoth's sole expense, one audit during the Term of this Agreement, of the information and documents used to calculate Segment On-Board Revenue, Net Revenue, and Total Revenue hereunder. Any such audit must be reasonable in all respects.

5. Payment of Revenue Shortfall

A "Revenue Shortfall" shall be deemed to occur if the Total Revenue received by American for any Air Service Period falls below the Minimum Revenue Requirement described in Paragraph 3 for the same Air Service Period. Should this occur, Mammoth agrees to pay the total amount of such Revenue Shortfall within fifteen (15) business days after receipt of an invoice from American detailing the amount of the Shortfall. Such invoices shall be provided by American to Mammoth on or before the May 31 immediately following the relevant Air Service Period. Mammoth agrees to pay interest on any overdue payment (including without limitation any Revenue Shortfall) at an annual rate of eighteen percent (18%) from the date such payment was due hereunder until the date on which such payment is received by American.

6. Guarantee by Mammoth

(a) In consideration of the Air Service to be provided by American hereunder, Mammoth, on or before August 15, 2001, shall establish and maintain during the Term of this Agreement, a letter of credit ("Letter of Credit"), issued by a bank acceptable to American and in the form of Exhibit A attached hereto, in the amount of [redacted].

(a) The Letter of Credit will be irrevocable and will provide that American may draw upon all or any part thereof at any time upon presentation to the bank of a letter signed by a vice president of American stating that American is entitled to draw upon the Letter of Credit for amounts owed under this Agreement. American shall have the right to draw upon the Letter of Credit to recover any unpaid amounts which Mammoth owes to American under this Agreement. Upon termination or expiration of this Agreement, American agrees to give notice to the bank authorizing it to release and cancel the Letter of Credit.

7. Termination and Default

In addition to any other termination rights provided for herein, this Agreement may be terminated by the party specified below, effective immediately upon written notice to the other party, upon the happening of any one or more of the following events:

(i) By American, without liability or obligation on the part of either party if American is unable to obtain the governmental approvals necessary to commence the Air Service, or if in American's sole discretion, American determines that the operating facilities at MMH are inadequate for American to commence service at MMH;

(ii) By American, if Mammoth fails to make any payment due and owing hereunder when due and Mammoth does not make such payment within five (5) days after receipt of written notice of demand therefore; or

(iii) By either party, if the other party is in breach of or default under any provision of this Agreement and such party does not cure such default within a period of five (5) days after receipt of written notice from the non-breaching or non-defaulting party, which notice shall specify the breach or default, or, if such cure cannot be accomplished in five (5) days, if the noticed party does not commence a cure within five (5) days.

A termination under (ii) or (iii) above shall not limit the non-defaulting party's right to pursue or enforce any of its rights under this Agreement or otherwise. Moreover, if bankruptcy proceedings are commenced with respect to a party and if this Agreement has not otherwise terminated, then the other party may suspend all further performance of this Agreement until the party involved in bankruptcy assumes or rejects this Agreement pursuant to § 365 of the Bankruptcy Code or any similar or successor provision. Any such suspension of further performance by a party pending the other party's assumption or rejection will not be a breach of or default under this Agreement and will not affect a party's right to pursue or enforce any of its rights under this Agreement or otherwise.

In the event of any termination under this Paragraph 7, Mammoth shall pay all amounts owed to American as of the date of such termination within three (3) business days after receipt of an invoice from American. The obligation of Mammoth to pay all amounts due under this Agreement shall survive the termination or expiration of this Agreement for any reason.

8. Promotional Materials, Booking Information and Fares

(a) All promotional materials prepared by Mammoth which contain any reference to American shall be subject to the prior review and written consent of American.

(b) American and Mammoth will cooperate in exchanging flight and accommodations booking information for the ORD-MMH and DFW-MMH routes in order to accurately calculate no-show ratios; provided, however, the parties agree that any such information supplied by one party to the other is proprietary and confidential information which shall be made available to only to those directors, officers, and employees of such party with a need to know such information, unless otherwise consented to in advance and in writing by the party supplying such information.

(c) American agrees to establish and modify, as needed, the air fares for the Air Service and agrees to provide yield and inventory management services with respect thereto. Mammoth acknowledges that American has agreed to establish and modify the air fares and to provide yield and inventory management services as an accommodation to Mammoth and that American hereby disclaims all liability for, and Mammoth hereby waives all claims against American which may arise out of or in connection with the establishment or modification of such air fares or the yield and revenue management services provided hereunder. American agrees to consult (to the extent American deems appropriate) with Mammoth regarding pricing for such air fares; provided, however, that such consultations need not occur prior to any fare changes; and provided, further, that American shall at all times have the unconditional right in its sole discretion to determine air fares for the Air Service.

9. Final Accounting and Settlement

American agrees to provide Mammoth with a monthly accounting of the prior month's Segment On-Board Revenue generated by the Air Service Flights. This accounting will be furnished to Mammoth approximately thirty (30) days following the end of the applicable month during each Air Service Period. A final report and, if necessary, an accounting, covering the entire Air Service Period, will be provided to American to Mammoth on or before the May 31 following each Air Service Period. Any amount due pursuant to this accounting (including without limitation any Revenue Shortfall) shall be paid by Mammoth within fifteen (15) business days after receipt of such final report.

10. Governing Law

This Agreement shall be governed by and construed in accordance with the laws of the State of Texas, without regard to the conflict of laws principles thereof. Mammoth hereby consents and submits to the jurisdiction of the courts of the State of Texas in all questions or controversies arising from or otherwise in connection with this Agreement.

11. Excusable Delay and Waiver of Consequential Damages

Except as otherwise expressly provided herein, neither party shall be liable for obligations hereunder (other than payment of monetary obligations due and owing by

Mammoth) to the extent such obligations are prevented or delayed by reasons or circumstances beyond the reasonable control of such party; provided, however, such party, shall provide the other party with prompt written notice thereof and shall use its best reasonable efforts to avoid or remove such causes of non-performance and, immediately thereafter, continue performance to the extent such causes are removed or avoided. EXCEPT WITH RESPECT TO EACH PARTY'S INDEMNIFICATION OBLIGATIONS HEREUNDER, NEITHER PARTY SHALL BE LIABLE TO THE OTHER FOR ANY SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES ARISING OUT OF THIS AGREEMENT, EVEN IF SUCH PARTY HAD BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

12. Indemnification

(a) American agrees to indemnify, defend, and hold harmless Mammoth and its officers, directors, employees, agents, and affiliates from and against (i) any and all liabilities, damages, losses, claims, suits, liens, demands, actions, causes of action, judgments, fines, penalties, and expenses of any nature (including without limitation reasonable attorney's fees) whatsoever (collectively "Claims") arising out of or related to any loss, cost, damage, or injury (including, without limitation the death of any person or damage to property of any kind) caused by the willful misconduct or negligent acts, errors or omissions of American, its subcontractors, or any person directly or indirectly employed by American, while engaged in any activity associated with or related in any way to the operation of the Air Service Flights, the provision of the equipment in connection with this Agreement, or American's performance under this Agreement, and (ii) any and all Claims made by third parties as a result of or arising out of or in connection with American's products or services supplied or performed in connection with this Agreement or otherwise.

(b) Mammoth agrees to indemnify, defend and hold harmless American, its subsidiaries and affiliated companies, and their respective officers, directors, employees, and agents from and against (i) any and all Claims arising out of or related to any loss, cost, damage, or injury (including, without limitation, the death of any person or damage to property of any kind) caused by the willful misconduct or negligent acts, errors, or omissions of Mammoth, its subcontractors, or any person directly or indirectly employed by Mammoth, or any of them, while engaged in any activity associated with or related in any way to Mammoth's performance under this Agreement, and (ii) any and all claims made by third parties as a result of or arising out of or in connection with Mammoth's products or services supplied or performed in connection with this Agreement or otherwise.

(c) The provisions of this Paragraph 12 shall survive the termination or expiration of this Agreement.

13. Insurance

(a) American

At all times during the Term of this Agreement, American shall carry and maintain, at its sole cost and expense, the following insurance: (i) aircraft liability insurance with aggregate limits of at least [redacted] for personal injury (including without limitation and bodily injury and death) and property damage; (ii) Workmen's Compensation insurance covering all its employees while engaged in any of the Air Service Flights or any services under this Agreement. If so requested by Mammoth, on or before October 15, 2001, American will furnish Mammoth within thirty (30) days of such request an insurance certificate which: (a) specifies Mammoth as an additional insured; (b) indicates that the insurer has accepted and insured Paragraph 12 (a) of this Agreement; (c) includes the insurer's commitment to give Mammoth not less than thirty (30) days prior written notice in the event of cancellation or material change in coverage; and (d) indicates that such coverage is primary without right of contribution from any insurance carried by Mammoth.

(b) Mammoth

At all times during the Term of this Agreement, Mammoth shall carry and maintain at its sole cost and expense, comprehensive commercial general liability insurance, with aggregate limits of at least [redacted] for personal injury (including, without limitation bodily injury and death) and property damage. If so requested by American, Mammoth will furnish American within thirty (30) days of such request an insurance certificate which: (a) specifies American as an additional insured; (b) indicates that the insurer has accepted and insured Paragraph 12 (b) of this Agreement; (c) includes the insurer's commitment to give American not less than thirty (30) days prior written notice in the event of cancellation or material change in coverage; and (d) indicates that such coverage is primary without right of contribution from any insurance carried by American.

14. Assignment

Neither party may assign this Agreement (in whole or in part) or any interest under it without prior written consent of the other party.

15. Waivers and Modifications

This Agreement embodies the entire Agreement and understanding of the parties with respect to the subject matter hereof, and as of its effective date, terminates and supercedes all prior and/or independent agreements and understanding between the parties covering the subject matter hereof. The provisions of this Agreement shall govern

all services to be provided hereunder by the parties, and no addition, amendment, waiver, modification of, or document contrary to these provisions shall be effective unless signed jointly by an officer of American and an officer of Mammoth after the effective date of this Agreement.

16. Headings/Construction

The headings contained herein are for convenience and reference and are not intended to define or limit the scope of any provision of this Agreement.

17. Severability

In the event that any one or more of the provisions of this Agreement shall be determined to be invalid, unenforceable or illegal, such invalidity, illegality, or unenforceability shall not affect any other provisions of this Agreement, and the Agreement shall be construed as if such invalid, illegal, and unenforceable provision had never been contained herein.

18. Confidential Agreement

Each party hereto agrees that it will not disclose the terms of this Agreement to any third party without the prior written consent of the other party (i) except when required to do so by law or by a court of competent jurisdiction; (ii) except to the attorneys, accountants, or lending institutions of either party; or (iii) unless such terms are, by their nature, in the public domain.

19. Relationship of the Parties

For the purposes of this Agreement, neither party shall be deemed to be the agent, partner, employee, joint venturer, or fiduciary of the other party.

20. Notices

Any notice required to be given by one party to the other party to the other pursuant to this Agreement shall be in writing and shall be deemed to have been properly given if delivered in person, transmitted by telecopier, sent by overnight delivery, or sent by registered or certified mail, return receipt requested, addressed to the other party at the following address, and shall be deemed to have been given on the day so delivered, transmitted or mailed:

By Mammoth to American:

American Airlines, Inc.
Attention: Walter J. Aue, Vice President, Capacity Planning
MD 5535, PO Box 619616
Dallas/Fort Worth Airport, Texas 75261-9616
Telecopier No: (817) 931-6670

By American to Mammoth:

Mammoth Mountain Ski Area
Attention: Rob Perlman, Vice President Marketing
Box 24
Mammoth Lakes, CA 93546
Telecopier No. _____

21. **Successor and Assigns**

This Agreement shall be binding upon and inure to the benefit of the parties, their successors, and permitted assigns.

IN WITNESS WHEREOF, the parties have caused this Agreement to be signed by their duly authorized officers as of the date first above written.

MAMMOTH MOUNTAIN SKI AREA

By _____
Title CEO

AMERICAN AIRLINES, INC

By W. J. Aue
Title VP/Capacity Planning

Appendix N – Written Comments and Response to Comments

N.1 Introduction

In accordance with California Environmental Quality Act (CEQA) guidelines the Draft Supplement to the Subsequent Environmental Impact Report (the "Supplement") was circulated for public and agency review. CEQA requires a minimum of a 45-day review period. The review period of the Supplement was from October 9th through November 26th, 2001, a total of 48 days. The Supplement was sent to the State Clearing House (SCH # 2000034005) for distribution to public agencies. The distribution list of the Supplement is provided in Appendix B of the Supplement. The Supplement was also made available at the Town of Mammoth Lakes offices for individuals.

The Town of Mammoth Lakes (the "Town"), as the CEQA Lead Agency, received 32 comment letters from public agencies, organizations, and individuals. In accordance with CEQA Guidelines § 15088, the Town has evaluated the comments and has prepared written responses to each pertinent comment related to the adequacy of the environmental analysis contained in the Supplement or to the environmental issues related to the proposed project. This section provides responses to comments received on the Supplement.

N.2 Responses to Comments

N.2.1 Purpose of Responses to Comments

The public comment and response element of the EIR process serves an important and essential role. It allows the lead agency to assess the impacts of the project based on the analysis of other responsible, concerned or adjacent agencies and the public, and provides the opportunity to amplify and better explain the analysis that the lead agency has undertaken to determine the potential environmental impacts of the proposed project. To that extent, these responses to comments are intended to provide complete and thorough explanations to commenting agencies, organizations, and individuals, and to improve the overall understanding of the project and its potential effects for the decision making body.

N.2.2 Organization of Responses to Comments

Table N-1 provides a list of agencies, organizations and individuals who submitted comments on the Supplement. Each comment submitted in writing is included along with a written response. Each comment letter is identified with an abbreviated reference in the upper right corner of the first page of the letter. The individual comments have been given reference numbers, which appear in the left margin next to the bracketed comment. For example, Letter A will have comment and response numbers A-1, A-2, A-3, etc.

Table N-1

List of Commentors and Identifier Codes

Commentor	Identifier Code
State Agencies	
Carolyn Yee, Caltrans Department of Transportation, District 9, Bishop, California	A
Janill L. Richards, Attorney General's Office	B
Douglas E. Feay, California Regional Water Quality Board, Lahontan Region	C
Sandy Hesnard, Caltrans Department of Transportation, Division of Aeronautics	D
Darrell M. Wong, Department of Fish and Game, Inland Deserts-Eastern Sierra Region	E
Daniel R. Dawson, Director University of California, Santa Barbara, Sierra Nevada Aquatic Research Laboratory	H
Local Agencies, Businesses, and Interest Groups	
Tammy Teachout, Mammoth Properties, Mammoth Lakes, California	F
Tony Fryer, The Real Estate Book of the Eastern Sierra	G
Cooley Godward LLP and Earthjustice on behalf of the Sierra Club, the California Wilderness Coalition, the National Resources Defense Council, California Trout, Inc., and the National Parks Conservation Association.	I
Eric Callow and Bruce G. Whitmore, Pasadena Casting Club	J
Individuals	
Phil Hamilton, Mammoth Lakes, California	K
William J. Robens, Santa Fe, New Mexico	L
Andy Selters, Bishop, California	M
Rob Perlman, Mammoth Lakes, California	N
Rick Jali, Mammoth Lakes, California	O
Allan D. Sapp, Garnerville, Nevada	P
Karen McGillis	Q
Fred Howley, Mammoth Lakes, California	R
Don & Pam Rake, June Lake, California	S
Philip R. Jobe, Topanga, California	T
Dr. Peter Anderson, Jamul, California	U
Mary Walker, Mammoth Lakes, California	V
James Laing	W
Rick Bramble	X
Stephen Kalish, Swall Meadows, California	Y
Wilma Wheeler, Mammoth Lakes, California	Z
John and Nancy Walter, Mammoth Lakes, California	AA
Pat Eckart, Mammoth Lakes, California	BB
Bruce Hopper, Mammoth Lakes, California	CC
Steve Miesel	DD
Daniel Bacon, Bishop, California	EE
Jim Lemer, California	FF

Prepared By: Ricondo & Associates, Inc.

Definitions.

These Responses to Comments use a number of terms that are defined or explained as follows:

a. 1978 EIR: 1978 Final Environmental Impact Report (EIR) for a Mammoth Lakes Area Airport Site Selection and Master Plan.
b. 1986 EIR/EA: The Environmental Impact Report and Environmental Assessment prepared and certified by Mono County and the Inyo National Forest respectively in 1986 for the Mammoth June Lake Airport Land Use Plan. (As explained in the Supplement, the Town of Mammoth Lakes bought the Airport from Mono County in 1992.)
c. 1997 Subsequent EIR/EA: Subsequent Environmental Impact Report (to 1986 EIR/EA) and updated Environmental Assessment prepared and certified by the Town of Mammoth Lakes to address and analyze changes in the project from that proposed and analyzed in the 1986 EIR/EA.
d. Supplement: Draft Supplement to Subsequent Environmental Impact Report analyzing changes in the project from that proposed and analyzed in the 1997 Subsequent EIR/EA.
e. Enplanement: An enplanement represents one passenger boarding an aircraft. For more details refer to Response to Comment I-1.

Introduction to Responses to Comments.

During the public comment period on the Supplement, the Town of Mammoth Lakes received 32 comment letters containing a number of individual comments. A summary of the comments and responses is provided in the following paragraphs with detailed responses to each comment following the summary.

The comments generally fell into the following seven categories.

- Growth inducing and cumulative impacts are understated in the Supplement.
- The alternative of developing the Bishop Airport was improperly dismissed.
- Water quality impacts and ground water impacts are understated and need more analysis.
- Sage grouse and mule deer will be significantly impacted, both directly by the proposed project and cumulatively with the other projects in the region.
- The project will adversely affect rare, threatened, or endangered species.
- Enplanement assumptions are unsupported or understate the potential use of the Airport.
- The assumption that 70 percent of the Airport patrons will use transit is unsupported.

As demonstrated throughout these responses, the Town disagrees with each of these contentions. In the 1997 Subsequent EIR/EA, the proposed Airport project consisted of lengthening the existing 7,000 foot long, 100 foot wide runway by 2,000 feet to 9,000 feet along with the construction of the associated taxiway, ramp and terminal improvements. In the Supplement, the proposed project includes lengthening the runway 1,200 feet (instead of 2,000 feet), increasing the width of Runway 9-27 to 150 feet (instead of maintaining the runway at 100 feet), and minor changes to the taxiway improvements as approved under 1997 Subsequent EIR/EA. (See Page i of the Supplement for a complete description of the changes in the proposed project.)

Projections for Airport usage (both aircraft operations and passenger enplanement numbers) were revised from the 1997 Subsequent EIR/EA and were prepared for the Benefit Cost Analysis of the project, which was approved by the FAA. [*Benefit Cost Analysis, Mammoth Lakes Airport Expansion Project*, March 2000.] These revised projections were used for all evaluations in this Supplement.

Growth Inducing Impacts of the Proposed Project

The proposed Airport expansion is specifically designed to accommodate the demand from travelers and the local population that is anticipated by the Town of Mammoth Lakes General Plan. Growth in the region is already occurring, and is expected to continue with or without the project. Mammoth Yosemite Airport has accommodated commercial service intermittently since 1973 provided by a variety of air carriers using aircraft as large as BAE 146 four-engine jets. (See Page xi of the Supplement.) The Airport has a limited Federal Aviation Regulations (FAR) Part 139 certificate that permits commercial charter service for commuter and smaller jets. Under current operational and facility constraints and assuming the projected 20-year growth of general aviation to 12,000 annual operations, the Airport could accommodate approximately 35,000 charter aircraft operations of commuter or smaller jets and nearly 500,000 commercial enplanements annually. The planned facility improvements are needed to meet the operational and safety requirements of major national carriers for scheduled airline service using narrow-body aircraft, up to and including Boeing 757 aircraft and commuter aircraft with the intention of providing service to national markets.

The Town of Mammoth Lakes does not have additional developable land that might encourage additional growth. The Supplement's conclusion that there would be little or no growth in the vicinity of the Airport that is attributable to the project "because various governmental bodies own most of the land" outside of the Town's jurisdiction is supported by the evidence as shown on Exhibit II-2 of the Supplement. It is reasonable for the Town to assume that these agencies will not permit private development on that land in the foreseeable future. Also, much of the public land in the area is subject to various federal land and resource management plans that are required by federal law to protect open space and natural resources, and which the Town of Mammoth cannot modify. Thus, the Supplement's reliance on existing planning and zoning documents to support its conclusion is justified.

The Town is hopeful that air service will generate additional skier days, particularly from the type of winter resort traveler that more typically flies to a resort, and then stays for a longer period, typically including an increase in mid-week skier days. This would allow the Town to accommodate additional skier days, but would not induce growth because the construction of additional facilities is not required to serve the additional skier days.

Although the Town does hope and has planned for additional skier days, experience with other airports demonstrates that there is not a causal link between commercial air service and growth in skier days. (See Supplement at Table H-8). The proposed Airport project would provide air transportation infrastructure to serve the existing and projected residents and visitors. To that extent, the proposed project would accommodate the projected regional growth, but would not induce that growth nor would it induce additional growth.

Previous environmental analyses of the proposed project determined that the project is not growth inducing. Additional analyses were done in the Supplement to address the assumption in the

comment that growth could be accelerated by the project, hence qualifying as growth inducing. The results, which are explained in more detail in Responses to Comments B-7 and B-12, show that future additional growth is limited by the extremely high degree of public ownership of land in the region (96 percent of Mono County is publicly owned), as well as the limited bed base and recreational opportunities in the area. Because of the limited availability of non-public land in the region and the adopted policies of federal and local land management agencies that limit growth, no significant adverse growth inducing impact would be anticipated to result from the proposed project.

Cumulative Impacts of the Proposed Project

The project has no significant impacts individually and because of its physical isolation from the other proposed and existing developments, the likelihood of significant cumulative impacts is minimal. Existing and reasonably foreseeable future projects in the vicinity of the Airport were selected for the cumulative impact analysis in the Supplement. However, in response to comments, additional projects were considered relative to air quality, wildlife, and traffic. As explained below, no significant adverse cumulative impacts would be expected to result from the proposed Airport project combined with other development projects. If other projects in the vicinity have significant impacts individually, those impacts are on environmental categories not affected by the proposed Airport development.

Elimination of Development of Bishop Airport Alternative

The decision to develop the Mammoth Yosemite Airport as a regional general purpose airport was made by Mono County in 1978. Upgrading the Airport began in 1983 with the lengthening of the then 5,000-foot runway to 7,000 feet. The current proposal is based on the same objectives in terms of forecast numbers of passengers as the Mono County plan. Improved aircraft technology, safety requirements, and updated analyses have resulted in the proposed modifications to the development plan to more efficiently accommodate the projected enplanements. The location and use of the Airport are incorporated into the Mammoth Lakes General Plan, the Mono County General Plan, the Mono County Regional Transportation Plan, the Mammoth June Lake Airport Land Use Plan, and the Inyo National Forest Land and Resource Management Plan.

Once a regional plan has been adopted, CEQA does not require that it be revisited every time a new phase of development is proposed. (*Citizens of Goleta Valley v. Board of Supervisors*, 52 Cal.3d 1990.) Neither does CEQA require analysis of an off-site alternative unless significant adverse environmental impacts exist (CEQA Guideline 15126.6(f)).

Under the rule of reason, alternatives evaluated in the Supplement must be feasible. The Bishop Airport alternative is not feasible, partly because the facility is owned and operated by another governmental entity. The Town has neither the power to acquire the Bishop Airport nor the authority to compel Inyo County to expand or operate the Bishop Airport in a manner consistent with the objectives of the project. The Bishop Airport is also not an environmentally superior alternative. A primary reason for this is that it could result in substantial additional car traffic on U.S. Highway 395 between Bishop and Town of Mammoth Lakes.

Water Quality/Quantity Impacts

The data presented in the Supplement and the 1997 Subsequent EIR/EA accurately depicts the water supply and water quality impacts. Further analysis that was completed and documented in the response to the comments reaffirms the earlier determinations and shows that impacts are expected to be negligible. Please see Responses to Comments C-1 through C-15.

Impacts on Sage Grouse/Mule Deer

The analysis presented in the Supplement show that no significant adverse impacts to sage grouse or mule deer would result from the project. (See Supplement at Section 3.3.) Neither the sage grouse nor the mule deer is listed as rare, threatened or endangered species by a State or federal agency. Both are identified as sensitive or indicator species and are appropriately evaluated as such in the Supplement.

The Round Valley mule deer herd is characterized in the comments as experiencing rapidly declining numbers and being impacted by the proposed project. The herd did suffer a rapid decline in population from a peak of around 6,000 animals in 1990 to a low of around 1,500 animals in the mid 1990s. Since that time the herd numbers have increased to about 2,500 animals. Optimal numbers for the herd have not been established, but as shown by the recovery in population, the population is healthy despite continued hunting. (See Inyo National Forest Wildlife News, Attachment A to Response to Comments.)

The Airport does not significantly affect the Round Valley mule deer herd as the major migration area for the herd is entirely to the south of the Airport and does not cross the Airport property. Other deer migrate to the north and west of the Airport, but, again, do not migrate through the project area. Some deer, probably from the Casa Diablo herd, do forage in the vicinity of the Airport. As explained in detail in Section 3.3 of the Supplement, the lead agency believes that there is no evidence of any significant impacts to mule deer due to the proposed project.

According to the California Department of Fish and Game (DFG), researchers have postulated that the sage grouse in Mono County are "genetically distinct" from other populations. To date, no formal determination has been made, and this proposition has no legal weight under CEQA. However, even considering this evidence, the improvements to the Airport would have no significant adverse impacts on sage grouse, either overall or as a distinct and isolated population. Sage grouse exist in the project vicinity, as they do throughout much of the Long Valley and southern Mono County, although there are no major lek sites (mating grounds) within two miles of the Airport.

The proposed project does not include a change in the existing flight paths and aircraft will not fly any closer to sage grouse with the completion of the project than they do presently. As explained in detail in Response to Comment B-9, none of the proposed aircraft expected to use Mammoth Yosemite Airport after the implementation of the proposed project would produce more noise at the closest leks than aircraft that currently operate at the Airport. Experience at Jackson Hole Airport, which has comparable sage grouse use adjacent to the facility and comparable aircraft, shows that there would be no significant impacts on sage grouse associated with the proposed project.

As shown in Attachment A to Response to Comments, the California Department of Fish and Game website indicates that the Mono County sage grouse populations are among the most stable in the State.

Impacts on Endangered and Threatened Species

A Biological Assessment was prepared in conjunction with the FAA review of the project. (Please see Appendix I of the Supplement.) In response to that assessment, the United States Fish and Wildlife Service issued a Biological Opinion. The Biological Opinion found no likely adverse effect to rare, threatened or endangered species, which included Owens tui chub, Nevada bighorn sheep, and bald eagles. (Please see Appendix J of the Supplement.)

Despite this, concerns continued to be raised regarding the tui chub, a federally listed endangered fish, bighorn sheep, and bald eagles. As shown in the Biological Assessment and this response to comments, the proposed project is unlikely to have any measurable impacts on the tui chub or their habitat. Runoff from the runway percolates into the ground before reaching the tui chub habitat due to the porosity of the soil, and ground water flows from the Airport are to the northeast, not towards the habitat, which is northwest of the Airport. (Please see Section 3.6 of the Supplement.) Total water extraction for the project is minimal and, based upon well tests, will not have a discernable impact at the springs that feed the tui chub habitat.

As determined in the Biological Opinion, based on data obtained from the FAA on collisions between aircrafts and eagles in United States, it was concluded that these collisions are such a low probability event, that they do not constitute a threat to the species. (See Supplement at Section 3.3.)

The Biological Opinion also found no impacts to Nevada bighorn sheep.

Enplanement Numbers

As stated on Page I-6 of the Supplement, an enplanement is one passenger boarding an aircraft. Passengers are assumed to make a round-trip through an airport, therefore this definition of enplanements accurately reflects passengers and their impacts because an enplanement captures each "visit" to an airport by a passenger – coming and going. This is consistent with prior documents and is used in all project evaluations.

The forecast used in the Supplement was prepared for the Benefit Cost Analysis of the project and was approved by the FAA. [*Benefit Cost Analysis, Mammoth Lakes Airport Expansion Project*, March 2000.]

Transit Use Assumptions

The Supplement assumes that 70 percent of the visitors arriving at Mammoth Yosemite Airport would use the transit from the Airport to lodging facilities throughout the Town. This projected usage, while an estimate, is based upon comparisons with other resort airports and is supported by their experience. (Please see Page III-64 of the Supplement.)

Conclusion

In summary, the proposed project does not cause significant adverse environmental impacts directly, indirectly, or cumulatively. The lead agency believes that this conclusion is supported by substantial evidence in the record and is not contradicted by any substantial evidence contained in the response to comments on the Supplement or elsewhere.

STATE OF CALIFORNIA—BUSINESS, TRANS. RTATION AND HOUSING AGENCY GRAY DAVIS, Governor

DEPARTMENT OF TRANSPORTATION
500 South Main Street
shop, CA 93514
PHONE (760) 872-1492
FAX (760) 872-0754
TTY (760) 872-9043

Flex your power!
Be energy efficient!

November 26, 2001

Mr. William T. Taylor, Senior Planner
Town of Mammoth Lakes
PO Box 1609
Mammoth Lakes, California 93546

File: 09-MONO
DSSEIR
SCH #: 2000034005

REF: DRAFT SUPPLEMENT TO SUBSEQUENT ENVIRONMENTAL IMPACT REPORT (DSSEIR) ON THE MAMMOTH YOSEMITE AIRPORT EXPANSION PROJECT (AKA MAMMOTH LAKES AIRPORT EXPANSION PROJECT) FOR THE TOWN OF MAMMOTH LAKES (OCTOBER 2001)

Dear Mr. Taylor:

The California Department of Transportation (Caltrans) appreciates the opportunity to review and comment on the Draft Supplement to Subsequent Environmental Impact Report concerning the proposed Mammoth Yosemite Airport Expansion Project for the Town of Mammoth Lakes (Town).

Our public safety and traffic concerns and/or recommendations for this proposed project along and near U.S. Highway (Hwy) 395 still have not been fully addressed. These concerns were stated within our previous correspondence to you dated, 1) November 13, 2000 on the Draft Environmental Assessment; 2) May 21 & 26, 2000 on the Notice of Intent to Prepare an Environmental Assessment; and 3) May 16, 2001 on the Notice of Preparation of the Draft Subsequent Environmental Impact Report. Along with our previously stated traffic impacts and mitigation measures, we strongly suggest that the following recommendations be incorporated with our aforementioned concerns when you respond to this comment letter.

A-1

Caltrans suggests that the Town continue to coordinate and consult with the Federal Aviation Administration (FAA), U.S. Fish and Wildlife Services (FWS), Caltrans Division of Aeronautics, Caltrans District 9 in Bishop, and the California State Department of Fish and Game (DF&G). It is necessary that we continue to actively and cooperatively work together in addressing any potential issues that may impact our transportation corridors during all stages of planning, design, and construction on this proposed project. We must ensure that all traffic safety and quality standards are met on State facilities. After close review of this DSSEIR Caltrans suggests that the below recommendations also need to be addressed and/or further addressed within the EIR and implemented during the initial construction phase of this expansion project:

- Executive Summary, Table ES-1, Page ES-4, Section 3.2, Part 1, Mule Deer; The existing environmental study area will need to incorporate territory outside of the designated project location. Because of the multitude of proposed development projects within this vicinity there will be a potential increase(s) of vehicular accidents and deer mortality when these animals are channeled by fencing to alter their migration pattern(s) further north or south along U.S. Hwy 395 of this project area. Continued coordination and consultation with all affected federal, state, and local agencies will need to cooperatively identify, develop, approve, and implement appropriate remediation measure(s) for these impacts. The proposed deer monitoring program would also need to be accomplished in the same coordinated manner. A-2 A-3

Executive Summary, Table ES-1, Pages ES-3 to ES-4, Section 3; Other potential environmental concerns may also require mitigation because of the expanded study area. These concerns include endangered species, threatened species, and their habitat; cultural and archaeological resources; air, noise, and water pollution; scenic value; etc within State right-of-way and/or facilities. A-4

- Executive Summary, Table ES-1, Page ES-6, Section 7, Noise; A study will need to be completed that identifies potential impact(s) and mitigation measure(s) regarding the effects of jet engine blasts (noise, winds, dust/debris, etc.) along and/or near U.S. Hwy 395 upon multi-modal transportation methods (vehicular, cyclist, etc.). It should address visibility, various forms of pollution, wind force, etc. A-5

- The estimated number of maximum daily enplanements needs to be clarified. Hence the existing prepared analysis will need to reflect those revisions within the environmental document and all affiliated reports. A-6

- Coordination and consultation with Caltrans will need to continue in identifying, reviewing, approving, and implementing the following. A-7

  1. Alternate/new emergency access that will be executed under specified conditions and timelines.

- Executive Summary, Table ES-1, Page ES-4 to ES-5, Section 4, Transportation/Traffic; Traffic impacts, alternate remediation measures, and monitoring programs will need to be executed under more detailed specified conditions and timelines at the intersections of 1) U.S. Hwy 395 and Hot Creek Hatchery Road and 2) U.S. Hwy 395 Benton Crossing Road. All A-8

potential mitigation measures will need to be considered (i.e. channelization devices, turn pockets, extended turn lanes, interchanges, etc.).

- All work and costs will be the responsibility of the Town, County, and Developer.

A-8

Please continue to forward copies of reports on this proposed project for our review, comments, and records. If you have any questions, please contact me at (760) 872-1492. We look forward in continuing to work with you in a cooperative manner.

Sincerely,

CAROLYN YEE
IGR/CEQA Coordinator

c: Jerry Gabriel
Ralph Cones
Nancy Escallier
Brian Mc Elwain
Robert A. Wiswell
Bill Costa
Ron Helgeson
State Clearinghouse: Brian Grattidge
Janill L. Richards, California State Department of Justice
Darrell M. Wong, California State Department of Fish & Game
Diane K. Noda, U.S. Fish & Wildlife Service
Elisha Novak, Federal Aviation Administration
William Manning, Mammoth Lakes Airport

bc: Thomas Hallenbeck
Katy Walton
Craig Holste
Dave Grah
Brad Mettam
Tom Meyers
Sandy Hesnard
Denise Racine, California State Department of Fish & Game

PUBLIC AGENCY COMMENTS

A. California Department of Transportation (Caltrans)

Response to Comment A-1

Prior comments of this commentor are addressed in the Supplement, or earlier environmental documents. The Town will continue to coordinate and consult with the Federal Aviation Administration ("FAA"), the U.S. Fish and Wildlife Service ("USFWS"), Caltrans Division of Aeronautics, Caltrans District 9, and the California Department of Fish and Game ("DFG") as necessary and appropriate. In particular, the Town will work with Caltrans to ensure that all traffic safety and quality standards are met on U.S. Highway 395. Caltrans' other recommendations are addressed throughout these responses to comments as appropriate.

Response to Comment A-2

Contrary to the comment's assertion that the analysis in the Supplement is limited to the project site, as described in the sections on traffic, air quality, water quality, and biological resources, the analysis in the Supplement covers areas outside of the designated project location, including U.S. Highway 395. Please also see Response to Comment B-11.

Nonetheless, the Town has prepared the following information to further clarify the cumulative impacts section of the Supplement. The following projects are of a size and scope that could potentially affect mule deer, sage grouse, or the tui chub. However, some of these projects are either not located in habitat for these species or are not in migration routes; therefore, any potential cumulative impacts are minimal. For those projects that are located in mule deer migration routes, project specific mitigation has been required to reduce impacts to less than significant levels.

Pacifica Residential Development

The Pacifica Residential Development (Project) is located in Inyo County. The final environmental document is anticipated to be distributed by March, 2002.

The maximum disturbance scenario for the Project would involve 280 acres. The Rovana portion of the Project is an older development that covers 40 acres and is included in the 280 acres. The Rovana development consists of small, older structures surrounded by landscaping. Some of the structures would be refurbished while others would need to be rebuilt or replaced. The Project is located in the deer migration corridor for the Round Valley Herd. No information on traffic trip generation is available.

The Pacifica project includes mitigation for mule deer because the EIR for that project identified potentially significant impacts. No such potentially significant impacts are present in the Airport project, therefore no mitigation is required there.

The environmental review of Pacifica Residential Development project does not identify any significant impacts on tui chub and sage grouse, nor does it affect any special status species habitat. Therefore, after the implementation of the mitigation for mule deer migration corridors explained

above, it is unlikely that thePacifica project would, when combined with the Airport project, contribute to any potential cumulative impacts on biological resources.

Sherwin Ski Area

The Sherwin Ski Area Project covers approximately 3,100 acres, although only a small portion of that area would be disturbed. Five alternatives were formulated with the maximum amount of disturbance at 106 acres. The alternative selected by Inyo National Forest requires the disturbance of 75 acres. Relative to the other alternatives, the fewest acres within the Mammoth Rock and the Solitude Canyon mule deer migration corridors, and the mule deer holding area would be lost due to facility placement.

The cumulative impacts section of the Sherwin Ski Area environmental assessment mentioned the geothermal power plant expansion, the Gateway Industrial Park and wastewater treatment facility expansions, development in Mammoth Meadow, and proposed golf courses. The increased use of the area would likely cause abandonment of upper Mammoth Meadow as a fawning site for resident deer. Increased growth from any of these developments would have growth-inducing influences upon the Town of Mammoth Lakes, which would increase human intrusion into the holding area. The Airport improvements proposed since the prior environmental review, however, do not have significant impacts on the mule deer, and the distance between the two projects and their location in different deer habitats demonstrates that there cannot be cumulative impacts on deer or deer habitat. Moreover, while the Airport may serve travelers with destinations at the Sherwin Bowl area, it is the Sherwin Bowl project, not the Airport that is drawing those travelers. Thus, with respect to both deer impacts and growth inducing impacts, the proposed Airport improvements will not combine with the Sherwin Bowl project to create potentially significant cumulative impacts.

The effects of traffic from the Sherwin Bowl project were analyzed in the Transportation and Circulation Element of Town of Mammoth Lakes General Plan. That broad analysis did not identify any traffic impacts from the Sherwin Bowl project that could combine with traffic from the Airport improvements to create potentially significant cumulative impacts. This is also demonstrated by the distance between the two projects, the small amount of traffic generated by the Airport improvements, and the fact that air service could actually reduce traffic on U.S. Highway 395.

The environmental assessment of Sherwin Ski Area project does not identify any significant impacts on tui chub and sage grouse, nor does it affect any special status species habitat. Therefore, it is unlikely that the Sherwin Bowl project would, when combined with the Airport project, contribute to any potential cumulative impacts on biological resources.

Inaja Land Company (Arcularius Ranch)

Based on information received from Mono County (Arcularius Ranch EIR 1993) the entire Arcularius Ranch Project covers 1,080 acres. However, only 53 acres of habitat would be disturbed. The Arcularius project is located in the migration corridor of the Casa Diablo deer herd.

The environmental review of the Arcularius Ranch (Inaja Land Company) project does not identify any significant impacts on tui chub and sage grouse, nor does it identify any special status species habitat that would be affected by that project. Therefore after the implementation of mitigation for potential impacts to the Casa Diablo deer herd migration corridors, it is unlikely that the Arcularius project, when combined with the Airport project, which also has no significant impacts in these areas, would contribute to any potential cumulative impacts on biological resources.

Lakeridge Ranch

Disturbance from the Lakeridge Ranch development would cover approximately 86 acres. Deer that inhabit that project area are from the Round Valley herd. Although mule deer utilize the area, no deer migration routes were identified in the Lakeridge project area or the immediately surrounding vicinity. No special status species were identified either from the field work completed on the project nor from the California Natural Diversity Data Base; however, the area does provide potential habitat for sage grouse, Golden eagle, and Prairie falcon. A number of mitigation measures were incorporated into that project for potential biological impacts.

Radio-telemetry studies indicated that 75 percent of the Round Valley deer herd migrated through the area. However, the Wildlife Assessment Study (Taylor 1994) indicated no migration routes through the property.

The environmental review of the Lakeridge Ranch project does not identify any significant impacts on tui chub nor does it identify any effects on special status species habitat. Therefore after the implementation of mitigation measures for Round Valley deer herd migration corridors and sage grouse, it is unlikely that the Lakeridge project, when combined with the Airport project, , which also does not have significant impacts on these resources, would contribute to any potential cumulative impacts on biological resources.

Rimrock Ranch

Mono County did not have information on the Rimrock Ranch Development, but a brief description was found on the internet at OPR CEQA County Query. The Rimrock project would cover 180 acres, of which approximately 70 acres would be two-acre residential lots. The remaining acreage would be used as a wildlife corridor.

Since Rimrock Ranch is located between Lakeridge Ranch and the Pacifica Residential Development, neither of which will combine with the proposed Airport improvements to create potentially significant cumulative impacts, it is unlikely that Rimrock Ranch, when combined with the Airport project, would contribute to any potential cumulative impacts.

Response to Comment A-3

The changes in the project will not have significant incremental effects on the mule deer, either individually or in conjunction with other development projects proposed in the area. Please see Section 3.3.2.2 of the Supplement for detailed analysis of potential impacts on mule deer due to increased light, noise, Airport and vehicle traffic, human disturbance, fencing and habitat loss. Regarding impacts of the new fence on deer migration patterns, the major migration routes are to the east, west, and south of the Airport property, as shown in **Exhibits N-1, N-2,** and **N-3**. The proposed runway and fence do not block these routes. Deer may occasionally cross the highway in the vicinity of the Airport, but these crossings are expected to be few in number. Further, the Supplement discusses the potential impacts of the new fence on deer migration patterns and concludes that the fence would not significantly impact such migration patterns because the deer could safely move parallel to the fence, and no additional deer crossing locations along U.S. Highway 395 will be caused by the installation of the proposed fence. Because this is not a significant impact, mitigation is not required. Nonetheless, the Town will continue to coordinate and consult with the appropriate federal, State and local agencies. Also see mitigation measures voluntarily proposed by the Town to reduce potential impacts to the mule deer on Page III-57 and III-58 of the Supplement.

Response to Comment A-4

Please see Response to Comment A-2

Response to Comment A-5

There is approximately 426 feet between the Runway 9-27 centerline and the edge of U.S. Highway 395. As explained in Section 3.4.2 of the Supplement, this is greater than Caltrans requirements for a runway/highway separation as set in Caltrans Highway Design Manual (HDM). Runway 9-27 is parallel to U.S. Highway 395 and the application of take-off thrust (thrust used during aircraft take-off) would be in a direction parallel to the traffic therefore all aircrafts while landing and taking off would have no direct impacts on vehicular traffic on U.S. Highway 395.

Some taxiways are perpendicular to the highway, and would be used by aircrafts to access the runway. The only time jet engine blast might be directed towards the highway is when aircrafts would use the taxiway to exit the runway and approach the terminal after landing. The jet blast would not be directed towards vehicular traffic when the aircrafts are accessing the runway through these taxiways to take off, as the aircraft tail would be in opposite direction.

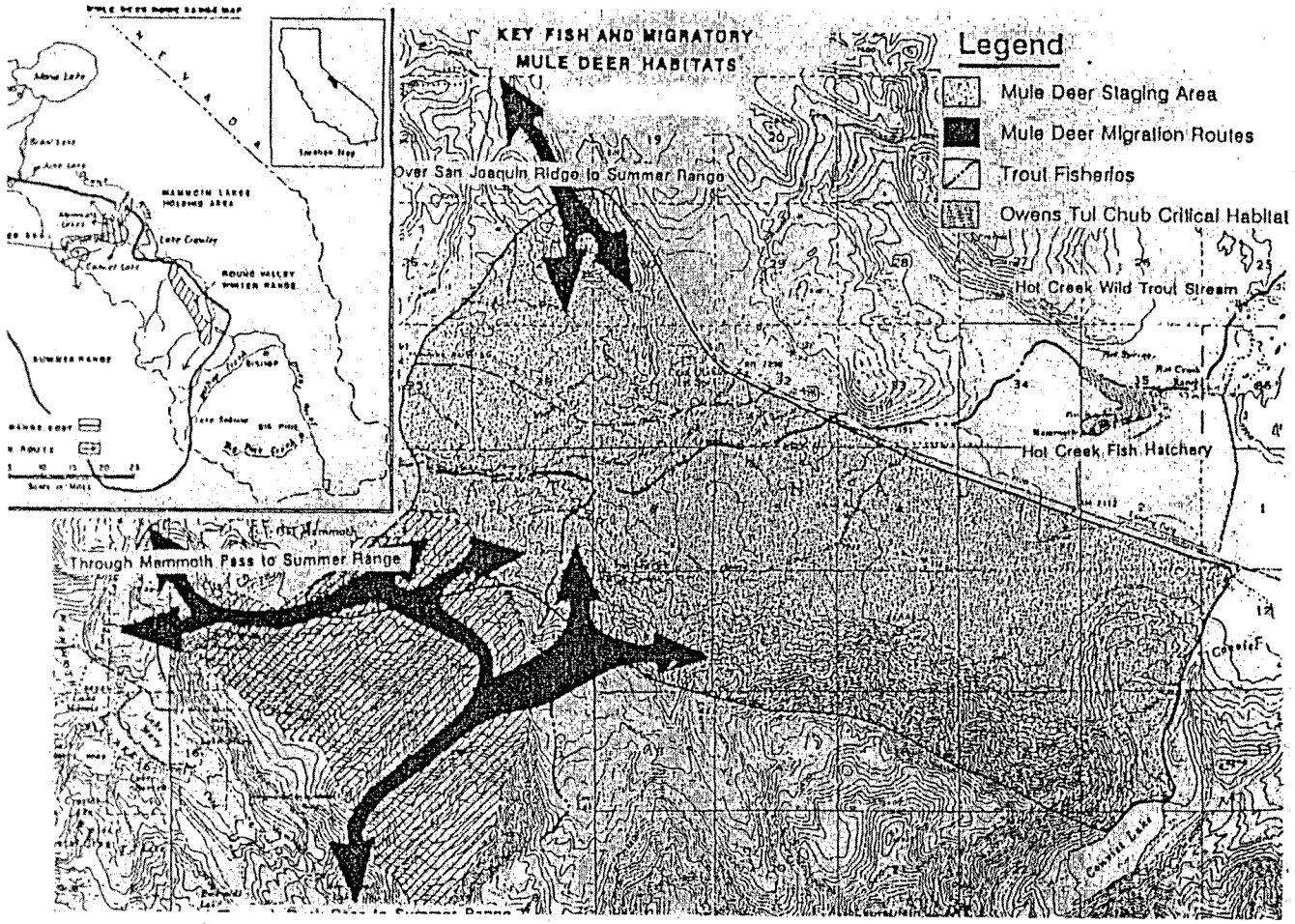
Standard jet engine blast contours provided by Boeing Corporation for narrow body jet aircraft such as the Boeing 757 and 737 confirm that the exhaust particles would not reach the highway which is at a distance greater than 500 feet from the taxiway. The aircrafts would be at idle power when exiting the runway after landing and the jet blast contours at idle power extend from 30 feet (100 mph jet blast contour) to 160 feet (35 mph jet blast contour) behind the aircraft. Hence these aircraft would not have any significant impacts on vehicular traffic (either motorized or non-motorized) on U.S. Highway 395 due to jet engine thrusts. [Boeing Commercial Airplane Group, *757-200 & 737-100/200 Airplane Characteristics for Airport Planning*, October 1994.]

Response to Comment A-6

The number of daily enplanements (an enplanement represents one passenger boarding an aircraft) in the year 2022 is estimated to be 1,380. This figure was obtained first by estimating traveler demand. Then a future schedule for possible air carrier operations was developed and used to analyze the traffic impacts of the proposed project. This number of enplanements is included in Appendix L of the Supplement. The exact number of daily enplanements would be dependent on airline scheduling practices. This figure is consistent throughout the Supplement and all supporting documents.

Response to Comment A-7

Construction and design of the security fence will be done in consultation with Caltrans and in compliance with Caltrans requirements if located within the state right-of-way or used to replace the existing right-of-way fence and emergency access gate. While it is an operational concern for Caltrans, the maintenance of an existing emergency access gate does not constitute a new environmental effect requiring analysis under CEQA.

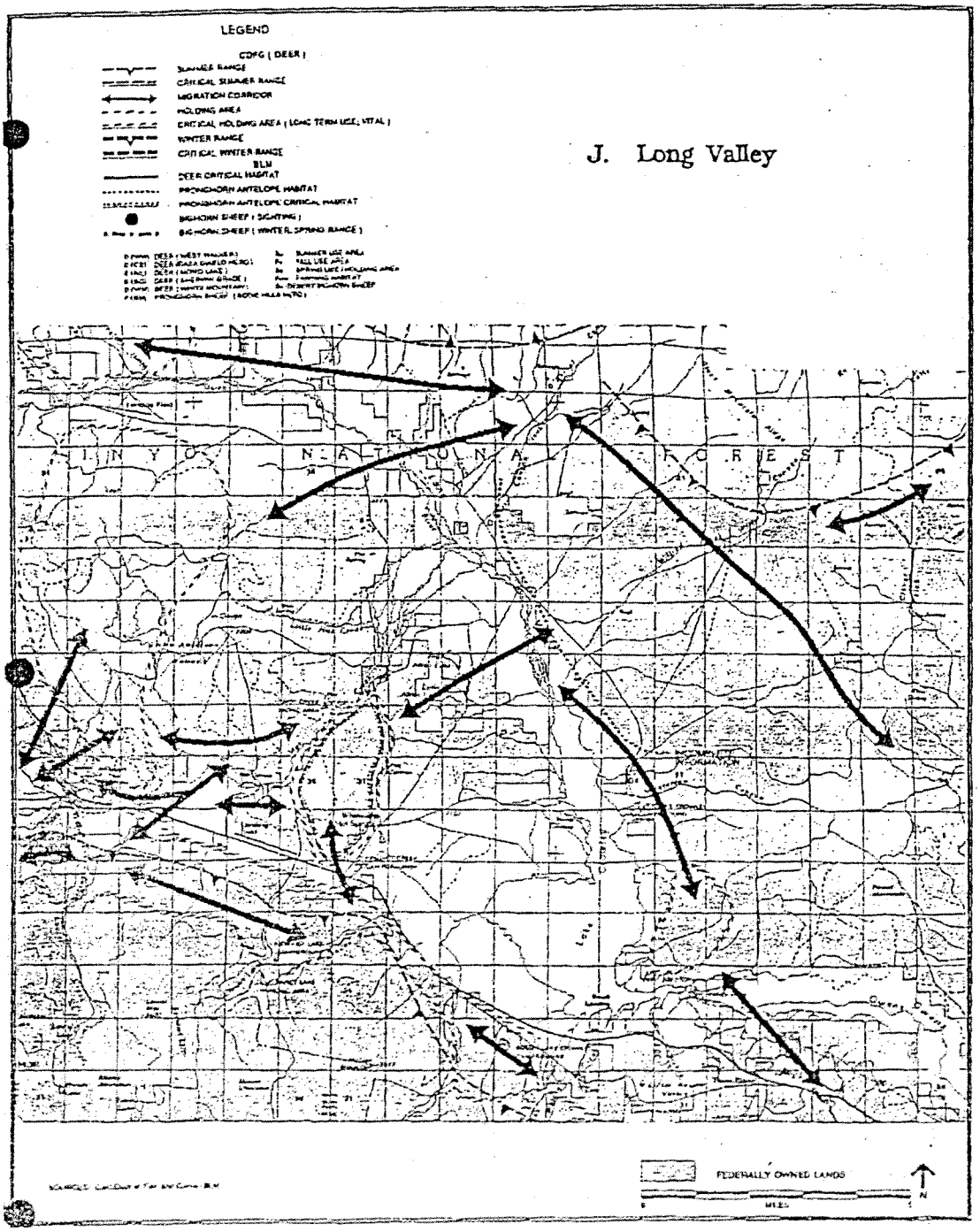


Source: Sherwin Ski Area Environmental Impact Statement
Prepared by: Ricondo & Associates, Inc.

Exhibit N-1

not to scale

Deer Migration Routes

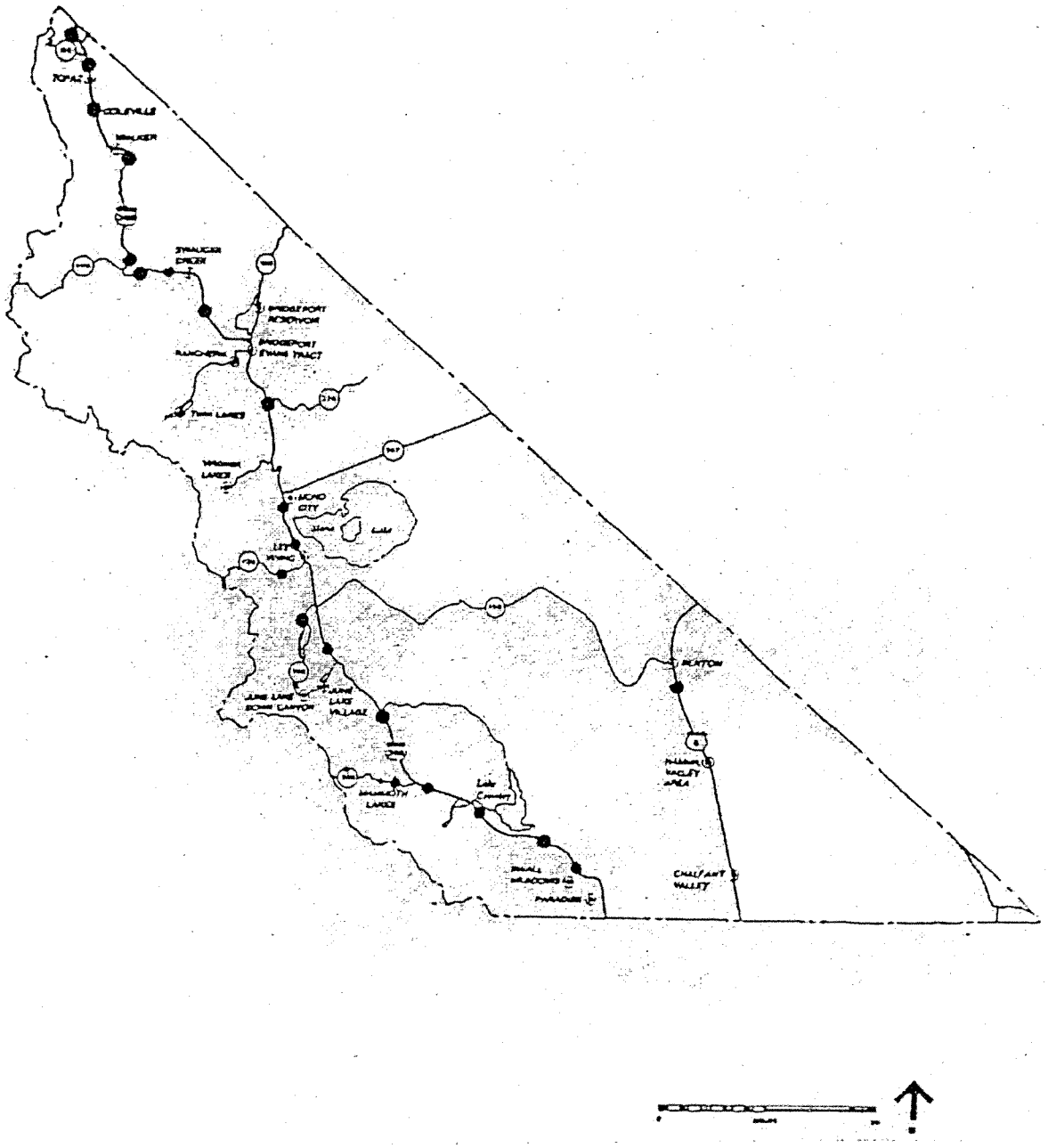


Source: Mono County Master Plan Environmental Assessment
Prepared by: Ricondo & Associates, Inc.

Exhibit N-2

not to scale

Wildlife Use Areas
Big Game



Source: Mono County Master Plan Environmental Assessment
Prepared by: Ricondo & Associates, Inc.

Exhibit N-3

not to scale

Deer Kill Locations
Mono County

Response to Comment A-8

Numerous potential mitigation measures were considered (i.e. channelization devices, turn pockets, extended turn lanes, and interchanges). From these, "feasible mitigation measures" that could minimize significant adverse impacts were selected as explained in Section 3.4 of the Supplement. (See CEQA Guidelines 15126.4 and 15126.6.) The mitigation monitoring and reporting program will also be used to identify the responsible parties/agencies and timing for implementation of mitigation measures.

BILL LOCKYER
Attorney General

State of California
DEPARTMENT OF JUSTICE

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November 26, 2001

Via Facsimile and U.S. Mail

William T. Taylor, Senior Planner
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FAX: (760) 934-8608

RE: **Draft Supplement to Subsequent Environmental Impact Statement for Mammoth Yosemite Airport Expansion Project**
(SCH# 2000034005)

Dear Mr. Taylor:

The California Attorney General's Office has reviewed the Draft Supplement to Subsequent Environmental Impact Report ("SSEIR") for the Mammoth Yosemite Airport Expansion Project ("Project"). As set forth in the SSEIR, the Town of Mammoth Lakes ("Town") proposes to expand the runway at the Mammoth Yosemite Airport ("Airport"), located in the Eastern Sierra off of U.S. 395 between the towns of Bishop and Mammoth Lakes. The Airport expansion project, if completed, will bring commercial jets to Mammoth Yosemite Airport; initial service would be provided from Chicago and Dallas Fort Worth, with additional hub service expected in the future. Under the Town's "high case" scenario, by 2022, the Airport will experience nearly 450,000 enplanements[1] and over 7,600 aircraft departures annually. (SSEIR at p. H-27, Table H-18; p. H-35, Table H-25.)

B-1

The expansion could significantly transform what is now a small, non-commercial airport. Expansion of the Airport, in turn, will likely transform the surrounding area; Mammoth Yosemite Airport is much closer to the area's natural attractions – which include Mono Lake, Yosemite National Park, the Ansel Adams Wilderness Area, June Lake, Devil's Postpile National Monument, Mammoth Mountain Ski Area and June Mountain Ski Area – than any other commercial airport, and it is within easy driving distance of the John Muir Wilderness Area and

[1]Enplanements are defined as numbers of passengers boarding an aircraft. Total passengers are twice that number. (SSEIR at p. I-6, Table I-1.)

Kings Canyon National Park. The expansion may, in addition, directly and indirectly impact the area's several sensitive, threatened, and endangered species, which include the genetically-distinct and isolated Mono County/Lyons County population of sage grouse, the rapidly-declining Round Valley mule deer herd, and the distinct subpopulations of Sierra Nevada Bighorn Sheep found in Mono and Inyo Counties, consisting of only 125 animals.

Although we appreciate that the Town has taken the initiative to provide additional information about the potential environmental impacts of the Airport expansion project, as required by the California Environmental Quality Act ("CEQA"), Public Resources Code § 21000 et seq., we have questions about the form of the document and its relationship to any documents that might be required under the National Environmental Protection Act ("NEPA"), 42 U.S.C. § 4321 et seq. In addition, we have substantial concerns about the adequacy of the SSEIR as a mechanism for public disclosure, since it consistently minimizes or fails to discuss significant impacts that may be caused by the Project. B-2 B-3

The comments contained in this letter are made pursuant to the Attorney General's independent constitutional, common law, and statutory authority to represent the public interest. (See Cal. Const., art. V, § 13; Cal. Gov. Code, §§ 12511, 12600-12; *D'Amico v. Board of Medical Examiners* (1974) 11 Cal.3d 1, 14-15 [112 Cal.Rptr. 786].) They are, accordingly, made on behalf of the Attorney General and not on behalf of any other California office or any state agency.

COMMENTS

The Project Warrants a Subsequent, Rather than a Supplemental, EIR

The Town has determined that a further CEQA document is required because it has made substantial changes to the Project since 1997, when the Town certified a document entitled "Subsequent Environmental Impact Report and Updated Environmental Assessment."[2] (See Pub. Res. Code, § 15162(a)(1); SSEIR at p. v.) The most important of these changes is the widening of the runway from 100 feet to 150 feet. While in 1997, the Town anticipated that it could accept

[2]The 1997 document was itself styled as subsequent to a 1986 document. The 1997 document supports an Airport Layout Plan and appears to have been prepared for submission to the Federal Aviation Administration as lead agency; it appears that the FAA, however, never acted on it. The 1986 document supports an Airport Land Use Plan and was prepared for submission to the Mono County Airport Land Use Commission and the U.S. Forest Service. The 1986 document did not discuss development of specific airport facilities, such as new or expanded runways, and stated that such facilities would be evaluated in separate documents that had not yet been completed (see 1986 document at p. 40); thus, it is not apparent how the 1997 document could have operated as a subsequent EIR to the 1986 document.

Boeing 737s and 757s without widening the runway, this is not in fact the case; unless the runway is widened, the Airport will not be able to accept commercial jet service. (SSEIR at pp. I-8, E-2 to E-4.) In addition, the Town has implicitly acknowledged that it must consider new information of substantial importance, for example, additional and recently-developed information about sensitive, threatened, and endangered species in the area. (See Pub. Res. Code, § 15162(a)(3); see, e.g., SSEIR at p. III-30 (noting March 2001 Biological Assessment and July 2001 Biological Opinion).)

Where an EIR for a project already has been certified, and the circumstances requiring preparation of a further environmental document exist, the default document under CEQA is a subsequent EIR. (Pub. Res. Code, § 15162.) The lead agency may prepare a supplemental EIR – a more abbreviated document that "need contain only the information necessary to make the previous EIR adequate for the project as revised" – where "only minor additions or changes would be necessary to make the previous EIR adequately apply to the project in the changed situation." (Pub. Res. Code, § 15163.)

It unclear why a supplemental EIR has been prepared, rather than a subsequent EIR as announced in the April 13, 2001, Notice of Preparation. While the SSEIR states summarily that only minor changes are necessary to make the 1997 document adequate (SSEIR at p. v), the length of the SSEIR and the number of issues raised in response to the Notice of Preparation indicate otherwise. In light of the significance of the changes to the Project, the Project's long and confusing procedural history (which should in any event be clarified), the fact that previous documents now contain outdated and irrelevant discussion, and the complexity of the issues surrounding the Project's impacts, preparation of a single, comprehensive and updated document, that is, a subsequent EIR, would best serve CEQA's purposes.

B-4

CEQA and NEPA Processes Should be Coordinated

CEQA encourages state and local agencies to coordinate environmental review with federal agencies to avoid duplication. In this way, the decision makers and the public benefit from joint planning, joint environmental research and studies, joint public hearings, and joint environmental documents. (Cal. Code Regs., tit. 14, § 15226.) This streamlining greatly benefits the public, which can become confused by parallel, but not wholly consistent, proceedings and documents.

As you are aware, our office and others have taken the position that an environmental impact statement ("EIS") is required before the FAA can decide whether to approve the Airport Layout Plan and/or fund the proposed improvements.[3] Since there is no apparent deadline by

[3]Although the FAA made a finding of no significant impact in December 2000 (SSEIR at p. xii.), the FAA has since announced that it has made no decision on the Project.

which the Town must prepare its CEQA documentation, it would best serve CEQA to prepare a joint subsequent EIR/EIS for review by all relevant state and federal agencies, or to wait to complete the CEQA process until after the NEPA process has been completed. (See Cal. Code Regs., tit. 14, §§ 15221, 15222.)

B-5

The Final Document Should Not Minimize the Impacts of the Project

CEQA is designed to "[e]nsure that the long-term protection of the environment shall be the guiding criterion in public decisions . . . ." (Pub. Res. Code, § 21001(d)). The EIR serves CEQA's goals by "inform[ing] other government agencies, and the public generally, of the environmental impact of a proposed project" and "demonstrat[ing] to an apprehensive citizenry that the agency has in fact analyzed and considered the ecological implications of its action." (*No Oil, Inc. v. City of Los Angeles* (1974) 13 Cal.3d 68, 86 [118 Cal.Rptr. 34].)

Notwithstanding CEQA's mandate, in many places the SSEIR appears to minimize the potential impacts of initiating regularly-scheduled commercial jet service to the Mammoth Lakes area. For example, one of the stated purposes of the Project includes providing a "transportation alternative to the private automobile for residents of and visitors to Mammoth Lakes" and "reduc[ing] adverse vehicular air emissions from forecast visitors to Mammoth Lakes and vicinity by replacing some of the vehicle trips with passenger trips." (SSEIR at p. I-2.) This assertion is unsupported by evidence or analysis and is at odds with the Town's intent to access new markets (including international markets), add service to additional hubs through additional carriers, and expand summer tourism. (See SSEIR, Appendix H.)

B-6

We are also concerned that the SSEIR may underestimate projected annual enplanements and aircraft operations. The SSEIR's primary method for projecting future enplanements and operations, which is set out in detail in Appendix H, relies on data provided by Mammoth Mountain Ski Resort for predicted "skier days" through 2022. It is not clear that the SSEIR takes into account that the introduction of commercial air service may itself increase the number of skier days – that is, that projected enplanements at an expanded Airport are not simply a percentage of skier days that are predicted to exist with or without commercial air service. In addition, it is not clear why projections of summer enplanements are dependant on projected winter enplanements – since the number of summer enplanements will likely be determined by the availability of lodging and services in the area during the summer months and the accessibility of the Eastern Sierra's many natural attractions.

B-7

If the enplanement and operations projections do in fact understate the level of activity at an expanded Airport, then every section of the SSEIR that uses these figures as a starting point

for analysis is called into question. And, even if these projections are reasonable, it appears that the SSEIR uses only the "base case" figures for calculating impacts. In order to disclose to the public the true impacts that may occur, the final document should also analyze impacts using the "high case" figures.

The Final Document Must Determine and Disclose Baseline Conditions and Analyze Impacts in Context

CEQA requires that an EIR begin with a description of the existing environment. (*Save our Peninsula Committee v. Monterey County Board of Supervisors* (2001) __ Cal.App.4th ___ 104 Cal.Rptr.2d 326, 342.) Accordingly, for each potential impact, an EIR must set out a baseline of existing impacts against which the significance of the proposed project's impact may be measured. (*Id.* [holding that EIR was deficient for failing to quantify actual, rather than hypothetical, pre-project water use].) Where such data is not already compiled, the lead agency has an obligation to "conduct the investigation and obtain documentation to support a determination of pre-existing conditions." (*Id.* at 343.)

The SSEIR fails to establish a baseline of impacts caused by the Airport in its current state for several potential impacts, including any existing contamination caused by Airport operations, existing water quality in the area, and current levels of actual water use and groundwater recharge rates. (See letter from Douglas Feay, California Regional Water Quality Control Board, Lahontan Region (5/15/01) and letters attached). Similarly, for noise impacts, the SSEIR relies primarily on noise contour maps, but the contouring ends at fairly high levels of noise and does not adequately express the relative quiet that currently exists in the area outside the boundaries of the Airport.[4] Without adequate baselines, it is impossible to judge whether impacts that would result from the expansion are significant.

B-8

B-9

The SSEIR does disclose certain baseline conditions for air quality in the region. The Town notes that the Great Basin Valley airshed, in which Mammoth Yosemite Airport is located, is designated a nonattainment area for PM_{10} under state and federal standards; Mono County is also a designated nonattainment area for ozone under state standards and is considered an ozone transport region. The Town fails, however, to analyze the Project's potential impacts to air quality in context, instead stressing that the Project's emissions would be "only a minute fraction of the total emissions in the region." (SSEIR at p. III-26.) The relevant question, however, is whether any additional amount of particulate matter and ozone precursors should be considered

B-10

[4]The SSEIR justifies a limited noise on the ground that any exposure at Community Noise Equivalent Level ("CNEL") 60 or less is not significant because it is considered consistent with residential uses. (SSEIR at p. III-94.) Use of an absolute value to gauge the significance of noise impacts was expressly rejected in *Berkeley Keep Jets Over the Bay Committee v. Board of Port Commissioners* (2001) 91 Cal.App.4th 1344, 1380-81 [111 Cal.Rptr.2d 598].

significant in light of the serious nature of dust and ozone problems in the air basin. (See *Kings County Farm Bureau v. City of Hanford* (1990) 221 Cal.App.3d 692, 718 [270 Cal.Rptr. 650].) To comply with CEQA, this question must be answered in the final document. B-10

The Final Document Must Consider All Closely Related Past, Present, and Reasonably Forseeable Future Projects in its Cumulative Impacts Analysis

"Assessment of a project's cumulative impact on the environment is a critical aspect of the EIR." (*Los Angeles Unified School Dist. v. City of Los Angeles*, (1997) 58 Cal.App.4th 1019, 1025 [68 Cal.Rptr.2d 367].) Cumulative impacts include "the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects." (Cal. Code Regs., tit. 14, § 15355(b).) The SSEIR lists nine projects "currently proposed in the region" – specifically, Intrawest Development; Eastern Sierra College, Sherwin Bowl Ski Area; Lake Ridge Ranch, Rimrock Ranch, Sierra Business Park, and Mammoth Lakes Commercial Development Plan. Without explanation, the SSEIR concludes that only the latter two projects "need to be considered part of the cumulative impact." (SSEIR at p. II-9.)

In fact, a reasonable argument can be made that all projects that will substantially rely on or benefit from the expanded Airport, e.g., condominium projects, hotels, and resorts within driving distance of the Airport, are closely related to the Airport and should be included in the cumulative impacts analyses. Such projects may include not only some or all of the nine projects listed above, but many other projects in the area. For example, Appendix H of the SSEIR, which addresses aviation demand, notes in passing three new Intrawest projects that are anticipated to add approximately 2,100 units to the existing bed base, and also that Mammoth Mountain is in the midst of a five-year, $132 million improvement program. (SSEIR at p. H-3). A quick review of the CEQAnet database reveals many additional potential candidates for inclusion in a cumulative impacts analysis, as does the November 16, 2001, comment letter from the California Department of Fish and Game. B-11

Limiting the cumulative impacts analysis to two future projects, without additional explanation, is unreasonable. The final document must substantially broaden the scope of the cumulative impacts analysis or adequately explain the failure to do so.

The Final Document Must Acknowledge and Discuss the Project's Growth-Inducing Impacts

It is "settled that the EIR must discuss growth-inducing impacts even though those impacts are not themselves part of the project under consideration, and even though the extent of the growth is difficult to calculate." (*Napa Citizens for Honest Government v. Napa County Board of Supervisors*, (2001) 91 Cal.App.4th 342, 368 [110 Cal.Rptr.2d 579].)

The Airport expansion project is an essential component of the Town's plan to increase ski visitors and foster year-round tourism. (See SSEIR at pp. I-2, H-4.) Yet the SSEIR includes only a cursory, three and one-half page discussion of growth-inducing impacts that contains few statistics or facts. The growth-inducing section concludes that the expanded Airport "will provide beneficial environmental effects by accommodating the forecast growth in accordance with the Town's general policy to improve air quality by reducing vehicular miles traveled through provision of an alternative to the personal automobile." (SSEIR at p. V-5.)

B-12

The final document must fully disclose the essential role that the Airport expansion project is designed to play in development of the Mammoth Lakes area into a year-round travel destination and discuss and analyze its growth-inducing potential.

CONCLUSION

We appreciate the opportunity to comment on the draft SSEIR and trust our comments will be taken into account in preparing a revised document.

Sincerely,

JANILL L. RICHARDS
Deputy Attorney General

For BILL LOCKYER
Attorney General

cc: Brian Grattidge, State Clearinghouse
Darrell M. Wong, California Department of Fish and Game
Douglas Feay, California Regional Water Quality Control Board
Caroline Yee, California Department of Transportation
Gary Honcoop, California Air Resources Board

B. California Attorney General

Response to Comment B-1.

The Supplement uses a forecast of 333,800 enplanements and 23,650 aircraft departures annually. This forecast was prepared for the Benefit Cost Analysis of the project and was approved by the Federal Aviation Administration (FAA). [*Benefit Cost Analysis, Mammoth Lakes Airport Expansion Project*, March 2000.] These projections are for the renewal of commercial air service to Mammoth Yosemite Airport, which would be allowed by the Airport improvements included in the proposed project. These improvements would allow the Airport to safely accommodate narrow body air carrier jet aircrafts. These revised projections were used for all evaluations in this Supplement.

The "high case" scenario of 450,000 enplanements and 27,390 aircraft departures annually was not deemed appropriate for Mammoth Yosemite Airport because, under that scenario, the Airport would experience a winter enplanement to skier ratio that is higher than all case study airports.

Winter enplanements are estimated to account for approximately 60 percent of the Airport's annual enplanements. During the initial year of operation, it is assumed that the Airport would only provide commercial service during the winter season. As a result, winter enplanements are projected to represent 100 percent of the Airport's enplanements in 2003, with the winter share of annual enplanements decreasing thereafter to approximately 60 percent of total airport enplanements by 2022.

The commentor incorrectly asserts that the expansion will likely transform the surrounding area because of its proximity to natural attractions including, Yosemite National Park, Kings Canyon National Park, June Lake, the Mono Lake, Devils Postpile National Monument, and the John Muir and Ansel Adams wilderness areas. The commentor further asserts incorrectly that the expansion may impact sensitive, threatened and endangered species, including the "genetically distinct and isolated Mono County/Lyons County population of sage grouse," the "rapidly declining Round Valley mule deer herd," and the distinct populations of Sierra Nevada Bighorn Sheep (sic).

The assertion that the expansion will "likely transform the surrounding area" is not supported by the existing land management plans (Inyo National Forest Land and Resource Management Plan, Bishop Resource Area Resource Management Plan, Wilderness Management Plan (WMP) for the Ansel Adams, John Muir, and Dinkey Lakes Wildernesses).

While close in air miles, Kings Canyon National Park is not readily accessible by car from the east side of the Sierra Nevada. Driving time from Mammoth Lakes to Kings Canyon is approximately seven hours, much farther than from other major California airports.

Neither the sage grouse nor the mule deer are listed as threatened or endangered contrary to the inference in the comment. Further, the Round Valley mule deer herd is not rapidly declining. The Inyo National Forest Wildlife Management News clearly describes the population dynamics of this herd. While the herd did experience a decline in the early nineties, the population was at record numbers and was probably not supportable by the range. Since the decline, the herd numbers have grown back by about 60 percent from the low. (See Attachment A to Response to Comments.) As

described in the Supplement and herein, the project would not have a significant impact on these species, either by itself or cumulative with other existing and proposed development.

To date, no formal determination has been made to confirm that sage grouse in Mono County are "genetically distinct" from other populations. The improvements to the Airport would have no significant adverse impacts on sage grouse, either overall or as a distinct and isolated population. Sage grouse exist in the project vicinity, as they do throughout much of the Long Valley and southern Mono County, although there are no major lek sites (mating grounds) within two miles of the Airport. As shown in Attachment A, the California Department of Fish and Game indicates that the Mono County sage grouse populations are among the most stable in the state.

As stated in the Biological Opinion issued by the US Fish and Wildlife Service, management of the Sierra Nevada bighorn sheep habitat is within the jurisdiction of the Inyo National Forest. (See Appendix J of the Supplement.) The Wild Life Management Plan (WMP) addresses bighorn sheep and sets quotas for wilderness use. As stated in the Biological Opinion, changes to the wilderness management direction would require consultation. There is nothing in the Mammoth Yosemite Airport improvements project that necessitates or promotes a change to wilderness management policies.

Response to Comment B-2

The form of the Supplement is influenced by the NEPA documents for the project only in one respect. The Environmental Assessment ("EA") and Finding of No Significant Impact ("FONSI") prepared by the FAA for the project provide substantial data and analysis about the project and its potential impacts. The Supplement uses that data where appropriate. (*See* CEQA Guideline 15150, which permits an EIR to incorporate other public documents by reference.) In addition to the Supplement's use of data and analysis from the EA and FONSI, the relationship between the Supplement and the NEPA documents is essentially that the Supplement will be used for State of California and local approvals and the EA and FONSI will be used for federal approvals. Also, the EA and FONSI are part of the administrative record supporting the analysis in the Supplement. The Town and responsible agencies thus may rely on the data and conclusions set forth in the EA and FONSI as well as in the Supplement itself.

Response to Comment B-3

As explained in more detail throughout these responses, the Supplement properly and conservatively analyzes and discloses the potential environmental impacts of the changes in the proposed project since the 1997 Subsequent EIR, including any potentially significant impacts. See the discussion in the Supplement entitled "Public Review and Environmental Review Process," beginning on Page ix of the Supplement, for additional detail on the uses of the Supplement and its relationship to other environmental documents for the project. The Supplement was provided to all Responsible and Trustee agencies, as well as the State Clearinghouse (SCH No. 2000 034005), to further ensure that all proper agencies were notified of its availability.

Response to Comment B-4

The commentor challenges the Town's decision to prepare a Supplemental EIR, and asserts that the Town should prepare a Subsequent EIR instead. This comment is addressed in the Supplement at

Pages iv through xii. Subsequent and Supplemental EIRs are for most purposes (including public review and related requirements), treated as the same type of document. Like a Subsequent EIR, a Supplemental EIR updates the prior EIR to assure compliance with CEQA by analyzing all potential impacts from changes in the project proposed since certification of the prior environmental document(s). A supplemental EIR must be circulated for public comment and must include responses to comments received on the draft document. (CEQA Guidelines 15163(c),(d).) Further, as with a subsequent EIR, after a supplemental EIR is prepared, the Final EIR relied upon by the decision-maker includes the current document and all prior environmental documents. (CEQA Guideline 15163(e).) Thus, in either case, the record before the decision-maker and the public with respect to environmental impacts is the same.

The commentor also incorrectly asserts that a subsequent EIR is the default document under CEQA. There is no support in the case law, statute or guidelines for such a contention. (*See* Remy, Thomas, et. al., 1999 Guide to the California Environmental Quality Act at 538; Kostka & Zischke, Practice Under the California Environmental Quality Act at § 19.5.) The CEQA Guidelines state that a Subsequent EIR is a stand-alone document wherein the entire EIR is revised, whereas a Supplemental EIR adds the information that is necessary in light of the project changes. (CEQA Guideline 15163(b).) Where, as here, the entire EIR has not been revised, a Supplemental EIR is the appropriate document. Given the minor scope of the changes and the relatively limited number of issues to be analyzed, it would be a waste of resources and contrary to CEQA's public policies to prepare a complete stand alone supplement. (*See* Pub. Res. Code § 21002(e) (focus of environmental review should be on significant effects); § 21003(f).) Also, preparing a Supplemental, rather than Subsequent, EIR is consistent with CEQA's direction to reduce the volume of environmental documents where possible. (*See* CEQA Guidelines 15141, 15150, 15152 and 15153.) CEQA Guideline 15162 also states that CEQA does not require a new "comprehensive EIR" for all projects, particularly revised projects, in order to alleviate unnecessary review.

In general, in keeping with the concept that the Supplement only considers changes in the project since the previously certified 1997 Subsequent EIR, and that the 1978, 1986, and 1997 EIRs have been certified and the statutory periods for challenging the adequacy of those documents has passed, comments should be limited to such changes in the project as set forth in the Supplement. The current project is very similar to the original 1978 and 1997 proposals to accommodate commercial airline service including jet service, at Mammoth Yosemite Airport. The runway would be extended by 1,200 feet rather than 2,000 feet as previously proposed. The runway would also be widened from 100 to 150 feet, but that would occur primarily within the already graded area of the Airport. For these reasons, the Town properly determined that the required revisions to the EIR were minor and thus that a supplement is appropriate. Preparation of a Supplemental EIR allows the environmental analysis to focus on the environmental issues at hand that have not been previously analyzed. Conversely, recirculation of the previous EIRs with the Supplement would be contrary to CEQA's mandate, as well as the commentor's suggested goal of streamlining the environmental analysis to benefit the public.

The commentor further contends that unless the runway is widened, the Airport will not be able to accept commercial jet service. The acceptance of commercial jet service is not a change in the project. In fact, that has been part of the project since the 1978 EIR. (See 1978 EIR at Table A.) Indeed, the Mammoth Yosemite Airport as currently configured has previously accepted commercial jet service (See Supplement at Page xi.) The most recent service was provided by United Airlines in the mid-1980s, and was halted due to passenger complaints about flights being too full. (*Id.*) The

currently proposed expansion is driven by modern safety and aircraft requirements. In any case, the proposal includes widening the runway as analyzed in the Supplement.

In order to alleviate potential confusion, the following summary of the project's procedural history is provided.

- In 1978, Mono County, then the owner of the Airport (then called the Mammoth-June Lakes Airport), proposed to expand the Airport to accommodate commercial airline service, including jet service, by expanding the commercial air carrier terminal building to 20,000 square feet, adding approximately 290 vehicular parking spaces, constructing a new access road (connecting to Benton Crossing Road), and extending the existing 7,000-foot runway to 9,000 feet.
- In 1986, Mono County adopted the Mammoth-June Lakes Airport Land Use Plan. In addition to the expansion proposed in 1978, this plan included a hotel and restaurant complex, an 18-hole golf course, and recreational vehicle park. This plan also included a 5,000-foot cross-wind runway. At that time, the Airport served general aviation and commercial flights, and there were approximately 1.5 million annual visitors to the Mammoth Mountain Ski Area. The County prepared and certified an EIR for that project and the Inyo National Forest prepared and signed an Environmental Assessment/Decision Notice to comply with the requirements of NEPA. Subsequently, the Town of Mammoth Lakes acquired and annexed the Airport property.
- In 1997, again seeking to accommodate commercial jet service, the Town proposed instead to extend the existing 7,000-foot runway to 9,000 feet and to extend the existing taxiway and add appropriate cross taxiways, to expand the commercial air carrier terminal building to 25,000 square feet, to construct a larger hotel/condominium building, and to add approximately 640 parking spaces and approximately 100 spaces for luxury recreational vehicle parking on approximately 10 acres. The golf course and cross-wind runway portions of the prior proposal were eliminated. Although larger in some respects, the 1997 proposal eliminated over eight million square feet of potential new land disturbance that would have occurred under the 1978/1986 proposal. In part for this reason, the Town determined at that time that a Subsequent EIR best met CEQA's requirements. (See CEQA Guideline 15162.) The Town prepared a Subsequent EIR and Updated Environmental Assessment. The Town certified the Subsequent EIR in July of 1997.
- In 2000, the Town proposed a further modification to the proposed project in 1978/1986 and modified in 1997. The 2000 proposal included extending the existing 7,000-foot runway by 1,200 feet, widening the runway from 100 to 150 feet, and expanding taxiways from 50 to 75 feet to meet current airline requirements. This work would take place primarily within the already-disturbed Airport property. The other elements of the project remained essentially the same as the 1997 proposal.
- In response to the Town's 2000 proposal, the FAA decided to prepare a separate NEPA document. In December 2000, the FAA published a Final Environmental Assessment and published a Finding of No Significant Impact based on the December 2000 EA. The FAA has not yet adopted a Decision on the 2000 FONSI.
- Given the modest changes in the project since the 1997 proposal, the Town concluded that the resultant changes in potential environmental impacts would likely be minimal. Accordingly, pursuant to CEQA Guideline 15163, the Town prepared the 2001 Draft Supplement to the 1997 Subsequent EIR (published October 5, 2001), comments on which are the subject of these responses.

Response to Comment B-5

Where a project is subject to NEPA and CEQA, CEQA Guideline 15221 permits a lead agency to rely on an Environmental Impact Statement or Finding of No Significant Impact, rather than preparing a separate EIR or negative declaration under certain circumstances. Where both documents will be prepared, CEQA Guideline 15222 states that the lead agency "should try" to prepare a combined document. There is, however, no requirement that a joint document be prepared. Further, the conclusions of the environmental documents prepared here — in the NEPA context the Environmental Assessment and FONSI and in the CEQA context this Supplement — are consistent with one another, and the Supplement relies on the data and conclusions set forth in the EA and FONSI where appropriate. It would unnecessarily delay the project to hold the CEQA process until the FAA adopts a Decision.

Response to Comment B-6

The Town's conclusion that the project will provide a transportation alternative for skiers and tourists wishing to visit the Mammoth area does not, and is not intended to, minimize potential impacts of the project. Instead, that conclusion is consistent with and supported by the experiences of other similar resort areas described below and in the Supplement. (See Section 3.4 of the Supplement.) The Supplement fulfills CEQA's mandate to inform governmental agencies and the public of potential environmental impacts of the changes in the project since the prior EIR was certified.

Providing a transportation alternative is one goal of the project, and that goal was formulated on substantial evidence that it could be achieved. Specifically, 90 percent of visitors to the Yampa Valley Regional Airport, which serves the Steamboat Springs ski area in northwestern Colorado, use shuttle buses to the ski area. [Personal communication with Jim Parkes, Airport Manager. August 2001.] 60 to 65 percent of visitors to the Gunnison County Airport, which serves the Crested Butte and Monarch ski areas in Colorado, use shuttle buses to the ski area. [Personal communication with Gunnison Airport Manager. August 2001.] Shuttle service between the Airport and the Town and the Airport and the ski resort is a mitigation measure in the 1986 EIR/EA, which carries through to the current document. These comparisons support the reasonable conclusion set forth in the Supplement that approximately 70 percent of Airport users would use public buses or private shuttles rather than private automobiles. (See Section 3.4 of the Supplement.) Further, because the project is proposed to accommodate existing tourists and recapture lost visitor numbers, the total number of visitors to the area is not expected to increase substantially over the mid 1980s. Instead, visitors who would have driven from Los Angeles or Reno (possibly after flying to those cities from elsewhere), for example, will now be able to fly directly to Mammoth Lakes. That eliminates the direct automobile trips from these arrivals. It also means that those who arrive directly by aircraft do not, by default, have an automobile during their stay in Mammoth Lakes, thereby further reducing automobile trips in and around the Town.

Response to Comment B-7

The Town is hopeful that air service will generate additional skier days, particularly from the type of winter resort traveler that more typically flies to a resort, and then stays for a longer period, typically including an increase in mid-week skier days. This would allow the Town to accommodate additional skier days, but would not induce growth because the construction of additional facilities is not required to serve the additional skier days.

Although the Town does hope and has planned for additional skier days, experience with other airports demonstrates that there is not a causal link between commercial air service and growth in skier days (See Supplement at Table H-8). The air service at the Airport would help accommodate transportation from the increased visitors and resulting skier days that is anticipated to occur due to improvements to the ski area and new and better accommodations within the Town. The projection of skier days reflects these facts. As shown in Appendix H of the Supplement, it is anticipated that skier days will increase to the level achieved in 1980s and the Airport will support such anticipated growth.

It is a standard practice within the aviation industry to prepare "unconstrained" forecasts that do not consider the potential impacts of facility constraints or other factors that would artificially prevent the Airport from realizing its enplanement potential. In this way, the Airport facilities needed to support the Airport's unconstrained demand can be clearly identified and their potential impacts measured. The aviation demand forecasts for the Airport were also prepared using this approach.

These projections used in the Supplement were developed based on a comparative study analysis of five comparable airports as prescribed in *FAA Airport Benefit-Cost Analysis (BCA) Guidance,* dated December 15, 1999. In order to compare each market's characteristics, the following factors were examined.

1. Number of annual ski visitors (represented as skier days)
2. Number of ski lifts, trails and skiable acreage
3. Number of area beds/pillows
4. Number of annual national park visitors
5. Driving distances from competing commercial service airports
6. Historical enplanement levels

All these factors were used to develop a forecast for projected growth at Mammoth Yosemite Airport. Another factor that was considered is the total visitor capacity of the Mammoth Lakes area. As explained in Section V of the Supplement, new development in the Town of Mammoth Lakes and its vicinity is limited due to lack of developable land, which in turn restricts the additional bed base.

Similar to the visitor characteristics occurring at each of the other case study airports, it is assumed that a majority of the enplanements at Mammoth Yosemite Airport will be derived from the winter skiing activities. This is primarily due to the change in tourism demographics, from more affluent individual visitors in the winter to more discretionary family-oriented visitors in the summer. In addition, more visitors choose to make their trips via automobile in the summer months. As exhibited by each of the case study airports, anywhere from between 50 percent and 100 percent of each airport's annual enplanements occur during the winter season. Excluding Yampa Valley Regional and Vail/Eagle County airport, which serve predominantly winter skiers, the percentage of winter enplanements ranges from 50 percent to 65 percent of total annual enplanements. Based on this comparison, Mammoth Yosemite Airport is forecast to have 60 percent of the Airport's annual enplanements occurring in the winter season. The winter enplanements are directly related to the ski season at Mammoth Mountain and indirectly related to the available bed base in the area. A relationship of enplanements to skier days was used to project future winter enplanements at the Airport using estimates from the case study airports.