# APPENDIX E
# Socioeconomics

This appendix contains tabular data and supporting materials for Section 4.3: Social, Economic, and Demographic Characteristics of the Area and used in the analysis of socioeconomics for this EIS.

E-1 Technical Memorandum: Economic Impact of Proposed Regional Air Service at Mammoth Yosemite Airport (2006)

E-2 Additional Economic Summary Tables

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# Appendix E-1

## Technical Memorandum: Economic Impact of Proposed Regional Air Service at Mammoth Yosemite Airport

The purpose of this technical memorandum is to evaluate the economic impact of the Proposed Action Alternative for the Mammoth Yosemite Airport in the Town of Mammoth Lakes, California. This appendix contains a description of local development activity, calculation of the composite regression model used in the analysis, and a presentation of changes in economic output as a result of the regional service alternative.

*Technical Memorandum:*

# Economic Impact of Proposed Regional Air Service at Mammoth Yosemite Airport

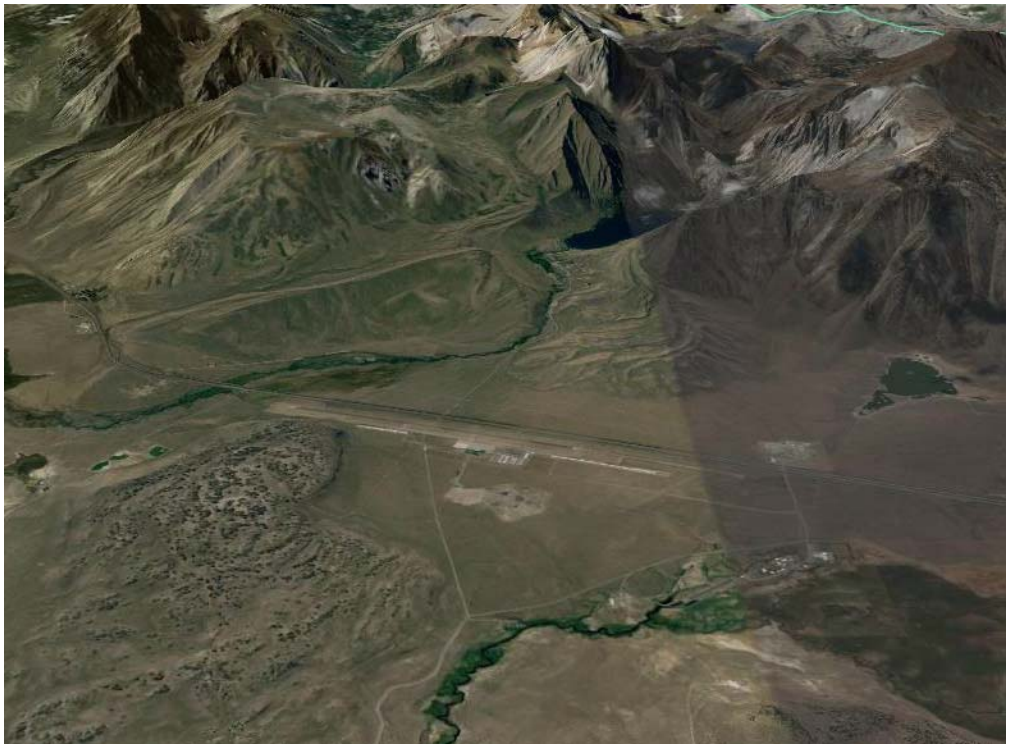

Photo: Google Earth

September 2006

Prepared by The SGM Group, Inc., for the Federal Aviation Administration

Revised September 2007 by Hayes Planning Associates, Inc.

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# 1.0 Introduction

The purpose of this technical memorandum is to evaluate the proposed Horizon Airlines operation specifications amendment for the Mammoth Yosemite Airport (MMH) in the Town of Mammoth Lakes, California. Horizon Airlines has proposed initiating regional air carrier service into MMH (MMH). Under this proposal, service would be provided using existing airport facilities, involving no runway modification or construction of new facilities. The only airport modification would be a remodel of an existing maintenance building to serve as a passenger terminal to accommodate updated passenger security requirements. This remodeling of an existing building is not subject to FAA approval. This proposed Horizon Airlines MMH operation specifications amendment is referred to as the Proposed Action for the remainder of this study.

This technical memorandum also refers to a previous study entitled Technical Memorandum: Mammoth Yosemite Airport DEIS—Economic Impact of Airport Expansion, May 2005, which was also prepared by The SGM Group, Inc. This previous study was conducted in conjunction with the earlier environmental impact statement concerning a proposed MMH runway expansion. In October 2005 the FAA stopped work on the proposed airport expansion EIS. Since then the Town of Mammoth Lakes focused its efforts on the pursuit of airline services that was regional in nature and could be accommodated within the existing facilities at MMH. Horizon Airlines submitted its letter of intent to provide regional carrier air service to the Federal Aviation Administration (FAA) in May 2006 resulting in the preparation of this EIS (71 FR 41859). This report references the previous May 2005 technical memorandum and relies upon parts of the May 2005 memorandum that remain valid today. The referenced material pertains to concepts and information that did not depend upon the specific proposal that was being evaluated at that time. The May 2005 technical memorandum is included as Appendix E-3.

This analysis examines the potential economic effects of the Proposed Action using the same methodology applied in the earlier technical memorandum that examined potential economic impacts linked to implementation of broader commercial service.[1] The procedure retains the original case studies but updates the composite model based on changes in local MMH market area information used in the original application. The significant decrease in the total number of enplanements for the regional versus the runway extension alternative indicate that updating the individual case studies would not result in measurable change to the total output. Changes in local taxation and visitation data, where available, were incorporated in the update.

One significant change from the original study is that construction costs are not included in this analysis since the interior remodeling of an existing building to accommodate passenger handling is not subject to FAA approval. Also, fiscal analysis updates are not included because of the reduced overall development-related impacts. For the purpose of this updated impact study, the baseline year has been shifted to 2005. Initially, it was anticipated that the Horizon Air Service to MMH would begin in 2008. Consequently, this technical memorandum forecasts socioeconomic impacts for the years 2008 to 2015. However, since the completion of the economic modeling, the starting year for the Horizon Air Service was delayed until 2009. The projected impacts are considered representative for the revised analysis period of 2009-2015 since the forecast of aviation activity indicates that the maximum level of operations would be reached prior to the 2015 analysis year.

As in the previous study, the Two-County Socioeconomic Study Area, which includes Mono and Inyo counties, the Town of Mammoth Lakes and the City of Bishop, was selected as the basis for the economic impact analysis for several reasons: First, although it represents an area larger than that selected for other components of the Environmental Impact Statement, counties are the smallest jurisdiction for which economic data are available on a consistent basis; and, second, this area encompasses the primary area that could be affected by changes in the resort economy that dominates the area. Year-round access throughout the area is available primarily along the north-south transportation corridor centered on California's US Route 395. East-west access throughout a significant portion of the region is often unavailable during the winter season, the period of time during which the resort center serves a major portion of the region's visitors. As a result, the potential change in

employment throughout the impact area, although tied to year-round activities, is most affected by opportunities linked to winter-season visitors.

As shown in Table 1, forecasts provided by the Town indicate that initial service would include two flights per day between Los Angeles International (LAX) and Mammoth Yosemite (MMH). This initial service would run for 112 days beginning with the 2008/2009 winter season, generating approximately 10,200 departing passengers (enplanements). From 2008 through 2011, the number of daily winter flights would increase from two to eight, with expanding service to Las Vegas, northern and southern California. The number of winter enplanements during this period would increase to 60,900.

By 2012, summer service of two additional flights per day may be added for a two-month period, with additional enplanements expected to start at 5,500 in 2012, increasing to 6,250 in later years. By 2013 the total number of annual enplanements is projected reach 67,200. This total represents the maximum that can be accommodated under the Proposed Action based on the fact that the proposed passenger terminal facility and aircraft apronwould only be capable of processing one aircraft at a time.

A key assumption in this analysis is that enplanements represent "additional new visitors" to the Mammoth Lakes area, rather than passengers who would have driven from Los Angeles to Mammoth Lakes in the absence of commercial air service. This analysis assumes the regional service between Los Angeles and MMH would primarily function as a connecting flight, thereby allowing skiers and other tourists to fly from their local airport to Los Angeles International Airport (LAX) and from LAX to MMH. Assuming that enplanements signify "additional new visitors" insures that this EIS discloses the maximum potential for environmental impacts in terms of effect on future growth and development. However, it is likely that some percentage of visitors that currently drive approximately 300 miles from the Los Angeles area would take advantage of the new commercial service; therefore, this analysis is quite conservative and may over-predict what could occur if service to MMH were initiated.

The magnitude for potential tourism-related socioeconomic impact is best understood by first estimating the potential additional visitor days that could result from the Proposed Action. The Mammoth Lakes Visitor's Bureau estimates an annual average of 2.8 million visitors come to the Town of Mammoth Lakes. The winter season, from November through April attracts approximately 1.3 million visitors and in the summer season, June through September, the town hosts approximately 1.5 million tourists. Visitors in both seasons stay an average of four days. The off-seasons (i.e. shoulder seasons) for tourism in the area are spring and fall. The tourism industry dominates the employment characteristics of the region. In 2005, the accommodations and food services sectors accounted for approximately 20 percent of the employment and 16 percent of the industrial output in the Socioeconomic Study Area (SMG, Inc., 2006).

During the first year of regional air service at MMH (winter season of 2008-2009), it is forecasted that there would be two flights per day for 112 days during the ski season - resulting in approximately 10,214 passenger enplanements. These enplanements could represent 10,214 "new visitors," who are projected to stay in the area an average of four nights based on data from the Mammoth Lakes Visitors Bureau. This represents an increase of 40,856 additional "visitor days" during the 2008-2009 winter season. By 2015, it is forecasted that there would be two flights per day for 60 days during the summer and eight flights per day during 112 days of the winter season. As a result, there could be 6,240 enplanements during the summer season and 60,928 enplanements during the winter season. Assuming an average of four nights per visit for summer and winter visitors, an additional 268,672 additional annual visitor days is projected in 2015. Information from the Mammoth Lakes Visitors Bureau indicates that the Town of Mammoth Lakes experiences an average of approximately 11,200,000 annual visitor days. Thus, the Proposed Action could potentially result in a 0.4 percent increase in total annual visitor days in 2009, and a 2.4 percent increase in total annual visitor days in 2015.

Section 2 is an update in the description of existing conditions and local development activity. Section 3 gives an overview of the socioeconomic methodology and terminology as well as a presentation of the potential socioeconomic and development impacts resulting from the Proposed Action.

# 2.0 Existing Conditions

## *2.1 Background*

Since preparation of the earlier May 2005 study, development-related activity in the Mammoth Lakes market area has continued in concert with local economic conditions. The updated description of existing economic conditions and development activity in the Mammoth Lakes region provides a context in which to evaluate the revised economic impacts of the Proposed Action at MMH. Section 2.2 updates market conditions in the Mammoth Lakes region. Total economic output for the Two-County Study Area is re-examined in Section 2.3, The Two-County Socioeconomic Study Area Economic Profile. Section 2.4 presents a summary of the existing conditions. As input to the analysis for all jurisdictions, revised baseline demographic and housing data were available from the California Department of Finance, Demographic Research Division, as this division offers the most current data by subarea. Employment data was derived from several sources. Total employment by county was available through the Bureau of Economic Analysis (BEA) of the U.S. Department of Commerce, Regional Economic Information Service. Subarea employment distribution was provided by the State of California, Employment Development Department, Labor Market Information Division (LMI). As information from these sources is used in this analysis, its application is defined and purpose described.

## *2.2 Mammoth Lakes and Mono County*

### 2.2.1 Mammoth Lakes

The Town of Mammoth Lakes, California, the center of economic activity in the region, is located in Mono County on the east side of the Sierra Nevada mountain range and is the only incorporated jurisdiction within Mono County. Located at an elevation of 7,800 feet, directly below Mammoth Mountain's summit of 11,053 feet, the town is nearly equidistant from the Los Angeles Basin and San Francisco in terms of drive time.[2] In the winter, the Los Angeles Basin is approximately a six-hour drive and San Francisco, a seven-hour drive. The closest major city with an international airport is Reno, Nevada, which is a three-hour drive to the north/northwest. The incorporated boundaries of the town measure approximately 25 square miles; however, only four square miles of developable land are located within the town limits. The Inyo National Forest surrounds the remaining land area, which effectively contains its growth.[3]

Mammoth Lakes is continuing to experience an increasing level of private sector investment and development. In 1997, Intrawest acquired nearly 60 percent ownership in Mammoth Mountain and expected to invest nearly $750 million in improvements in the Town of Mammoth Lakes and the Mountain over the next decade.[4] In early 2006, Starwood Capital Group acquired 85 percent of Intrawest interests. Preceding that acquisition, Starwood Capital Group also acquired an 85 percent interest in MMSA. In addition, other large development sites have been recapitalized by nationally recognized investment companies.[5]

As a result of this investment, the Town of Mammoth Lakes is continuing to experience growth rates greater than those realized in the greater Eastern Sierra region. In this study, the Eastern Sierra region refers to the geographic area covering Mono and Inyo counties, including the Town of Mammoth Lakes and the City of Bishop. As of January 2005, the full-time resident population of the Town of Mammoth Lakes was estimated by the California Department of Finance at 7,602, a 7.2 percent increase since 2000 (Table 2).[6]

In 2005, according to the California Department of Finance, there were a total of 8,962 housing units with a vacancy rate of nearly 65 percent, indicating the magnitude of the second home market in the Town.[7] Housing unit distribution is shown in Table 3. A large percentage of homeowners maintain a primary residence elsewhere (primarily in Southern California) and spend only part of the time in Mammoth's mountain resort.[8] The ratio of permanent residents to visitors is important in understanding Mammoth Lakes' population and the potential economic impacts. The town experiences large fluctuations in the total non-resident population because of the seasonal nature of its tourism-dependent economy. In the

winter, during the peak tourist season, the community and the ski area require additional employees to meet peak service demands. As a result, the resident population coupled with the tourism population can exceed 35,000 people during the peak winter tourism season.[9] The town, therefore, accommodates a significantly larger population when the transient tourist populations are present.

The demands and resulting impacts from these population fluctuations, from the average daily residents to peak occupancy periods, are currently being addressed by the area as it continues to evolve from a primarily ski resort to a four-season resort. Over the last decade, in response to growing demand for additional year-round activities, two golf courses have been built, a variety of summer music festivals have been introduced, and other special events such as national road and mountain bike events have been organized. The expansion is designed to help draw golfers, music lovers, cyclists, hikers and participants in other activities and to attract a more stable year-round tourism base.

The Town of Mammoth Lakes has addressed several measures in anticipation of potential growth, and is in the process of recommending a specific plan to limit the high density residential uses consistent with a mountain resort community while providing for a mix of commercial and visitor lodging along with affordable workforce housing. The private sector is responding to this plan with a new kind of residential product following a growing trend in ski/recreational areas experienced elsewhere in the country. Since Intrawest Corporation's initial participation at Mammoth Mountain beginning in 1996, several nationally recognized resort developers, in addition to and as replacements for the Intrawest Corporation, have successfully initiated construction in this market.[10]

In anticipation of growth in year-round tourism, the type of development currently proposed is primarily high-density residential with resort-associated retail—a product that differs from the existing housing stock, which is primarily single-family homes and small condominium/townhouse complexes. The type of high-density residential product entering the market, along with resort condominiums, is fractional-share ownership for condominiums. Under this management framework, an owner buys into a portion of the real estate (i.e. two weeks per year) with a sales price prorated as a function of the number of vacation weeks purchased. This partial ownership, referred to as a residence club concept, is the fastest growing segment of the luxury vacation home industry. This residential product has been marketed at several resort destinations including Aspen, Vail, and Telluride in Colorado; Heavenly Valley Ski Resort, and Northstar Club, Lake Tahoe; and the Teton Club in Jackson Hole, Wyoming.[11] The Town of Mammoth Lakes is expecting five or six residential products of this type to enter the market by the year 2010. These residential complexes offer all the services and product finishes of a five-star hotel, coupled with direct access to the mountain and ski areas. There are three projects now approved for fractional ownership: the 80/50 private-residence club, Altis, and Swiss Chalet. Sales prices are expected to range up to $2,000 per square foot.[12]

The growing second home market coupled with increased developer investment in Mammoth Lakes has helped to stimulate a rise in real estate prices. Over an eight-year period, multi-family residential prices have increased from an average of $100 per square foot to just over $600 per square foot.[13] Major residential developments proposed or currently in the planning process include several projects that are described in the following section.

**Snow Creek Resort** is a master-planned, full service resort situated on 345 acres.[14] At completion, Snow Creek will include 2,300 units of resort residential development consisting of single-family homes, multi-family condominiums, overnight lodging, 150,000 square feet of resort commercial building (including an athletic club), and an 18-hole golf course. Approximately 40 percent of the residential product is complete and 20 percent of the commercial development is occupied. Nine holes of the eighteen-hole course are in play. Prices for the new residential units, which range in size from 2,500 to 3,000 square feet, are approximately $1.0 million. The majority of these units are owner-occupied, serving primarily as second homes to Southern Californians.

**Sierra Star Development Corporation** has a current total of 1,251 units planned along the Sierra Star golf course and up to 80,000 square feet of commercial space. Within that development, Intrawest completed approximately 139 units to date.[15]

**North Village**, located at the intersection of Route 203 and Lake Mary Road, is a planned residential/commercial node of four different planned residential projects with a total of 3,020 bedrooms. The major companies at North Village are now Intrastar, Intrawest, 80/50, Hillside/Meridian Group, Western Resort Properties, and Dempsey Corporation. In addition to the 3,020 bedrooms for residential and lodging, there are approximately 135,000 square feet of commercial space.[16] Prices are expected to range from $500 per square foot to over $2,000 per square foot. Over the last six years, condominium unit prices at this location for multi-family units have increased from an average of $150 per square foot to over $500.

As shown in Table 4, approximately 485 residential units have been added to the Town of Mammoth Lakes inventory since 2004. In addition, nearly 13,200 square feet of commercial space has been added since preparation of the earlier study, including some space that entered the market in late 2004 as well as in 2005.[17] As a result, the updated 2005 base year estimate of existing commercial inventory in the Town of Mammoth Lakes, as shown in Table 5, is nearly 1.2 million square feet.

### 2.2.2 Mono County

Mono County is located on the eastern side of the Sierra Nevada, along the California-Nevada border. The main highway providing year-round access is US 395. Located within the county are the Inyo and Toiyabe National Forests, Mono Basin National Forest Scenic Area, Devils Postpile National Monument, Bodie State Historic Park, and portions of Yosemite National Park and the Ansel Adams Wilderness. The Town of Mammoth Lakes is the only incorporated community in the county. The Mono County government oversees the unincorporated areas, including June Lake, Bridgeport, Crowley Lake, Bodie, Lee Vining, Benton, Convict Lake, Twin Lakes, Walker, Topaz, and Coleville. Mammoth Mountain Ski area and June Lake Ski areas are among the major employers.

Development in Mono County is limited by the lack of large concentrations of private lands outside of existing communities. Parcels of private land large enough for development are often agricultural and not available for development.[18] Furthermore, much of the land is not suitable for development, either because of the steep topography, lack of access, or as a result of the threat of a natural disaster from seismic or volcanic activity, avalanche, or flooding.[19]

Land use within the unincorporated areas of Mono County is constrained by land ownership. Approximately 94 percent of the land in the county is publicly owned; 88 percent is federally owned; and the State, the Los Angeles Department of Water and Power, or Native American Tribal groups own the remainder. The majority of private land within the county is concentrated in community areas, with the remainder dispersed throughout the county in small parcels.[20] The population of Mono County (including the Town of Mammoth Lakes) grew by almost 30 percent from 9,960 in 1990 to 12,853 in 2000.[21] In 2005 the population was estimated at 13,537 (Table 2).[22] There are nearly as many housing units in the county as there are inhabitants, but more than half of them serve as vacation retreats or second homes for people residing in larger cities. A total of 13,210 housing units are located in the county with approximately 56 percent designated as vacant.[23] This high vacancy rate is indicative of the large second home market in the county. The growth in the second home market appears to result from increasing development pressures in Antelope Valley and the northern areas of the county, from Chalfont and the Bishop area, and in the Long Valley community around Crowley Lake. The Crowley Lake area development is a spin-off of increasing development pressure in the Mammoth area. Growth is expected to continue in the future, with county population expected to peak in the future at approximately 27,400—an increase of 102 percent over current levels.[24] The majority of the residents in the county live near the town of Mammoth Lakes. The resident or permanent population, however, represents only a fraction of the total actual population during peak visitation periods. It is estimated that the population of the county triples during the summer and winter seasons because of the number of visitors.

The Mono County economy is largely driven by tourism, generated by year-round recreational opportunities offered from its Eastern Sierra location accessible throughout the year. According to local sources, this growth can be attributed to a recent increase in retirees settling in Mammoth Lakes in particular and Mono County in general.[25] Economic conditions are contributing to an increase in the number of Californians choosing to retire early, and an increasing number of retirees are choosing to locate in Mammoth Lakes and Mono County. The retirement market is fueled by the lifestyle based on access to nature and outdoor recreational activities. In addition, the investment Intrawest Corporation made beginning in 1996 in Mammoth Mountain and June Mountain has upgraded the ski resort, including the ski area, mountain services, lodging and mountain facilities. These improvements have helped to make Mammoth Mountain one of the top ski resorts in the country. Intrawest, recently acquired in large-part by Starwood Capital Group, has been a leading developer of the village-centered resort concept in North America with a similar project at Whistler in British Columbia, and Copper Mountain and Squaw Valley in California. This investment in the Town, the Mountain, and in other winter activities, along with the opening of two new golf courses, has made this resort a premier four-season resort.[26]

These recently upgraded recreation facilities have helped to attract families back to the area who for years went elsewhere during a period of decline in the early 1990s.[27] These families are now buying into the upgraded real estate and investing in second homes, helping to drive up a second-home market that is now priced in excess of $500,000 per unit.[28] Additional large-scale development in Mono County has continued as described in the following sections, now in planning stages, may continue to drive additional growth and development.

**June Lake:** As reported in the earlier technical memorandum (May 2005), the developer has been seeking approval for a 110–acre site located on the Old Rodeo Grounds at June Lake, between Gull and Silver Lakes. The development is expected to include approximately 652 multi-family units plus 102 single-family lots. The site is located across from the June Mountain ski area, which is operated by Mammoth Mountain. The entire project is expected to be phased in over a ten-year period. Plans also include up to 14,500 square feet of supporting retail. This development is designed to appeal to the second-home owner.[29]

Additional single-family development underway or proposed is located primarily around Crowley Lake and Long Valley. This development activity, described in the May 2005 Technical Memorandum, includes Paradise Community, Chalfont, White Mountain Estates, King Lake, and Crowley Lake. New homes planned in these communities are intended as vacation retreats or second homes for people residing in larger cities. Prices are expected to average approximately $600,000 for a single-family home.[30] In addition, by the end of 2005, the total existing estimated commercial space in Mono County had grown to 2.96 million square feet as shown in Table 5.

Overall, the services, retail trade, and government sectors dominate Mono County's employment. Industry projections for the future estimate that the job growth in Mono County will continue in the same three sectors. In 2005 the accommodations, entertainment, food, and retail trade sectors represented more than 40 percent of the total employment, while the government sector accounted for an additional 26 percent of total employment.[31] This distribution is expected to continue, particularly in terms of accommodations and related services, as the county continues to grow. Government, including education, city and county government continues to be a major employment sector in the county, and this sector is expected to see some growth as the demand for government services, particularly local government, expands in concert with expected population growth.

The major job centers in the county are concentrated in Mammoth Lakes (services, retail trade, and government), June Lake (seasonal services and retail trade) and Bridgeport (government). The county's major employers include June Mountain Ski Area, Mammoth Elementary School, Mammoth Hospital, Mammoth Lakes Fire Department, Mammoth Mountain Inn, Mammoth Mountain Ski area, Mono County government, Mountainside Grill (restaurant), and Whiskey Creek at Mammoth (restaurant).[32]

### 2.2.3 Mono County Tourism

Tourism is the major generator of economic activity in the study region, and both Mono County and the Town of Mammoth Lakes offer distinct seasonal attractions, including skiing and snow-related sports in the winter and mountain biking, hiking, golfing, fishing, horse back riding and rock–climbing in the summer. During the 1980s Mammoth Mountain was the premier ski resort in the nation based on the number of skier visits, fueled by an annual average of 384 inches of snowfall per year.[33] In the summer, major area attractions include Yosemite National Park, the Ansel Adams and John Muir Wilderness areas, and Mono Lake.

The Mammoth Lakes Visitor's Bureau estimates an annual average of 2.8 million visitors per year. The winter season, from November through April attracts approximately 1.3 million visitors and in the summer season, June through September, the town hosts approximately 1.5 million tourists.[34] The shoulder seasons are spring and fall.

The historic skier-day statistics provided by Mammoth Mountain Ski Area for Mammoth Mountain and June Mountain are shown in Table 6. As indicated, Mammoth Mountain recently reached a new peak skier visitation in the 2005-2006 season with nearly 1.54 million skiers. This total compares to a low of 865,628 skier visits experienced during the 1996-1997 season. In 1996, in an attempt to reverse the decline, Mammoth Mountain and Intrawest began investing in the Mountain, improving snowmaking capabilities while renovating the mountain lodging and ski facilities. As shown in Table 6, beginning in the 2000-2001 season, the skier numbers have improved steadily.

During 2005, as shown in Table 7, Yosemite National Park estimated a total of approximately 3.3 million visitors, a slight decline from the 2003 total of 3.38 million. These visitors also visit other regional attractions such as Mono Lake, June Lake, and Devils Postpile National Monument. Regional tourists may only visit Yosemite National Park and the Devils Postpile National Monument during the summer months, since the local entrances to these parks are closed by snowfall during the winter months. The average summer visitor spends 4.3 nights per visit.[35] The Mammoth Lakes Visitor's Bureau estimates that typical winter visitors to Mammoth Lakes travel in small groups averaging four people. On average, three of the four visitors ski and one person in the group does not. The average winter visitor spends four nights per visit, which usually includes a weekend.[36]

Mammoth Mountain ski area has a 24,000 skier maximum daily capacity, which is a factor limiting the potential for increased winter recreation activity.[37] Sherwin Bowl, located east of Mammoth Mountain, is the one area of potential mountain expansion. This area is already served by infrastructure, but there is little or no potential for obtaining approval from the U.S. Forest Service for additional development. An Environmental Impact Review was completed in the nearly 1990s with a Record of Decision that was active only through 1998. As a result, the decision has since lapsed. The area could have accommodated an additional 8,000 skiers per day.[38]

June Lake Ski Area, approximately 30 minutes from Mammoth Mountain, also owned by Mammoth Mountain, sold approximately 95,000 ski passes in 2005-2006 and averages about 800 skiers per day in a busy month and up to 2,750 per day on the busiest weekend of the year, President's Day. The skier capacity stated in the June Lake Master Plan allows for 4,000 skiers at one time on the Mountain.[39] In comparison to Mammoth Mountain, June Mountain generally has greater appeal to families and those learning to ski or snowboard.

## *2.3 Two-County Socioeconomic Study Area—Economic Profile*

This section of the existing conditions analysis updates the combined economic characteristics for the Two-County Socioeconomic Study Area. Table 8 summarizes data describing the Two-County Study Area, including industry output, employment, compensation, income, taxes, and total value added.[40] The summary also indicates the percentage distribution by economic sector for the two counties.

The discussion that follows describes relative strengths and weaknesses of individual economic sectors, and their importance to the future growth and development of the counties. In addition, the baseline information is indicative of the potential qualitative impacts of the Proposed Action in helping to identify and understand what elements of the economy could experience the greatest impacts. Tourism is the major industry in the region, but there is no single economic sector identified as the "tourism industry" sector. As a result, discussions of economic activity related to tourism aggregate data from several separate sectors, including accommodation and food services; retail services; arts, entertainment and recreation; and portions of other sectors.

Table 8 summarizes the latest available data for the two counties including sector-by-sector values reflecting areawide economic activity. The information provided should be viewed as a snapshot of the value of local economic conditions as last measured. Data for the latest year available was used to estimate current economic activity, based on application of consumer price indices for the affected time period.

In 2005 the two-county employment base of 21,433 generated overall industry output equal to nearly $1.9 billion. Total employee compensation exceeded $690 million, with value added on the order of $1.25 billion. Of that total, the real estate sector captured nearly 5.8 percent of the employment but nearly 12.7 percent of the total industry output and over 12.8 percent of value added for the two counties. The accommodations and food services sector added an additional 20 percent of the employment, nearly 16 percent of the industry output, and just over 14 percent of value added. The strength of the government sector is also evident, with nearly 26.7 percent of the employment, 43 percent of the employee compensation, and over 32 percent of the value added. The high percentage of value added and employee compensation components of the county's economy follows from the earlier information that average wages in the government sector are significantly greater than those in other dominant sectors of the local economy. Together, the four primary sectors of the two-county economy—real estate, accommodation and food services, government, and retail trade—account for nearly 67 percent of the total county employment and more nearly 70 percent of the total value added.

As shown in Table 9, annual full- and part-time employment for the Two-County Socioeconomic Study Area has grown from 17,057 in 1990 to approximately 21,433 in 2005.[41] During the same period, population has grown from 28,237 in 1990 to just over 32,110 in 2005. Employment growth has averaged just over 1.5 percent annually during this 15-year period; population growth only 0.86 percent. In this summary, population is resident population in the two counties; employment is an annual average of full- and part-time employment in the two counties, reported by place or work.

## *2.4 Summary—Existing Conditions*

The existing conditions analysis provides a picture of past development trends and examines future demand for growth and development in the two-county region. The majority of the expanded growth in the region has occurred since 1996 when Intrawest Corporation purchased a 60 percent interest in Mammoth and June Mountains along with the developable real estate. Development in Mammoth of three new village areas (The Village at Mammoth, Sierra Star, and Juniper Springs) brought a new character to the resort, different in nature, at a price that the area had not previously seen.

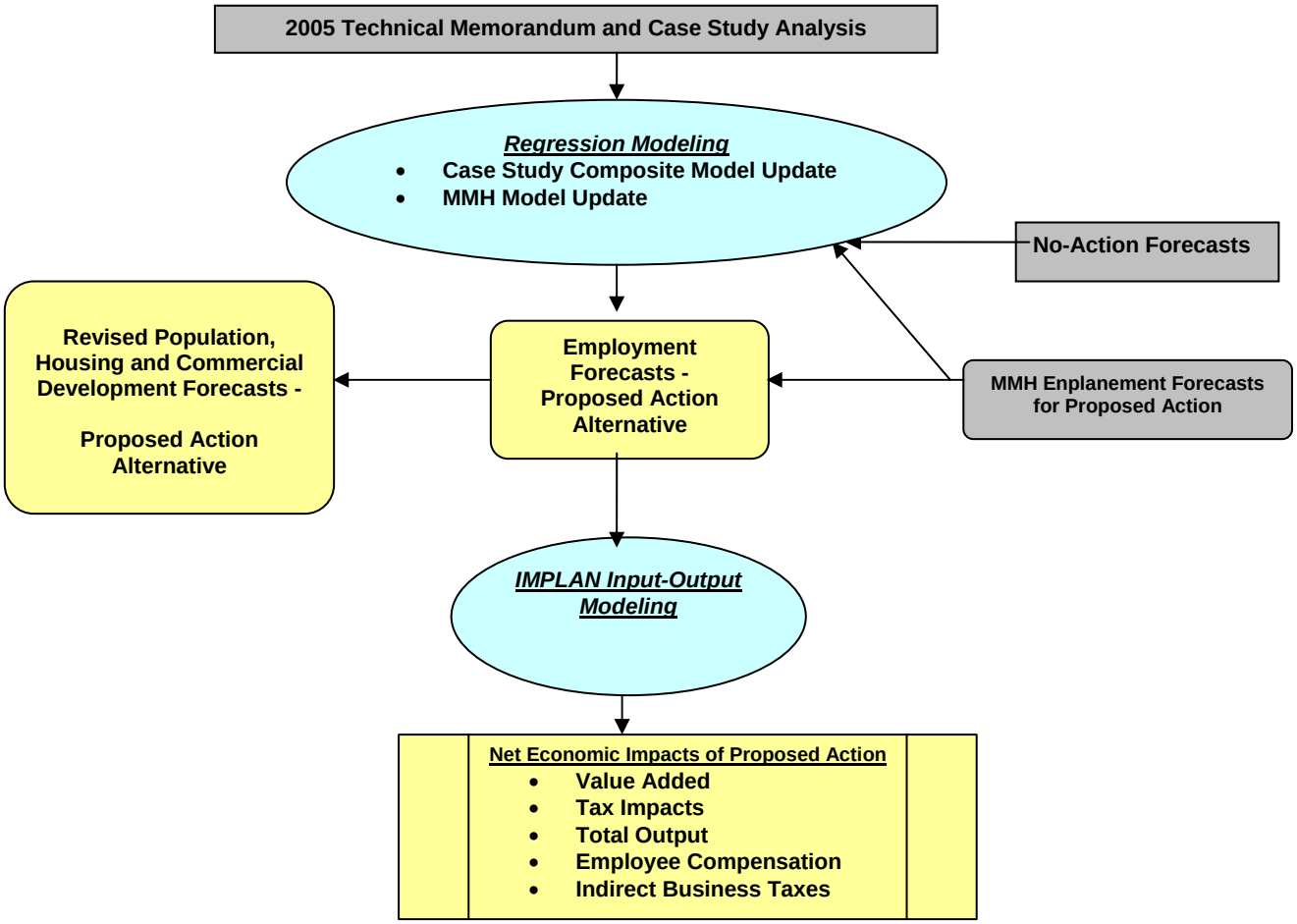
This new development, both residential and commercial, is luxury in character and links Mammoth's commercial /residential area to the ski resort in a manner similar to that of the nation's other premier winter resorts. At the same time, Intrawest Corporation, and now Starwood Capital Group, and Mammoth Mountain upgraded the ski area's lodging facilities and the ski operations. This development has helped to change the character of the ski area.

Two new golf courses and a variety of summer programs have helped to expand the summer season in Mammoth, contributing to a growing effort to make this area a four-season resort. The increased pace of development in Mammoth Lakes has spilled over to neighboring Inyo County, which is also dependent on the tourism industry, albeit summer rather than winter visitation. This expansion can be documented in Inyo County in the form of stabilizing the tourism base, creating a more attractive environment for year-round young retirees and summer tourism.

# 3.0 Economic and Development Impacts of the Proposed Action

## *3.1 Overview of Socioeconomic Methodology and Terminology*

This section describes the methodology used to determine the economic and development impacts of the Proposed Action. As discussed in the May 2005 Technical Memorandum, change in employment is the key to estimating the overall economic and development impacts of the Proposed Action. As shown in the diagram below, the case study and MMH regression models were updated in order to determine the potential change in full and part-time job opportunities resulting from the Proposed Action. Measuring the economic value attributed to the estimated increase in employment is accomplished through application of input-output models and refers to value added, total output, employee compensation, taxes, and other measurable factors. The revised Proposed Action employment forecasts are then used to estimate the changes in population, housing, and commercial development attributed to the overall increased employment in the Two-County Study Area.



### 3.1.1 Regression Modeling

The forecast model used to estimate change in employment in the study area is fundamentally linked to the number of enplanements associated with proposed levels of service at MMH for the Proposed Action. Estimates of future enplanements reflect the potential number of visitors to the area as a result of air service. The airport sponsor, with approval by the Federal Aviation Administration, provides the estimate of future enplanements at the airport as a primary input to the employment change forecasts as indicated in Table 1.[42]

The analytical process used in the economic impact study builds on the case study approach documented in the original technical memorandum. Using several locations with similar airport and resort characteristics, two regression models were derived that demonstrated the link between changes in airport activity and change in defined market area employment. The case study composite model demonstrated that as airport service increased, employment in the jurisdictions served by the airport increased as linked to the change in enplanements. The results of the case studies were then compiled into a second composite model that used the data collected for each of the local applications along with similar data for the Mammoth Yosemite area, including existing employment, taxes associated with visitor activity, visitation to major recreation facilities, and use of ski resorts.

**Case Study Composite Model**

The case study models were used primarily to test the methodology and to determine whether the approach yielded reasonable estimates of potential impacts on future employment as a function of available data. That data included taxes generated from visitor spending, enplanements at airports serving the particular locations, skier activity, and visits at nearby national parks where appropriate. As reported in the earlier technical memorandum, output of the case studies indicated that a link between levels of visitor activity, measured in part by the number of enplanements, could be used to forecast impacts of levels of airport service on market area employment. The models indicated that enplanements were neither the only nor most significant contributor to the employment forecast, but still a measurable contributor.

In this updated application of the model to the Proposed Action, the output of individual case studies was not directly used, but the data on which the case studies were based was used to compile the composite model. The composite model was updated to include revised BEA employment and population numbers, updated skier visits and taxation data, as well as updated national park visitation data for the years available. With these changes, the revised composite model generated a coefficient for enplanements slightly different from that calculated in the original study—a reduction to 0.01724 from 0.01817 (Table 10). Coupled with the significant change in forecast enplanements at MMH, the application of the forecasting model resulted in decreased estimated employment and related economic impacts for the Mammoth Yosemite study area.

The updated Composite Model is presented in the following equation:

***Total Employment = (0.000656024*Taxes)+(0.003093262 * Skier Days) +***

***(0.003203912*Park Visits) + (0.017235135 * Enplanements)***

Data used as input to the model is shown in Table 11, and the model derivation is shown in Figure 1. When compared to the original case study models, the enplanements coefficient for the composite model remains comparable to experience at the Colorado airports included in the analysis.

The methodology used in the analysis is an adaptation and application of what is known in the literature as “Benefit Transfer.” Benefit transfer is a term referring to the use of existing information and knowledge to new contexts. In particular, the process used in this analysis is an adaptation and use of economic information derived from specific study areas to a site with similar resources and conditions—in this case

a transfer of information derived from a carefully selected set of case study examples to a similar future case affecting the Town of Mammoth Lakes and the Proposed Action use of MMH.[43]

**MMH Model**

As in the earlier runway extension alternative study, the next step in the economic analysis generates an estimate of relevant growth and development factors in Mono and Inyo Counties for the revised target years 2008 through 2015. The factors used to create the forecasting model necessary to estimate economic impacts include population, transient occupancy taxes, Yosemite National Park visitors, and overall ski activity. The model estimates changes in employment associated with Proposed Action, and changes in employment are then used to measure potential change in economic value.

As with the case study applications, the MMH model uses enplanement forecasts to estimate the change in total regional employment linked to the Proposed Action. As defined, the affected region includes two counties: Mono and Inyo. Estimating change for each of the input variables over time, given their previous cyclical variation, is, in fact, only an estimate. Forecasts for each of the significant variables are used to derive a baseline employment estimate (without implementation of the Proposed Action) for the period of time 2006 through 2015. The desired output of the model is an estimate of change in total employment as a function of total enplanements attributed to implementing the Proposed Action.

As shown in Table 12, each of the data categories is projected through 2015 for the No-Action Alternative. Transient occupancy taxes are estimated based on trend analysis from 1992 through 2005. Yosemite visitors are estimated based on an existing data through 2005 and an assumed constant increase of 1 percent per year over time. Since long-range major planning efforts for the future of Yosemite National Park are currently underway, this forecast is used only as a source to help measure the change in total employment output. Ski activity is also estimated on the basis of trend analysis of existing data from 1992 through 2005. Population estimates are derived separately and not included as input to the forecast model. Because of the nature of the resort economy, population becomes a dependent variable, a function of the projected change in employment using average labor force participation rates experienced over time.

The resulting impact model is shown in Figure 2 with the added coefficient measuring the contribution linked to enplanements as derived from the composite forecast model.

***Total employment = (1.344176746 * TOT / 1,000) + (2.645986501 * Yosemite Visitors / 1,000) +***

***(0.246061993 * Skier Days / 1,000) + (0.017235135 * Enplanements)***

"TOT" refers to "transient occupancy taxes." These taxes are collected on top of lodging fees and represent a contribution to the economy from visitors. The output of the model application is summarized in Table 13. Application of the revised Proposed Action model generates the outputs shown in Tables 13 and 14. By 2015, enplanements projected for the Proposed Action would generate an additional 1,158 full- and part-time employees (averaged on an annual basis). The change in employment linked to the Proposed Action is the number used for the input output model application. Measuring the change in economic value and other results of the input output model are discussed in the next section.

### 3.1.2 Input-Output Model Application

As in the previous technical memorandum, this updated economic impact analysis uses input-output models prepared by IMPLAN to measure the value of direct, indirect, and induced spending on the economy. These models build on existing conditions and linkage characteristics to predict the potential capture within a defined region of a direct infusion of capital. In this case, visitor spending by air travelers is the predominant source for the infusion of capital that has the potential for creating measurable economic impacts.

Throughout the impact analysis discussion, it is important to maintain the distinction between input-output terminology and NEPA definitions of similar terms as discussed in this section. The terms direct impact, indirect impacts, and induced impacts have the following meanings for the purposes of this technical memorandum.

## Input- Output Definitions

***Direct Impacts***: Consists of both on-airport and off-airport direct impacts.

**On-Airport Direct Impacts**: Represents the on-site economic impacts that would not occur unless the Proposed Action is implemented. Airport job opportunities include airline representatives, screeners, baggage handlers and other airport staff necessary to support the Horizon Air Service.

**Off-Airport Direct Impacts (Visitor Spending)**: Off-airport direct impacts are expenditures made in the regional area by air travelers who are visiting from outside of the region. These expenditures include items such as lodging, food, entertainment, and retail purchases.

***Indirect Impacts***: The economic activity of local suppliers to the airport and tourist-related businesses that accommodate the air travelers. Two examples of local suppliers would be fuel suppliers to the airport and food distributors that service local restaurants.

***Induced Impacts***: Induced impacts are the spin-off impacts reflecting the recycling of dollars through the economy associated with the spending of direct and indirect employees. Examples would be airport employees, waiters, or fuel transport workers spending their salaries for housing, food and other services. This round of spending in turns generates more job opportunities in the regional economy.

Economic impacts related to the airport fall into three categories as shown in the previous diagram and discussed below:

***Direct Impacts***: According to Input-Output analysis, direct impacts result from the direct infusion of capital spending ensuing from a particular change in economic activity. In this case, the increased level of visitor activity as measured by the Proposed Action enplanement forecast represents the infusion of new capital. New visitors increase the level of expenditure in the surrounding region, and that change in level of expenditure increases the demand for goods and services. For example, increasing the number of visitors requires an increase in the level of employment in the retail, accommodations, and entertainment sectors of the economy. These increased expenditures, especially when they occur during midweek when previous levels of activity were often reduced, increase employment. The estimated change in the level of employment is defined as a direct effect of the change in capital expenditures in the defined study region. One can consider these effects to be both “On-Airport” and “Off-Airport” direct effects. On-Airport direct effects include the increase in employment at the airport itself. Forecasts of increased employment at the airport are minimal and appear under the economic sector “transportation and warehousing.” Off-Airport direct effects include the additional jobs created from visitor spending in the accommodations, retail trade, service, construction and government sectors. The input-output analysis concludes that approximately 820 additional direct jobs (both full- and part-time) would occur in 2015 throughout the Two-County Study Area, with only 10 to 12 jobs at the airport itself. The forecast distribution of the jobs is shown in Table 15 in the Technical Memorandum.

***Indirect Impacts***: Within the framework of input-output analysis, indirect impacts refer to additional local jobs, material, equipment, and services required to produce non-labor resources that contribute to direct employment and increases in direct output. For example, increases in restaurant employment are categorized as direct impacts. Indirect impacts would refer to additional employment in service industries

that supply the restaurants. For example, additional jobs occur in the wholesale food sector because storage and distribution of additional food is required to respond to the increased demand for restaurant services. All of the jobs created in the economic sectors that supply or enable the direct impacts are classified as "indirect."

***Induced Impacts**:* Input-output analysis uses the term "induced" to refer to all local jobs, materials, equipment, and services required to fulfill the household demands for goods and services, generated by the wages of additional direct and indirect employees. For example, new employees at restaurants servicing the increased demand linked to changes in visitor expenditures earn salaries. These salaries become "household" income. Expenditure of household income creates another round of increased demand for goods and services to meet the increased needs of new households. Increased demand associated with changes in household expenditures is defined as "induced" impact. This increased demand includes all sectors of the economy to some degree, characteristic of normal expenditures patterns in this resort economy.

Application of the input-output model generates an estimate of the potential value linked to implementation of the Proposed Action as a result of a potential increase in population and employment. Measuring economic benefits associated with the Proposed Action is based on the differential employment associated with its potential impacts versus how the region would develop for the No-Action Alternative. If there is an effect on employment as a result of the proposed change in service, then there is value associated with those changes in terms of employment compensation, value-added, output and tax benefits. This economic impact analysis uses input-output models prepared by IMPLAN to measure the value of direct, indirect, and induced spending on the economy. These models build on existing conditions and linkage characteristics to predict the potential capture within a defined region of a direct infusion of capital. In this case the direct infusion of capital has the potential for creating measurable economic impacts. In addition, an increase in population and employment generates an increase in development; and, in 2015, the estimated increase in development is a function of a projected increase of 1,158 employees over and above that which is expected to occur without the Proposed Action. It is important that projected changes in total employment do not begin to appear until and after 2008, when the Proposed Action to the airport is expected to begin.

### 3.1.3 Determining Population, Housing and Development Impacts

Additional employment linked to the Proposed Action will, in turn, increase the demand for housing and commercial development. Increased housing demand is proportional to the projected increase in population; increased demand for commercial/retail space is proportional to projected increase in employment. Employment change can be used to estimate this additional development through a series of steps. Using current development averages, it is possible to estimate the extent of commercial development potential that might be linked to the Proposed Action.

Using past trends in labor force participation rates, future change in employment can be used to estimate a concurrent change in population. Further, past trends in housing construction and occupancy data, including average persons per household, can be used to translate future population change into an estimate of change in future demand for housing units. Existing housing unit distribution patterns can also be used to estimate how this increase in demand for housing units is translated into housing type. Similarly, past history in average square feet of retail and commercial space per employee can be used to generate an estimate of change in demand for commercial and retail space. Where information is available, past trends can also help to generate an estimate of possible distribution of increased development demand by jurisdiction.

It should be noted that the ability to realize potential development opportunities is dependent on numerous significant factors in addition to airport-linked potential, including market feasibility, compatibility with approved land use plans in both counties and the incorporated areas within those counties, and availability of suitable land for development.

## *3.2 Economic Impacts*

### 3.2.1 Employment Opportunities

The projected total employment difference between the No-Action and Proposed Action alternatives, including direct, indirect, and induced, is shown for all three employment categories in Table 15. As shown in Table 13, changes do not appear until after the Proposed Action operations at the airport begin—starting in 2008. Beginning in that year, the resulting employment differences between the No-Action and Proposed Action alternatives begin to grow as enplanements increase from 10,214 in 2008 to nearly 67,200 in 2015 as cited in Table 1.[44] The change in total population and employment over time is also shown in Figure 3. Application of the forecasting model indicates that the projected employment differential is expected to increase from 176 in 2008 to 1,158 in 2015 (Table 13).

Total employment change is comprised of direct, indirect, and induced effects represented by the multiplier effect. By 2015, this employment multiplier effect (ratio of total employment to direct employment) is expected to reach 1.41, which reflects the dominance of the service industry in the two counties. This multiplier effect, which is a measure of the ratio of direct employment to total employment, equals 1.41 using data shown in Table 15 (1,158/821). For each 100 new jobs created, an additional 41 jobs result in support of changes in direct employment. As shown in Table 13, overall employment in the Two-County Study Area is projected to grow to 26,235 by 2015 without the Proposed Action and to 27,393 with implementation of Proposed Action.[45] Employment benefits in Mono and Inyo counties, linked to the Proposed Action, are shown for 2015 and include direct, indirect, and induced employment attributed to employment changes at the airport (Table 15). Projected distribution of the air-service linked employment is shown in Figure 4.

The value of the expected change in employment over time, however, is related to expected employment compensation; iterative expenditures by households in purchasing additional goods and services; and the taxes paid by individuals, households and businesses. The value represented by these expenditures is discussed in the next section of this study.

### 3.2.2 Value Added

As indicated in the introduction, value added is the combination of wages, state and local taxes paid by households, dividends, interest, and profit. Value added represents the total sum of value created by business and household expenditures in the region or study area and, as such, is an effective measure of economic activity. In economic terms, value added is also known as gross regional product.

As shown in Table 16, value added for the two counties based on the projected employment benefit is approximately $67.5 million by 2015. For this value, the multiplier effect is on the order of 1.39. For every $1,000 value added generated as a result of new employment, $390 addition is created as a result of indirect and induced employment in support of direct employment. As shown in Table 16, there are four primary economic sectors affected by the increase in employment: retail trade, real estate and rental services, accommodations and food services, and government. Together, these sectors account for more than 60 percent of the increased allocation. The total value added shown combines contributions from increased airport employment, visitor-generated employment, and other regional employment increases within the Two-County Study Area.

### 3.2.3 Tax Related Impacts

Table 17 illustrates the potential tax increments associated with implementation of the Proposed Action by 2015. This output as shown combines contributions from all three components, including airport, visitor-generated, and net regional. Total 2015 tax benefits associated with implementing Proposed Action are estimated to be nearly $14.8 million—a total that is already included in value added. This total incorporates the entire tax-related contributions of the estimate 1,158 additional employees and their associated business activities attributed to the proposed improvement project.[46] Indirect business taxes

associated with implementing Proposed Action are estimated to be just over $5.9 million in 2015—a total also included in value added (Tables 17 and 18).

### 3.2.4 Additional Measures of Economic Value

Other measures of economic value shown in Tables 19 through 21 include total output and employee compensation. Total output (Table 19), which represents a single total measuring the overall value of an industry's total production, is estimated at just over $105.2 million in 2015. Employee compensation (Table 20), one of the components of value added, is expected to reach nearly $35 million by that date. Average salaries (combined full- and part-time) are shown in Table 21 and are expected to vary from a low of $7,500 to a high in the mid $80,000s. The overall average in 2006 dollars is estimated at $30,200 and represents a combination of full- and part-time average compensation by economic sector.

## *3.3 Development Impacts*

This section of the analysis reviews the process used to estimate change in development activity and the potential output in a manner similar to that used in the earlier analysis of the runway extension alternative. This analysis generates an order-of-magnitude estimate of the possible demand for additional residential and commercial space linked to the Proposed Action. Actual realization of these projections is a function of changing market conditions as well as public and private sector policies and marketing efforts. Past trends can be used to predict an estimate of potential development activity as a way to frame the possible impacts linked to the Proposed Action. An increase in development demand grows out of any increase in regional tourism and related economic activity, and this increased demand affects future fiscal considerations.

The employment difference linked to the Proposed Action is projected to grow from just over 176 in 2008 to 1,158 in 2015. During the same time period, population growth associated with that estimated employment change is expected to increase from just over 252 to just nearly 1,520 (Table 22). Estimated population change is based on past trends in the ratio of number of employees to resident population, evaluated using historic data from 1990 through 2005.

Population forecasts are coupled with housing stock data to measure the historic relationship between resident population and total number of housing units. Historic data on the number of housing units, both occupied and total are also shown in Table 22 and are derived from data supplied by the California Department of Finance.[47] Based on these historic conditions, the forecast change in population linked to the Proposed Action is projected to result in a change in total number of housing units from nearly 178 in 2008 to 1,088 by 2015, with occupied unit change linked to airport service increasing from 108 in 2008 to 646 in 2015 (Table 22). The estimate of vacancy rates for future development, based on historic housing market parameters, would likely be less for employee-based residential development; however, a significant percentage of additional housing may continue to represent a seasonal market. As a result, annual average vacancy rates may still be close to those characteristic of earlier historic data. Using the existing market trends, therefore, represents a worst-case estimate of vacancy rates over time. The demand resulting from the Proposed Action could impact limited development opportunities on a smaller scale.

Table 22 also indicates recent distribution of housing units for each jurisdiction in the Two-County Study Area. That distribution is used to estimate the potential distribution of additional housing units by jurisdiction in 2015. The distribution by jurisdiction is subject to changing market conditions over an extended period of time, but the data illustrated in this table indicate a possible configuration assuming recent current development patterns continue. Out of the total of 1,088 additional units, it is estimated that nearly 64% percent would be located in the Town of Mammoth Lakes. Ultimately, the actual distribution within the Town could be less as determined by availability of developable land, land use constraints, and market value. The allocation of units in the Town would require a significant component of high-end second homes compatible with current market trends. Smaller numbers of units are projected for the remaining jurisdictions, again subject to land availability and market value.

Commercial development estimates are based on an inventory of existing space by jurisdiction, coupled with historic trends in average square feet per employee. As shown, approximately 6.2 million square feet of commercial development currently exists in the study area. This estimate is based primarily on county assessment data and growth estimates based in increases in employment over the past two years. Estimated employment by jurisdiction is used to calculate an average square feet per employee. That estimate is then applied to the total change in employment forecast for 2015 to determine additional commercial and retail space that could result from implementation of the Proposed Action.

Current commercial space inventories include an estimate of total commercial space in Inyo County of approximately 2.6 million square feet,[48] and total commercial space in the Town of Mammoth Lakes, of approximately 1.2 million square feet.[49] Using current employment, the Inyo County total implies an average of nearly 290 square feet of commercial space, including industrial, office, and retail uses, per employee. Total commercial space in Mono County is on the order of 2.96 million square feet with approximately 1.77 million located in the unincorporated areas of the county. Based on an existing employment of just over 10,150, the average square feet per employee in Mono County is approximately 292.

Using the existing ratio of square feet per employee, the two-county market area would realize an increase in demand for approximately 51,200 in 2008 and the beginning of service, growing to 336,750 square feet of additional commercial/retail space by 2015 as a result of increased economic activity linked to the availability of regional air service (Table 22). Of the 2015 total, nearly 90,000 square feet is allocated to the Town of Mammoth Lakes (27 percent of total), with an additional 58,670 square feet estimated for the remainder of Mono County (17 percent). A total of 188,225 square feet (56 percent) is estimated for Inyo County, including the City of Bishop. The percentage distribution is based on existing patterns of employment by subarea shown in Table 22. Using existing distribution patterns results in an illustrative example of how future commercial development patterns might occur.

## *3.4 Summary of Economic and Development Impacts*

The technical analysis measures potential economic impacts associated with the Proposed Action at MMH. The impacts measured are based on the enplanement forecasts provided by the study sponsor and approved by the FAA. What is important beyond the technical components is the demonstrated link between airport accessibility and economic growth and development in the Two-County Study Area. The Proposed Action is not expected to result in immediate impacts to the surrounding jurisdictions of Mono and Inyo counties, but rather continue to contribute to the ability to attract new resort-based businesses in support of existing growth and development patterns.

It is important to recognize that the Proposed Action by itself will not solve economic problems relating to seasonal and weekly variations in visitor-based activity. Whatever economic improvements or changes might occur in terms of increased occupancy rates during mid-week or during shoulder seasons is encompassed in the economic impacts measured on an average annual basis. Data does not exist to allow a direct measurement of potential changes in mid-week or seasonal activity levels. It is possible only to estimate potential effects on an average annual basis.

Relevant baseline conditions and estimated impacts linked to the Proposed Action are summarized in Table 22. Baseline conditions are shown for 2005, and impacts are measured for 2008 (initial year of operation) and 2015 (target year).

In 2008, impacts linked to initial operation of the airport as a regional facility with estimated enplanements just over 10,200, include the following:

- Two-County Employment: 176
- Commercial development: 51,206 square feet
- Population: 252
- Total housing: 178 units
- Occupied housing: 108 units

By 2015 impacts linked to the Proposed Action, with service accommodating nearly 67,170 enplanements, are projected to increase as follows:

- Two-County Employment: 1,158
- Commercial development: 336,736 square feet
- Population: 1,518
- Total housing: 1,088 units
- Occupied housing: 646 units

The analysis indicates that, beginning in 2008, change in employment in the two counties, resulting from airport service and related development, is expected to grow from approximately 176 to 1,158 by 2015, including additional employment at the airport, additional employment associated with tourism, and additional employment associated with other service sector economic activity characteristic of the two-county economy. These changes are annual and cumulative, and would continue to increase if the period of analysis were extended.

The economic value of the estimated employment change is based on the measured value added. By 2015, value added is expected to reach $67.5 million. Again, value added benefits are annual and cumulative and would continue to grow in relation to the effects of implementing the Proposed Action versus No-Action Alternative (Table 16).

Associated with change in employment is change in employment compensation. Employment compensation is also included in value added. As shown in Table 20, total employment compensation associated with Proposed Action is projected to reach nearly $35 million by 2015. As with all of the impact measures for the study area regional economy, the major contribution to employee compensation originates in the retail trade, real estate services, accommodation and food services, and government sectors with a combined 60% percent of the total. Using employment compensation and full- and part-time employment for the Two-County Study Area, it is possible to estimate average 2015 salaries for each affected economic sector in 2006 dollars. Table 21 displays overall average salaries in 2015 which are projected to be on the order of nearly $30,000. All average salaries are stated in 2006 dollars, and include both full- and part-time employment.

The economic sectors with the most significant contribution to the forecast employment change in 2015 exhibit some of the lowest average salaries. For example, the real estate and rental services sector, representing approximately 14.8 percent of the total additional employment forecast for 2015, is expected to experience an average annual salary of approximately $18,500 (in 2006 dollars). The accommodations and food services sector is expected to generate average salaries on the order of $23,400. In contrast, the highest average salary sector, utilities, which is only projected to contribute 2.5 percent of the additional employment, is forecast to experience an average annual salary on the order of $86,800. The manufacturing sector, with 2.2 percent of the incremental employment, is expected to generate average salaries on the order of $27,000; and the government sector is projected to account for nearly 23 percent of the additional employment and average nearly $51,500 in annual salary. Overall, salary forecasts indicate that additional employment linked to the Proposed Action may not earn annual incomes sufficient to support acquisition of market-rate housing in and around the Town of Mammoth Lakes. Average salaries, measured in 2006 dollars, represent an annual average of full- and part-time employment.

Other financial impacts include taxes associated with increased employment and related income. Total taxes generated by the difference in employment by 2015 are estimated to be on the order of $14.8 million (Table 17). Of this total, approximately $5.9 million are indirect business taxes, $1.8 million are generated as the result of household expenditures, $4.3 million from employee compensation, $2.37 million as the result of corporations, and $321,600 from proprietary income.

This analysis demonstrates that regional economic impacts associated with the Proposed Action at MMH do not begin to manifest themselves until after operational activity begins in 2008, with usage and increased economic effects forecast for 2015. The airport can be a contributor to the future growth and

development in the Mono and Inyo counties, helping to increase the overall return on investment projected in the region from both the public and private sectors. The differences between the Proposed Action and No-Action Alternatives, although starting out small, grow as the effects of providing service at the airport are realized. Change in employment is the key variable to measuring the value of Proposed Action.

# 4.0 Glossary

The following are definitions for terms used throughout the impact valuation analysis. These terms refer to the various reports produced as part of the IMPLAN modeling effort in measuring the potential value of economic impacts of the Proposed Action at MMH.[50]

*Total Output*

Total Output, or Industry Output, is a single number reported in dollars for each industry included in the analysis. These dollars represent the value of an industry's total production. In this analysis, output is reported by industry sectors, and broken down as direct, indirect, and induced. Output can be defined either as the total value of purchases by intermediate and final consumers, or by intermediate outlays plus value-added. Output can also be thought of as a value of sales plus or minus inventory.

*Employment*

Employment is reported as a single number of jobs for each industry. Data can be reported for individual industries or aggregated into categories. In this analysis, employment data is reported as an aggregated output. Employment includes total wage and salary employees as well as self-employed jobs in a defined region. It includes both full-time and part-time workers and is measured in annual average jobs. The IMPLAN database for the two counties included in the model (Mono and Inyo Counties) draws on three primary data sets: The ES202 data (Unemployment Insurance Covered Employment and Wages Program from the Bureau of Labor Statistics, U.S. Department of Labor), the Regional Economic Information System from the Bureau of Economic Analysis of the Department of Commerce (R.E.I.S.), and County Business Patterns from the U.S. Department of Census.

*Value Added*

There are four subcomponents of *value-added*:

- Employee Compensation,
- Proprietary Income,
- Other Property Type Income, and
- Indirect Business Taxes.

*Employee compensation* describes the total payroll costs of each industry used in the analysis. It includes wages and salaries of workers who are paid by employers, as well as benefits such as health and life insurance, retirement payments, and non-cash compensation. Employee compensation is derived for each reported industry from ES202 and REIS data.

*Proprietary income* consists of payments received as income by self-employed individuals. Any income received for payment of self-employed work, as reported on Federal tax forms, is counted in this category. Totals include income received by private business owners, doctors, lawyers, and other similar business activities.

*Labor income* is the combination of employee compensation and proprietary income.

*Other property type income* consists of payments for rents, royalties, and dividends. Payments to individuals in the form of rents received on property, royalties from contracts, and dividends paid by corporations are included in this category as well as corporate profits earned by corporations.

*Indirect business taxes* consist of excise taxes, property taxes, fees, licenses, and sales taxes paid by businesses. These taxes occur during the normal operation of businesses but do not include taxes on profit or income. Baseline indirect business taxes for the affected jurisdictions are derived from U.S. Bureau of Economic Analysis Gross State Product data.

Total Taxes

As shown in the Tax Impact table included in the analysis, total taxes include estimates of all taxes paid by households and businesses at the Federal, State, and Local levels. These taxes include corporate taxes, taxes based on proprietary income, personal taxes based on household income, and indirect business taxes generated in the course of doing business as defined above. Total taxes are initially reported in the year determined by the initial IMPLAN model data inputs—in this case that year was 2003. The only IMPLAN category that can be measured in terms of individual external reporting years is the Indirect Business Taxes category. As a result, analysis of this category is first reported in both 2003 dollars and 2006 dollars to determine an estimated inflation ratio. That estimated ratio is then applied to the total tax output as an approximation of the total tax impact in 2006 dollars, comparable with other output tables for the analysis. Individual categories within the tax analysis are not subject to the same average inflation ratios, but the application of the ratio measured for the Indirect Business Tax category represents a reasonable estimate of expected escalation.

# Table and Figures

**TABLE 1: FORECAST ENPLANEMENTS—PROPOSED ACTION**

| Year | Numer of Flights/Day | Plane Capacity | Number of Days | Load Factor | Projected Enplanements | Destination Airport |
|---|---|---|---|---|---|---|
| FY 2007-08 | | | | | | |
| Winter | 2 | 80 | 112 | 57% | 10,214 | 2 x LAX |
| FY 2008-09 | | | | | | 3 x LAX |
| Winter | 4 | 80 | 112 | 65% | 23,296 | 1 x SFO* |
| FY 2009/10 | | | | | | 3 x LAX |
| Winter | 6 | 80 | 112 | 82% | 44,083 | 2 x SFO*; 1 X LAS |
| FY 2010/11 | | | | | | 3 x LAX; 2 x SFO* |
| Winter | 8 | 80 | 112 | 85% | 60,928 | 2 x LAS; 1 x SAN** |
| FY 2011/12 | | | | | | |
| Summer | 2 | 80 | 60 | 57% | 5,472 | 2 x LAX |
| Winter | 8 | 80 | 112 | 85% | 60,928 | 3 x LAX; 2 x SFO* |
| Total | | | | | 66,400 | 2 x LAS; 1 x SAN** |
| FY 2012/13 | | | | | | |
| Summer | 2 | 80 | 60 | 65% | 6,240 | 2 x LAX |
| Winter | 8 | 80 | 112 | 85% | 60,928 | 3 x LAX; 2 x SFO* |
| Total | | | | | 67,168 | 2 x LAS; 1 x SAN** |
| Fy 2013/14 | | | | | | |
| Summer | 2 | 80 | 60 | 65% | 6,240 | 2 x LAX |
| Winter | 8 | 80 | 112 | 85% | 60,928 | 3 x LAX; 2 x SFO* |
| Total | | | | | 67,168 | 2 x LAS; 1 x SAN** |
| FY 2014/15 | | | | | | |
| Summer | 2 | 80 | 60 | 65% | 6,240 | 2 x LAX |
| Winter | 8 | 80 | 112 | 85% | 60,928 | 3 x LAX; 2 x SFO* |
| Total | | | | | 67,168 | 2 x LAS; 1 x SAN** |
| FY 2015/16 | | | | | | |
| Summer | 2 | 80 | 60 | 65% | 6,240 | 2 x LAX |
| Winter | 8 | 80 | 112 | 85% | 60,928 | 3 x LAX; 2 x SFO* |
| Total | | | | | 67,168 | 2 x LAS; 1 x SAN** |

* SFO or an alternative Northern California airport
**SAN or an alternative Southern California airport

Source: URS

**TABLE 2: TWO-COUNTY STUDY AREA 2000-2005**

| Subarea | 2000 | 2005 | Distribution as of 2005 | Net-Change 2000-2005 | Growth Distribution |
|---|---|---|---|---|---|
| ***Employment*** | | | | | |
| Mammoth Lakes | 5,051 | 5,576 | 26.02% | 525 | 25.72% |
| Balance of Mono County | 4,151 | 4,578 | 21.36% | 427 | 20.92% |
| City of Bishop | 2,113 | 2,327 | 10.86% | 214 | 10.63% |
| Balance of Inyo County | 8,078 | 8,953 | 41.77% | 875 | 42.87% |
| *Two-County Study Area* | *19,393* | *21,433* | *100.00%* | *2,041* | *100.00%* |
| | | | | | |
| ***Population*** | | | | | |
| Mammoth Lakes | 7,093 | 7,602 | 23.67% | 509 | 38.59% |
| Balance of Mono County | 5,760 | 5,935 | 18.48% | 175 | 13.27% |
| City of Bishop | 3,575 | 3,641 | 11.34% | 66 | 5.00% |
| Balance of Inyo County | 14,370 | 14,939 | 46.51% | 569 | 43.14% |
| *Two-County Study Area* | *30,798* | *32,117* | *100.00%* | *1,319* | *100.00%* |
| | | | | | |
| ***Total Units*** | | | | | |
| Mammoth Lakes | 7,960 | 8,962 | 40.05% | 1,002 | 63.54% |
| Balance of Mono County | 3,797 | 4,248 | 18.98% | 451 | 28.60% |
| City of Bishop | 1,867 | 1,875 | 8.38% | 8 | 0.51% |
| Balance of Inyo County | 7,175 | 7,291 | 32.58% | 116 | 7.36% |
| *Two-County Study Area* | *20,799* | *22,376* | *100.00%* | *1,577* | *100.00%* |
| | | | | | |
| ***Occupied Units*** | | | | | |
| Mammoth Lakes | 2,814 | 3,168 | 23.38% | 354 | 49.72% |
| Balance of Mono County | 2,323 | 2,576 | 19.01% | 253 | 35.53% |
| City of Bishop | 1,684 | 1,692 | 12.49% | 8 | 1.12% |
| Balance of Inyo County | 6,019 | 6,116 | 45.13% | 97 | 13.62% |
| *Two-County Study Area* | *12,840* | *13,552* | *100.00%* | *712* | *100.00%* |

Sources: The SGM Group, Inc.; Hayes Planning Associates, Inc.; State of California, Department of Finance, *E-4 Population Estimates for Cities, Counties and the State 2001-2006 with 2000 Benchmark,* Sacramento, California, May 2006; US Bureau of Economic Analysis, May 2006: http://www.bea.gov/bea/regional/statelocal.htm; and California Labor Market Information Service, May 2006: http://www.labormarketinfo.edd.ca.gov/ and California MapStats from Fed Stats, US Census 2000, http://www.fedstats.gov/qf/states/06000.html .

**TABLE 3: DISTRIBUTION OF HOUSING UNITS BY JURISDICTION AND TYPE 2000—2005**

| Jurisdiction | Housing Type | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | % Distribution 2005 |
|---|---|---|---|---|---|---|---|---|
| **Bishop** | Single Detached | 843 | 848 | 847 | 845 | 843 | 845 | 3.78% |
| | Single Attached | 76 | 76 | 78 | 78 | 78 | 78 | 0.35% |
| | 2-4 Unit | 262 | 262 | 262 | 262 | 262 | 262 | 1.17% |
| | 5 Plus | 323 | 323 | 323 | 323 | 323 | 323 | 1.44% |
| | Mobile Homes | 363 | 363 | 366 | 367 | 367 | 367 | 1.64% |
| **Unincorporated Inyo** | Single Detached | 4,602 | 4,617 | 4,626 | 4,644 | 4,653 | 4,660 | 20.83% |
| | Single Attached | 134 | 134 | 134 | 134 | 134 | 133 | 0.59% |
| | 2-4 Unit | 145 | 145 | 145 | 145 | 145 | 145 | 0.65% |
| | 5 Plus | 145 | 145 | 145 | 145 | 145 | 145 | 0.65% |
| | Mobile Homes | 2,149 | 2,149 | 2,171 | 2,171 | 2,197 | 2,208 | 9.87% |
| **Mammoth Lakes** | Single Detached | 2,123 | 2,171 | 2,204 | 2,204 | 2,241 | 2,278 | 10.18% |
| | Single Attached | 965 | 965 | 965 | 1,003 | 1,003 | 1,003 | 4.48% |
| | 2-4 Unit | 1,540 | 1,600 | 1,668 | 1,712 | 1,758 | 1,786 | 7.98% |
| | 5 Plus | 3,139 | 3,221 | 3,282 | 3,306 | 3,488 | 3,702 | 16.54% |
| | Mobile Homes | 193 | 193 | 193 | 193 | 193 | 193 | 0.86% |
| **Unincorporated Mono** | Single Detached | 2,474 | 2,485 | 2,500 | 2,512 | 2,760 | 2,806 | 12.54% |
| | Single Attached | 210 | 225 | 225 | 256 | 256 | 256 | 1.14% |
| | 2-4 Unit | 296 | 300 | 304 | 307 | 307 | 307 | 1.37% |
| | 5 Plus | 74 | 74 | 74 | 74 | 74 | 74 | 0.33% |
| | Mobile Homes | 743 | 754 | 761 | 779 | 779 | 805 | 3.60% |
| **Two-County Study Area** | **Total Units** | **20,799** | **21,050** | **21,273** | **21,460** | **22,006** | **22,376** | **100.00%** |
| | **Total Occupied** | **12,840** | **12,950** | **13,059** | **13,146** | **13,417** | **13,552** | |
| | **% Vacant** | **38.27%** | **38.48%** | **38.61%** | **38.74%** | **39.03%** | **39.44%** | |
| | **% Occupied** | **61.73%** | **61.52%** | **61.39%** | **61.26%** | **60.97%** | **60.56%** | |

Source: California Department of Finance, http://www.dof.ca.gov/HTML/DEMOGRAP/repndat.htm#estimates E-5 City/County Population and Housing Estimates, 1/1/2005, and The SGM Group, Inc.

**TABLE 4: CHANGE IN DEVELOPMENT SINCE 2004**

| Jurisdiction | Land Use Type | 2005<br>(added since previous study) |
|---|---|---|
| Mammoth Lakes | Single Family | 54 |
| | Multi family | 431 |
| | Hotel/Motel | |
| | Commercial sq. feet | 13,193 |
| | | |
| Mono County | Units | |
| | Commercial sq. feet | 19,484 |
| | | |
| Inyo County | Units | |
| | Commercial sq. feet | 35,755 |
| | | |
| Two-County Study Area | Units | 485 |
| | Commercial sq. feet | 68,432 |

Source: Town of Mammoth Lakes, Summer 2006; and The SGM Group, Inc., Technical Memorandum May 2005 Table 3.

**TABLE 5: ESTIMATED CHANGE IN EXISTING COMMERCIAL DEVELOPMENT 2004-2005**

| Jurisdiction | Existing Commercial Development 2004 | Estimated Commercial Development 2005 | Difference* |
|---|---|---|---|
| Mammoth Lakes | 1,183,000 | 1,196,193 | 13,193 |
| Unincorporated Mono County | 1,747,100 | 1,766,584 | 19,484 |
| Bishop | 641,200 | 648,351 | 7,151 |
| Unincorporated Inyo County | 2,564,800 | 2,593,404 | 28,604 |
| **Total:** | **6,136,100** | **6,204,532** | **68,432** |

Source: The SGM Group, Inc.

**Note:* The estimate of change in commercial development from 2004 to 2005 is based on change in employment linked to average square feet per employment.

**TABLE 6: HISTORIC SKIER VISITS MAMMOTH AND JUNE MOUNTAINS 1980-2006**

| Season/Year | Mammoth | June | Total |
|---|---|---|---|
| **1980-81** | 983,979 | | |
| **1981-82** | 1,359,376 | | |
| **1982-83** | 1,259,160 | | |
| **1983-84** | 1,280,798 | | |
| **1984-85** | 1,230,750 | | |
| **1985-86** | 1,428,958 | | |
| **1986-87** | 697,457 | 85,476 | **782,933** |
| **1987-88** | 1,143,133 | 81,146 | **1,224,279** |
| **1988-89** | 1,065,313 | 93,986 | **1,159,299** |
| **1989-90** | 1,011,915 | 68,213 | **1,080,128** |
| **1990-91** | 484,350 | 26,036 | **510,386** |
| **1991-92** | 918,114 | 60,212 | **978,326** |
| **1992-93** | 935,928 | 59,831 | **995,759** |
| **1993-94** | 731,850 | 38,829 | **770,679** |
| **1994-95** | 976,391 | 84,626 | **1,061,017** |
| **1995-96** | 813,153 | 66,669 | **879,822** |
| **1996-97** | 800,982 | 64,646 | **865,628** |
| **1997-98** | 901,729 | 66,109 | **967,838** |
| **1998-99** | 908,618 | 51,120 | **959,738** |
| **1999-2000** | 895,293 | 33,766 | **929,059** |
| **2000-2001** | 1,122,082 | 34,033 | **1,156,115** |
| **2001-2002** | 1,154,441 | 59,751 | **1,214,192** |
| **2002-2003** | 1,284,110 | 81,691 | **1,365,801** |
| **2003-2004** | 1,310,107 | 89,536 | **1,399,643** |
| **2004-2005** | 1,428,138 | 86,066 | **1,514,204** |
| **2005-2006** | 1,441,618 | 95,023 | **1,536,641** |

Source: Mammoth Mountain, May 2006

**TABLE 7: YOSEMITE VISITATION DATA 1980-2005**

| Year | Annual Visits |
|---|---|
| 1980 | 2,490,282 |
| 1981 | 2,516,893 |
| 1982 | 2,415,587 |
| 1983 | 2,457,464 |
| 1984 | 2,738,467 |
| 1985 | 2,831,952 |
| 1986 | 2,876,717 |
| 1987 | 3,152,275 |
| 1988 | 3,216,681 |
| 1989 | 3,308,159 |
| 1990 | 3,124,939 |
| 1991 | 3,423,101 |
| 1992 | 3,819,518 |
| 1993 | 3,839,645 |
| 1994 | 3,962,117 |
| 1995 | 3,958,406 |
| 1996 | 4,046,207 |
| 1997 | 3,669,970 |
| 1998 | 3,657,132 |
| 1999 | 3,493,607 |
| 2000 | 3,400,903 |
| 2001 | 3,368,731 |
| 2002 | 3,361,867 |
| 2003 | 3,378,664 |
| 2004 | 3,280,911 |
| 2005 | 3,304,144 |

Source: NPS May, 2005

**TABLE 8: ESTIMATED TOTAL OUTPUT FOR INYO AND MONO COUNTIES 2005**

| INDUSTRY | Industry Output* | Two-County Employment | Employee Compensation* | Proprietor Income* | Other Property Income* | Indirect Business Tax* | Total Value Added* | Percent Distribution |
|---|---|---|---|---|---|---|---|---|
| 11 Ag, Forestry, Fish & Hunting | $36.80 | 151 | $1.25 | $4.31 | $14.82 | $0.75 | $21.13 | 0.70% |
| 21 Sand and Gravel, Mining | $24.34 | 67 | $4.38 | $0.04 | $6.57 | $1.32 | $12.31 | 0.31% |
| 22 Utilities | $28.06 | 67 | $5.77 | $0.01 | $11.44 | $2.97 | $20.18 | 0.31% |
| 23 Construction | $191.40 | 1,578 | $44.92 | $29.45 | $13.47 | $1.10 | $88.93 | 7.36% |
| 31-33 Manufacturing | $48.15 | 323 | $9.77 | $0.94 | $5.63 | $0.65 | $16.98 | 1.51% |
| 42 Wholesale Trade | $19.64 | 230 | $7.60 | $0.76 | $3.34 | $3.24 | $14.94 | 1.08% |
| 48-49 Transportation & Warehousing | $18.61 | 193 | $8.38 | $1.28 | $1.65 | $0.43 | $11.73 | 0.90% |
| 44-45 Retail trade | $163.48 | 2,845 | $61.54 | $13.89 | $21.69 | $23.51 | $120.64 | 13.27% |
| 51 Information | $44.99 | 237 | $8.79 | $1.00 | $7.02 | $2.01 | $18.82 | 1.11% |
| 52 Finance & insurance | $34.06 | 268 | $8.70 | $1.92 | $12.95 | $0.50 | $24.08 | 1.25% |
| 53 Real estate & rental | $240.78 | 1,243 | $22.16 | $27.48 | $88.43 | $23.45 | $161.52 | 5.80% |
| 54 Professional- scientific & tech svcs | $62.81 | 629 | $21.24 | $9.76 | $5.45 | $0.84 | $37.28 | 2.93% |
| 55 Management of companies | $21.01 | 157 | $8.43 | $0.00 | $2.36 | $0.18 | $10.98 | 0.73% |
| 56 Administrative & waste services | $24.12 | 366 | $7.29 | $1.69 | $2.05 | $0.41 | $11.44 | 1.71% |
| 61 Educational svcs | $0.60 | 14 | $0.11 | $0.04 | $0.00 | $0.01 | $0.17 | 0.07% |
| 62 Health & social services | $55.21 | 802 | $23.54 | $7.43 | $6.54 | $0.35 | $37.86 | 3.74% |
| 71 Arts- entertainment & recreation | $14.76 | 351 | $4.34 | $1.18 | $1.64 | $0.87 | $8.03 | 1.64% |
| 72 Accommodation & food services | $297.02 | 4,463 | $106.89 | $2.88 | $46.78 | $22.40 | $178.95 | 20.82% |
| 81 Other services | $88.67 | 1,727 | $37.99 | $6.75 | $5.14 | $3.33 | $53.21 | 8.06% |
| 92 Government & non NAICs | $482.87 | 5,720 | $299.53 | $0.00 | $92.81 | $13.72 | $406.05 | 26.69% |
| **Totals** | **$1,897.38** | **21,433** | **$692.62** | **$110.82** | **$349.75** | **$102.04** | **$1,255.23** | **100.00%** |
| *Millions of dollars | | | | | | | | |
| Proposed Action Model | | | | | | | | |

Source: BEA, IMPLAN, and The SGM Group, Inc.

**TABLE 9: TWO-COUNTY EMPLOYMENT AND POPULATION 1990-2005**

| Year | Full and Part-Time Employment | Annual Employment Change | Population | Annual Population Change |
|---|---|---|---|---|
| 1990 | 17,057 | --- | 28,237 | --- |
| 1991 | 16,283 | -774 | 28,356 | 119 |
| 1992 | 16,516 | 233 | 28,744 | 388 |
| 1993 | 16,948 | 432 | 29,254 | 510 |
| 1994 | 16,963 | 15 | 29,878 | 624 |
| 1995 | 17,681 | 718 | 30,044 | 166 |
| 1996 | 17,712 | 31 | 30,077 | 33 |
| 1997 | 18,016 | 304 | 30,239 | 162 |
| 1998 | 18,464 | 448 | 30,146 | -93 |
| 1999 | 18,802 | 338 | 30,557 | 411 |
| 2000 | 19,393 | 591 | 30,798 | 241 |
| 2001 | 19,717 | 324 | 30,898 | 100 |
| 2002 | 19,820 | 103 | 31,640 | 742 |
| 2003 | 20,269 | 449 | 31,885 | 245 |
| 2004 | 21,197 | 928 | 32,047 | 162 |
| 2005 | 21,433 | 236 | 32,117 | 70 |

Source: BEA and The SGM Group, Inc.

**TABLE 10: ALTERNATIVE EMPLOYMENT FORECAST MODELS—SUMMARY OUTPUT**

| Zero Constant Models-- Statistical Coefficients | Alternative 1 | Alternative 2 | Alternative 3 | Alternative 4 | Alternative 5 | Alternative 6 |
|---|---|---|---|---|---|---|
| *Enplanement Regression Factors* | | | | | | |
| Eagle County | 0.040415137 | 0.040415137 | 0.040415137 | 0.040415137 | 0.040415137 | 0.040415137 |
| Aspen/Pitkin | 0.002428992 | 0.002428992 | 0.002428992 | 0.002428992 | 0.002428992 | 0.002428992 |
| Telluride | 0.010949552 | 0.010949552 | 0.010949552 | 0.010949552 | 0.010949552 | 0.010949552 |
| Jackson Hole | 0.013834 | 0.013834 | 0.013834 | 0.013834 | 0.013834 | 0.013834 |
| | | | | | | |
| Overall Average: | 0.01690692 | 0.01690692 | 0.01690692 | 0.01690692 | 0.01690692 | 0.01690692 |
| | | | | | | |
| Average: Eagle/Aspen/Telluride | 0.017931227 | 0.017931227 | 0.017931227 | 0.017931227 | 0.017931227 | 0.017931227 |
| Average: Eagle/Aspen | 0.021422065 | 0.021422065 | 0.021422065 | 0.021422065 | 0.021422065 | 0.021422065 |
| | | | | | | |
| **Composite Model** | **0.016471579** | **0.017774161** | **0.023440756** | **0.02456452** | **0.026099537** | **0.017235135** |
| | | | | | | |
| Overall average | 0.01668925 | 0.01734054 | 0.020173838 | 0.02073572 | 0.021503228 | 0.017071027 |
| | | | | | | |
| Employment-Composite | 2,752 | 2,970 | 3,917 | 4,105 | 4,361 | 1,158 |
| | | | | | | |
| | | | | | **Preferred Model:** | **0.017235135** |

Source: The SGM Group, Inc.

Note: As in the previous study, this table illustrates outputs of several tested regression models measuring enplanement component coefficients. Glacier Park was not included, since it was determined that the characteristic data available were not comparable to the situation at Mammoth Lakes. The coefficient chosen for future forecasts for the two-county Mono and Inyo impact model was the composite model coefficient: 0.017235. That model appeared to represent the most consistent logical application of the available annual historic data. This model output used data from case study examples as well as from Mono and Inyo Counties, and used available data from 1993 through 2002 (the latest year for which all categories had data).

**TABLE 11: COMPOSITE MODEL**

| Year | Full and Part-Time Employment | Population | Taxes | Skier Days | Enplanements* | Park Visitation** | Model Projected Employment | Difference: Actual -Forecast |
|---|---|---|---|---|---|---|---|---|
| 1993 | 98,386 | 118,773 | $60,974,922 | 8,123,006 | 564,858 | 6,751,838 | 96,495 | 1,891 |
| 1994 | 105,025 | 124,373 | $74,434,532 | 8,357,890 | 581,850 | 7,008,262 | 107,166 | (2,141) |
| 1995 | 109,762 | 129,306 | $79,389,563 | 8,480,668 | 556,998 | 7,083,691 | 110,610 | (848) |
| 1996 | 113,648 | 133,047 | $85,221,757 | 8,844,492 | 620,713 | 7,058,378 | 116,578 | (2,930) |
| 1997 | 119,916 | 137,994 | $90,006,735 | 8,939,658 | 715,849 | 6,559,483 | 120,053 | (137) |
| 1998 | 124,686 | 142,276 | $99,722,437 | 8,637,902 | 769,604 | 6,777,962 | 127,120 | (2,434) |
| 1999 | 128,288 | 146,678 | $102,580,029 | 8,318,844 | 727,756 | 6,624,988 | 126,796 | 1,492 |
| 2000 | 133,153 | 149,896 | $109,507,157 | 9,198,607 | 730,905 | 6,239,136 | 132,880 | 273 |
| 2001 | 134,783 | 153,360 | $113,606,607 | 8,865,102 | 863,025 | 6,127,257 | 136,456 | (1,673) |
| 2002 | 135,068 | 156,564 | $112,638,499 | 9,341,602 | 846,000 | 6,335,544 | 137,669 | (2,601) |
| | | | | | *Includes Montrose in Telluride numbers | **Includes Yosemite and Yellowstone National Parks | | |

Source: The SGM Group, Inc.; Eagle/Vail; Aspen/Pitkin; Telluride/Montrose; Jackson Hole Airport Manager; NPS; Finance Departments, Colorado and Wyoming; Colorado Ski Country USA; Mammoth Mountain; BEA; Yosemite National Park Manager; and FAA.

Note: The primary approach used to estimate the statistical contribution of enplanements to total employment combined comparable data from the case study examples with similar data from Mono and Inyo Counties to derive a composite employment forecast model. This model used four factors that appeared to be statistically significant in generating an estimate of total employment: taxes (particularly those related to visitor activity), skier visits, enplanements, and National Park visitation. Adding population to the mix resulted in illogical signs for regression model coefficients. The resulting application indicates a statistical contribution by enplanements of approximately 8% to 10% to the total full- and part-time employment. Park Visitation in this model includes visitors to Yosemite and Yellowstone National Parks. Skier days include combined totals reported for Eagle-Vail, Aspen, Telluride, and Mammoth Lakes. Population refers to permanent residents (population was compiled as part of the background analysis but not used in the regression model). Total Employment is full- and part-time employment on a county level as reported by BEA. Counties included in this model are those referenced for Eagle-Vail (Eagle, Colorado), Aspen (Pitkin, Colorado), Telluride (San Miguel, Montrose, and Ouray Counties Colorado), Jackson Hole (Teton, Wyoming), and Mono/Inyo Counties. Enplanement data for Telluride also includes Montrose Airport.

**TABLE 12: NO-ACTION ALTERNATIVE FORECASTS—MONO AND INYO COUNTIES 2008-2015**

| Year | Population | Transient Occupancy Tax | Yosemite Visitors | Ski Activity |
|---|---|---|---|---|
| ***2008*** | 32,737 | $9,973,200 | 3,404,263 | 1,548,197 |
| ***2009*** | 32,973 | $10,260,644 | 3,438,305 | 1,603,367 |
| ***2010*** | 33,209 | $10,547,775 | 3,472,689 | 1,658,562 |
| ***2011*** | 33,446 | $10,834,588 | 3,507,415 | 1,713,784 |
| ***2012*** | 33,682 | $11,121,082 | 3,542,490 | 1,769,033 |
| ***2013*** | 33,919 | $11,407,252 | 3,577,914 | 1,824,309 |
| ***2014*** | 34,155 | $11,693,095 | 3,613,694 | 1,879,612 |
| ***2015*** | 34,391 | $11,978,609 | 3,649,831 | 1,934,944 |

Source: The SGM Group, Inc.

*Note*: The forecasts presented in this table are baseline No-Action Alternative forecasts used as input for the Mammoth Yosemite Employment Forecast Model. As explained in the text, population and TOT tax forecasts are based on historical trends. The Yosemite Visitors forecasts, however, are only estimates, assuming a 1 percent increase per year comparable to historical patterns, since the overall park plan was not available at the time of the analysis. The employment impact forecast and the other derived economic impacts are measured as *differences* from the No-Action Alternative. Therefore, the baseline numbers do not affect the estimated economic impacts.

**TABLE 13: POPULATION AND EMPLOYMENT IMPACT—MONO AND INYO COUNTIES 2008-2015**
*Model Output*

| Year | Population--No Action Alternative | Population—Proposed Action Alternative | Full and Part-Time Employment—No Action Alternative | Full and Part-Time Employment—Proposed Action Alternative | Additional Employment | Additional Population |
|---|---|---|---|---|---|---|
| ***2008*** | 32,737 | 32,989 | 22,794 | 22,970 | 176 | 253 |
| ***2009*** | 32,973 | 33,542 | 23,284 | 23,686 | 402 | 569 |
| ***2010*** | 33,209 | 34,271 | 23,775 | 24,535 | 760 | 1,061 |
| ***2011*** | 33,446 | 34,893 | 24,266 | 25,316 | 1,050 | 1,447 |
| ***2012*** | 33,682 | 35,239 | 24,757 | 25,902 | 1,144 | 1,557 |
| ***2013*** | 33,919 | 35,474 | 25,249 | 26,407 | 1,158 | 1,555 |
| ***2014*** | 34,155 | 35,691 | 25,742 | 26,900 | 1,158 | 1,536 |
| ***2015*** | 34,391 | 35,909 | 26,235 | 27,393 | 1,158 | 1,518 |
| | | | | | | |
| **Rate of Growth: 2005-2015** | 0.69% | 1.12% | 2.04% | 2.48% | | |

Source: The SGM Group, Inc.

**TABLE 14: DEVELOPMENT IMPACT—MONO AND INYO COUNTIES 2008-2015**
*Model Output*

| Year | Housing Units— No Action Alternative | Housing Units— Proposed Action Alternative | Additional Housing Units | Additional Occupied Housing Units | Occupancy Rate | Additional Commercial Development (sq. ft.)— (Mammoth) | Additional Lodging Units (Mammoth) |
|---|---|---|---|---|---|---|---|
| **2008** | 22,834 | 23,012 | 178 | 108 | 60.43% | 13,662 | 12 |
| **2009** | 23,078 | 23,480 | 401 | 242 | 60.28% | 31,159 | 27 |
| **2010** | 23,322 | 24,073 | 751 | 452 | 60.13% | 58,963 | 52 |
| **2011** | 23,565 | 24,592 | 1,027 | 616 | 59.97% | 81,494 | 72 |
| **2012** | 23,809 | 24,917 | 1,108 | 663 | 59.82% | 88,813 | 78 |
| **2013** | 24,053 | 25,162 | 1,109 | 662 | 59.67% | 89,840 | 79 |
| **2014** | 24,296 | 25,394 | 1,098 | 654 | 59.52% | 89,840 | 79 |
| **2015** | 24,540 | 25,628 | 1,088 | 646 | 59.37% | 89,840 | 79 |
| | | | | | | | |
| **Rate of Growth: 2005-2015** | 0.93% | 1.37% | Located in the Two-County Region | Located in the Two-County Region | | Located in the Town of Mammoth | Located in the Town of Mammoth |

Source: The SGM Group, Inc.

**TABLE 15: TOTAL EMPLOYMENT IMPACT BY ECONOMIC SECTOR PROPOSED ACTION 2015**
*Model Output*

| Industry | Direct* | Indirect* | Induced* | Total* | *% Distribution* |
|---|---|---|---|---|---|
| ***Major Sectors*** | | | | | |
| 92 Government & non NAICs (AGG) | 169 | 7 | 46 | 222 | 19.14% |
| 44-45 Retail trade (AGG) | 132 | 12 | 50 | 194 | 16.79% |
| 72 Accommodation & food services (AGG) | 141 | 7 | 32 | 180 | 15.52% |
| 81 Other services (AGG) | 65 | 10 | 27 | 102 | 8.81% |
| 53 Real estate & rental (AGG) | 57 | 12 | 7 | 76 | 6.54% |
| 23 Construction (AGG) | 70 | 4 | 1 | 74 | 6.42% |
| 62 Health & social services (AGG) | 36 | 0 | 23 | 59 | 5.08% |
| 54 Professional- scientific & tech services (AGG) | 27 | 16 | 4 | 47 | 4.05% |
| 56 Administrative & waste services (AGG) | 17 | 14 | 3 | 34 | 2.92% |
| 71 Arts- entertainment & recreation (AGG) | 18 | 3 | 9 | 29 | 2.54% |
| 31-33 Manufacturing (AGG) | 21 | 5 | 2 | 29 | 2.48% |
| 52 Finance & insurance (AGG) | 14 | 4 | 5 | 23 | 1.97% |
| 51 Information (AGG) | 12 | 5 | 4 | 20 | 1.76% |
| 42 Wholesale Trade (AGG) | 10 | 3 | 4 | 17 | 1.50% |
| 48-49 Transportation & Warehousing (AGG) | 10 | 6 | 2 | 17 | 1.49% |
| 55 Management of companies (AGG) | 8 | 5 | 1 | 14 | 1.21% |
| 11 Ag, Forestry, Fish & Hunting (AGG)* | 8 | 2 | 0 | 10 | 0.85% |
| 22 Utilities (AGG) | 3 | 1 | 1 | 6 | 0.48% |
| 21 Mining, Sand and Gravel (AGG) | 3 | 1 | 0 | 4 | 0.35% |
| 61 Educational services (AGG) | 1 | 0 | 0 | 1 | 0.10% |
| ***Total*** | ***822*** | ***117*** | ***221*** | ***1,158*** | ***100.0%*** |

Source: The SGM Group, Inc., and IMPLAN
**Note*: In this and all similar tables that follow, AGG indicates that the economic sector is an aggregate of numerous subsectors.

**TABLE 16: TOTAL VALUE ADDED IMPACT PROPOSED ACTION 2015**
*Model Output*

| Industry | Direct* | Indirect* | Induced* | Total* | *% Distribution* |
|---|---|---|---|---|---|
| 92 Government & non NAICs (AGG) | $11,766,523 | $503,663 | $3,174,567 | $15,444,753 | 22.87% |
| 53 Real estate & rental (AGG) | $7,381,742 | $1,698,370 | $924,226 | $10,004,338 | 14.81% |
| 44-45 Retail trade (AGG) | $5,590,205 | $522,428 | $2,211,664 | $8,324,297 | 12.32% |
| 72 Accommodation & food services (AGG) | $5,823,576 | $227,582 | $865,493 | $6,916,650 | 10.24% |
| 23 Construction (AGG) | $3,842,604 | $220,450 | $40,508 | $4,103,561 | 6.08% |
| 81 Other services (AGG) | $2,080,188 | $380,774 | $776,337 | $3,237,299 | 4.79% |
| 62 Health & social services (AGG) | $1,730,668 | $10,045 | $1,136,223 | $2,876,936 | 4.26% |
| 54 Professional- scientific & tech services (AGG) | $1,605,308 | $941,921 | $256,192 | $2,803,421 | 4.15% |
| 52 Finance & insurance (AGG) | $1,214,716 | $396,993 | $446,758 | $2,058,467 | 3.05% |
| 22 Utilities (AGG) | $1,019,230 | $363,105 | $313,130 | $1,695,465 | 2.51% |
| 51 Information (AGG) | $949,175 | $384,804 | $320,465 | $1,654,445 | 2.45% |
| 31-33 Manufacturing (AGG) | $1,157,191 | $248,630 | $108,278 | $1,514,099 | 2.24% |
| 11 Ag, Forestry, Fish & Hunting (AGG) | $1,065,545 | $110,357 | $52,648 | $1,228,551 | 1.82% |
| 42 Wholesale Trade (AGG) | $666,073 | $208,878 | $254,317 | $1,129,268 | 1.67% |
| 56 Administrative & waste services (AGG) | $539,835 | $420,548 | $86,574 | $1,046,957 | 1.55% |
| 48-49 Transportation & Warehousing (AGG) | $590,914 | $328,255 | $107,327 | $1,026,496 | 1.52% |
| 55 Management of companies (AGG) | $553,275 | $387,126 | $88,315 | $1,028,716 | 1.52% |
| 21 Mining, Sand and Gravel Extraction (AGG) | $621,635 | $138,309 | $31,938 | $791,882 | 1.17% |
| 71 Arts- entertainment & recreation (AGG) | $405,051 | $33,023 | $204,052 | $642,126 | 0.95% |
| 61 Educational services (AGG) | $8,321 | $242 | $4,946 | $13,509 | 0.02% |
| ***Total*** | **$48,611,775** | **$7,525,501** | **$11,403,958** | **$67,541,233** | ***100.00%*** |
| *Multiplier* | | | | *1.41* | |
| * 2006 Dollars | | | | | |

Source: The SGM Group, Inc., and IMPLAN

**TABLE 17: TOTAL TAXES—PROPOSED ACTION MODEL 2015**
*Model Output*

| | | Employee Compensation | Proprietary Income | Household Expenditures | Enterprises (Corporation) | Indirect Business Taxes | Total |
|---|---|---|---|---|---|---|---|
| **Federal Government Non-Defense** | Corporate Profits Tax | | | | 1,175,369 | | 1,175,369 |
| | Indirect Bus Tax: Custom Duty | | | | | 149,453 | 149,453 |
| | Indirect Bus Tax: Excise Taxes | | | | | 476,991 | 476,991 |
| | Indirect Bus Tax: Fed NonTaxes | | | | | 162,023 | 162,023 |
| | Personal Tax: Income Tax | | | 71,871 | | | 71,871 |
| | Personal Tax: NonTaxes (Fines- Fees) | | | | | | |
| | Social Ins Tax- Employee Contribution | 1,966,361 | 321,658 | | | | 2,288,019 |
| | Social Ins Tax- Employer Contribution | 2,032,886 | | | | | 2,032,886 |
| | *Total* | *3,999,247* | *321,658* | *71,871* | *1,175,369* | *788,467* | *6,356,611* |
| **State/Local Government Non-Education** | Corporate Profits Tax | | | | 369,789 | | 369,789 |
| | Dividends | | | | 825,666 | | 825,666 |
| | Indirect Bus Tax: Motor Vehicle Lic | | | | | 39,927 | 39,927 |
| | Indirect Bus Tax: Other Taxes | | | | | 402,942 | 402,942 |
| | Indirect Bus Tax: Property Tax | | | | | 1,916,461 | 1,916,461 |
| | Indirect Bus Tax: S/L NonTaxes | | | | | 232,319 | 232,319 |
| | Indirect Bus Tax: Sales Tax | | | | | 2,553,933 | 2,553,933 |
| | Indirect Bus Tax: Severance Tax | | | | | 712 | 712 |
| | Personal Tax: Income Tax | | | 1,112,430 | | | 1,112,430 |
| | Personal Tax: Motor Vehicle License | | | 44,393 | | | 44,393 |
| | Personal Tax: NonTaxes (Fines- Fees | | | 566,974 | | | 566,974 |
| | Personal Tax: Other Tax (Fish/Hunt) | | | 7,077 | | | 7,077 |
| | Personal Tax: Property Taxes | | | 22,747 | | | 22,747 |
| | Social Ins Tax- Employee Contribution | 81,600 | | | | | 81,600 |
| | Social Ins Tax- Employer Contribution | 264,702 | | | | | 264,702 |
| | *Total* | *346,302* | | *1,753,620* | *1,195,456* | *5,146,294* | *8,441,672* |
| **Total (2006 Dollars)** | | ***4,345,548*** | ***321,658*** | ***1,825,492*** | ***2,370,824*** | ***5,934,761*** | ***14,798,283*** |

Source: IMPLAN and The SGM Group, Inc.

**TABLE 18: INDIRECT BUSINESS TAXES—PROPOSED ACTION 2015**
*Model Output*

| Industry | Direct* | Indirect* | Induced* | Total* |
|---|---|---|---|---|
| 44-45 Retail trade (AGG) | $1,094,749 | $102,341 | $432,901 | $1,629,991 |
| 53 Real estate & rental (AGG) | $1,067,199 | $279,328 | $139,634 | $1,486,162 |
| 72 Accommodations & food services (AGG) | $733,654 | $26,648 | $93,936 | $854,239 |
| 92 Government & non NAICs (AGG) | $397,467 | $17,013 | $107,235 | $521,716 |
| 81 Other services (AGG) | $160,571 | $38,759 | $55,002 | $254,332 |
| 22 Utilities (AGG) | $149,769 | $53,356 | $46,012 | $249,138 |
| 42 Wholesale Trade (AGG) | $144,225 | $45,228 | $55,067 | $244,521 |
| 51 Information (AGG) | $101,598 | $42,581 | $36,085 | $180,264 |
| 21 Mining, Sand and Gravel (AGG) | $66,648 | $15,688 | $3,608 | $85,944 |
| 71 Arts- entertainment & recreation (AGG) | $43,902 | $2,946 | $22,797 | $69,645 |
| 54 Professional- scientific & tech services (AGG) | $36,284 | $21,290 | $5,791 | $63,364 |
| 23 Construction (AGG) | $47,356 | $2,717 | $499 | $50,571 |
| 11 Ag, Forestry, Fish & Hunting (AGG) | $37,920 | $6,521 | $2,289 | $46,730 |
| 52 Finance & insurance (AGG) | $25,404 | $9,581 | $8,029 | $43,014 |
| 31-33 Manufacturing (AGG) | $35,723 | $3,604 | $2,091 | $41,417 |
| 56 Administrative & waste services (AGG) | $19,483 | $14,835 | $3,110 | $37,428 |
| 48-49 Transportation & Warehousing (AGG) | $21,517 | $7,937 | $2,341 | $31,794 |
| 62 Health & social services (AGG) | $16,170 | $88 | $10,504 | $26,762 |
| 55 Management of companies (AGG) | $9,140 | $6,395 | $1,459 | $16,994 |
| 61 Educational Services (AGG) | $453 | $13 | $269 | $735 |
| ***Total*** | **$4,209,232** | **$696,869** | **$1,028,659** | **$5,934,761** |
| | | | | |
| *2006 Dollars | | | | |

Source: IMPLAN and The SGM Group, Inc.

**TABLE 19: TOTAL OUTPUT PROPOSED ACTION 2015**
*Model Output*

| Industry | Direct* | Indirect* | Induced* | Total* |
|---|---|---|---|---|
| 92 Government & non NAICs (AGG) | $13,992,383 | $598,940 | $3,775,096 | $18,366,418 |
| 53 Real estate & rental (AGG) | $11,008,958 | $2,497,460 | $1,372,058 | $14,878,476 |
| 72 Accommodation & food services (AGG) | $9,582,200 | $411,310 | $1,699,112 | $11,692,621 |
| 44-45 Retail trade (AGG) | $7,552,903 | $709,777 | $3,005,630 | $11,268,310 |
| 23 Construction (AGG) | $8,270,085 | $474,454 | $87,181 | $8,831,720 |
| 81 Other services (AGG) | $3,574,863 | $698,973 | $1,297,736 | $5,571,572 |
| 54 Professional- scientific & tech services (AGG) | $2,704,453 | $1,586,848 | $431,604 | $4,722,905 |
| 62 Health & social services (AGG) | $2,527,614 | $14,264 | $1,650,520 | $4,192,397 |
| 31-33 Manufacturing (AGG) | $3,126,259 | $707,283 | $353,899 | $4,187,441 |
| 51 Information (AGG) | $2,268,368 | $916,690 | $759,767 | $3,944,826 |
| 52 Finance & insurance (AGG) | $1,718,549 | $553,563 | $631,173 | $2,903,286 |
| 22 Utilities (AGG) | $1,416,897 | $504,775 | $435,302 | $2,356,975 |
| 11 Ag, Forestry, Fish & Hunting (AGG) | $1,855,280 | $288,407 | $106,112 | $2,249,799 |
| 56 Administrative & waste services (AGG) | $1,138,137 | $886,269 | $182,510 | $2,206,915 |
| 55 Management of companies (AGG) | $1,058,903 | $740,913 | $169,025 | $1,968,841 |
| 48-49 Transportation & Warehousing (AGG) | $937,954 | $521,469 | $183,002 | $1,642,425 |
| 21 Mining, Sand and Gravel (AGG) | $1,229,002 | $280,247 | $64,724 | $1,573,974 |
| 42 Wholesale Trade (AGG) | $875,735 | $274,627 | $334,369 | $1,484,731 |
| 71 Arts- entertainment & recreation (AGG) | $744,350 | $60,716 | $355,993 | $1,161,059 |
| 61 Educational services (AGG) | $30,144 | $877 | $17,917 | $48,938 |
| ***Total*** | **$75,613,036** | **$12,727,861** | **$16,912,731** | **$105,253,626** |
| | | | | |
| *Multiplier* | | | | *1.39* |
| *2006 Dollars | | | | |

Source: The SGM Group, Inc., and IMPLAN

**TABLE 20: EMPLOYEE COMPENSATION PROPOSED ACTION 2015**
*Model Output*

| Industry | Direct* | Indirect* | Induced* | Total* |
|---|---|---|---|---|
| 92 Government & non NAICs (AGG) | $8,679,686 | $371,532 | $2,341,749 | $11,392,966 |
| 72 Accommodation & food services (AGG) | $3,457,803 | $144,214 | $581,713 | $4,183,730 |
| 44-45 Retail trade (AGG) | $2,827,033 | $256,474 | $1,085,989 | $4,169,496 |
| 81 Other services (AGG) | $1,360,916 | $218,290 | $504,878 | $2,084,084 |
| 23 Construction (AGG) | $1,940,802 | $111,344 | $20,459 | $2,072,605 |
| 62 Health & social services (AGG) | $1,081,754 | $5,657 | $696,391 | $1,783,803 |
| 54 Professional- scientific & tech services (AGG) | $914,502 | $536,588 | $145,946 | $1,597,035 |
| 53 Real estate & rental (AGG) | $1,009,015 | $262,884 | $131,805 | $1,403,704 |
| 55 Management of companies (AGG) | $425,220 | $297,526 | $67,875 | $790,620 |
| 31-33 Manufacturing (AGG) | $569,299 | $148,658 | $58,452 | $776,409 |
| 51 Information (AGG) | $443,380 | $176,624 | $145,634 | $765,638 |
| 48-49 Transportation & Warehousing (AGG) | $422,132 | $246,643 | $80,993 | $749,767 |
| 52 Finance & insurance (AGG) | $439,011 | $149,805 | $157,539 | $746,356 |
| 56 Administrative & waste services (AGG) | $343,822 | $268,172 | $55,153 | $667,147 |
| 42 Wholesale Trade (AGG) | $338,689 | $106,211 | $129,317 | $574,217 |
| 22 Utilities (AGG) | $291,605 | $103,885 | $89,587 | $485,078 |
| 71 Arts- entertainment & recreation (AGG) | $218,942 | $11,452 | $111,779 | $342,174 |
| 21 Mining, Sand and Gravel (AGG) | $221,047 | $46,153 | $10,816 | $278,016 |
| 11 Ag, Forestry, Fish & Hunting (AGG) | $63,348 | $10,647 | $3,139 | $77,135 |
| 61 Educational services (AGG) | $5,429 | $158 | $3,227 | $8,813 |
| ***Total*** | **$25,053,434** | **$3,472,917** | **$6,422,441** | **$34,948,791** |
| | | | | |
| *2006 Dollars | | | | |

Source: The SGM Group, Inc., and IMPLAN

**TABLE 21: AVERAGE EMPLOYEE SALARIES PROPOSED ACTION MODEL 2015**
*Model Output*

| Industry | Direct* | Indirect* | Induced* | Total* |
|---|---|---|---|---|
| 22 Utilities (AGG) | $86,842 | $86,842 | $86,842 | $86,842 |
| 21 Mining, Sand and Gravel (AGG) | $68,389 | $67,394 | $72,356 | $68,367 |
| 55 Management of companies (AGG) | $56,510 | $56,510 | $56,510 | $56,510 |
| 92 Government & non NAICs (AGG) | $51,414 | $51,414 | $51,414 | $51,414 |
| 48-49 Transportation & Warehousing (AGG) | $43,045 | $44,761 | $42,705 | $43,557 |
| 51 Information (AGG) | $37,107 | $38,138 | $38,602 | $37,618 |
| 54 Professional- scientific & tech services (AGG) | $34,031 | $34,031 | $34,031 | $34,031 |
| 42 Wholesale Trade (AGG) | $33,010 | $33,010 | $33,010 | $33,010 |
| 52 Finance & insurance (AGG) | $32,517 | $35,329 | $31,000 | $32,702 |
| 62 Health & social services (AGG) | $29,987 | $35,944 | $30,846 | $30,333 |
| 23 Construction (AGG) | $27,901 | $27,901 | $27,901 | $27,901 |
| 31-33 Manufacturing (AGG) | $26,606 | $30,098 | $24,692 | $27,049 |
| 72 Accommodation & food services (AGG) | $24,560 | $20,679 | $18,229 | $23,285 |
| 44-45 Retail trade (AGG) | $21,392 | $21,529 | $21,571 | $21,447 |
| 81 Other services (AGG) | $20,929 | $21,953 | $18,700 | $20,439 |
| 56 Administrative & waste services (AGG) | $19,806 | $19,637 | $19,771 | $19,735 |
| 53 Real estate & rental (AGG) | $17,784 | $21,817 | $19,034 | $18,540 |
| 71 Arts- entertainment & recreation (AGG) | $12,098 | $4,367 | $12,884 | $11,640 |
| 11 Ag, Forestry, Fish & Hunting (AGG) | $8,076 | $6,967 | $6,770 | $7,842 |
| 61 Educational Services (AGG) | $7,499 | $7,499 | $7,499 | $7,499 |
| ***Total*** | **$30,512** | **$30,060** | **$29,048** | **$30,188** |
| | | | | |
| *2006 Dollars | | | | |

Source: The SGM Group, Inc., and IMPLAN

*Note:* The tables labeled "Model Output" illustrate the impact model output and represent the potential economic impact of proposed Mammoth Yosemite operation specifications amendment alternative. These impact forecasts use the composite regression model illustrated in Figure 2. As shown, in 2015 the Proposed Action is expected to generate approximately 1,158 additional full- and part-time employees in Mono and Inyo Counties when compared to the No-Action Alternative. This total increase is based on the forecasted composite regression model enplanement contribution of 1.724%. Overall, this additional employment in 2015 (the study target year) represents a 4.4% employment increase over the No-Action Alternative. Based on the measured labor-force participation rates for the two counties, the additional resident population in 2015 attributed to the Proposed Action is expected to reach 1,518.

As a result of the estimated population increase, 1,088 additional housing units in Mono and Inyo Counties are expected in 2015, with 646 occupied. The applied average occupancy rate of 59% reflects the importance of the 2$^{nd}$ home market in the Mammoth Lakes area and is based on a forecast of historic occupancy rates.

Using past development activity ratios for the Town of Mammoth Lakes, additional commercial/industrial/retail space in the Town should reach approximately 89,840 square feet by 2015, with an addition of 79 lodging units. The estimate of additional lodging units is based on ratios characteristic of past history. Proposed additions to the market that represent a change in market character, including the new condominium hotels proposed by the private sector, are not represented in these forecasts; however, since the forecasts are derived as a "difference" between the "with" and "without" alternatives, estimates of resulting benefits are consistent with past development history. The increase in commercial/industrial/retail space and lodging units is estimated only for the Town of Mammoth Lakes because comprehensive data on total existing lodging units and commercial space for the two counties is not available.

The forecasted change in employment as a function of the Proposed Action for MMH provides the basis for derivation of the two-county input-output model. Using that input-output model, change in employment translates into estimated change in value-added, change in total output, and change in taxes for the Two-County Study Area.

**TABLE 22: SUMMARY—GEOGRAPHIC DISTRIBUTION OF SOCIOECONOMIC IMPACTS 2008 AND 2015**

| Subarea | 2005 | 2008 | | | 2015 | | | |
|---|---|---|---|---|---|---|---|---|
| | | No-Action | Proposed Action | | No-Action | | Proposed Action | |
| | | | Incremental Change | Total | 2008-2015 | Total | Incremental Change | Total |
| ***Employment*** | | | | | | | | |
| Mammoth Lakes | 5,576 | 5,930 | 50 | 5,981 | 1,022 | 6,952 | 332 | 7,284 |
| Balance of Mono County | 4,578 | 4,868 | 33 | 4,901 | 608 | 5,476 | 217 | 5,693 |
| City of Bishop | 2,327 | 2,475 | 19 | 2,493 | 357 | 2,832 | 122 | 2,954 |
| Balance of Inyo County | 8,953 | 9,521 | 74 | 9,595 | 1,453 | 10,974 | 487 | 11,462 |
| ***Total*** | **21,433** | **22,794** | **176** | **22,970** | **3,441** | **26,235** | **1,158** | **27,393** |
| ***Population*** | | | | | | | | |
| Mammoth Lakes | 7,602 | 7,867 | 108 | 7,974 | 705 | 8,572 | 648 | 9,220 |
| Balance of Mono County | 5,935 | 6,026 | 37 | 6,063 | 243 | 6,269 | 223 | 6,492 |
| City of Bishop | 3,641 | 3,675 | 14 | 3,689 | 92 | 3,767 | 84 | 3,851 |
| Balance of Inyo County | 14,939 | 15,169 | 94 | 15,263 | 614 | 15,783 | 564 | 16,347 |
| ***Total*** | **32,117** | **32,737** | **252** | **32,989** | **1,654** | **34,391** | **1,518** | **35,909** |
| ***Total Housing*** | | | | | | | | |
| Mammoth Lakes | 8,962 | 9,253 | 113 | 9,366 | 1,084 | 10,337 | 691 | 11,028 |
| Balance of Mono County | 4,248 | 4,379 | 51 | 4,430 | 478 | 4,857 | 301 | 5,158 |
| City of Bishop | 1,875 | 1,877 | 1 | 1,878 | 10 | 1,887 | 7 | 1,894 |
| Balance of Inyo County | 7,291 | 7,325 | 13 | 7,338 | 134 | 7,459 | 89 | 7,548 |
| ***Total*** | **22,376** | **22,834** | **178** | **23,012** | **1,706** | **24,540** | **1,088** | **25,628** |
| ***Occupied Housing*** | | | | | | | | |
| Mammoth Lakes | 3,168 | 3,306 | 54 | 3,360 | 343 | 3,649 | 321 | 3,970 |
| Balance of Mono County | 2,576 | 2,675 | 38 | 2,713 | 255 | 2,930 | 239 | 3,169 |
| City of Bishop | 1,692 | 1,695 | 1 | 1,696 | 7 | 1,702 | 6 | 1,708 |
| Balance of Inyo County | 6,116 | 6,154 | 15 | 6,168 | 85 | 6,239 | 80 | 6,319 |
| ***Total*** | **13,552** | **13,829** | **108** | **13,937** | **691** | **14,520** | **646** | **15,166** |
| ***Commercial Development*** | | | | | | | | |
| Mammoth Lakes | 1,196,193 | 1,272,147 | 13,662 | 1,285,808 | 356,642 | 1,628,789 | 89,840 | 1,718,629 |
| Balance of Mono County | 1,766,584 | 1,878,755 | 8,922 | 1,887,677 | 112,295 | 1,991,050 | 58,671 | 2,049,721 |
| City of Bishop | 648,351 | 689,519 | 5,725 | 695,243 | 128,680 | 818,199 | 37,645 | 855,844 |
| Balance of Inyo County | 2,593,404 | 2,758,074 | 22,898 | 2,780,972 | 402,435 | 3,160,509 | 150,580 | 3,311,089 |
| ***Total*** | **6,204,532** | **6,598,494** | **51,206** | **6,649,701** | **1,000,053** | **7,598,548** | **336,736** | **7,935,284** |

Source: The SGM Group, Inc., and Hayes Planning Associates, Inc. *Note: Numbers may not add as a result of rounding*

## FIGURE 1: UPDATED COMPOSITE MODEL

| Regression Statistics | |
|---|---|
| Multiple R | 0.999914837 |
| R Square | 0.999829682 |
| Adjusted R Square | 0.833077856 |
| Standard Error | 2037.156419 |
| Observations | 10 |

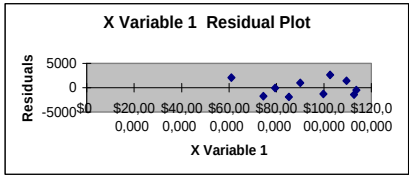
ANOVA

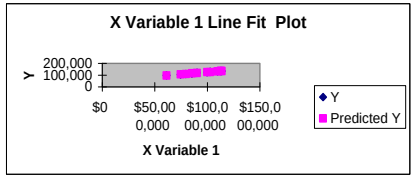
| | df | SS | MS | F | Significance F |
|---|---|---|---|---|---|
| Regression | 4 | 1.46173E+11 | 36543129962 | 8805.560171 | 8.39948E-10 |
| Residual | 6 | 24900037.65 | 4150006.275 | | |
| Total | 10 | 1.46197E+11 | | | |

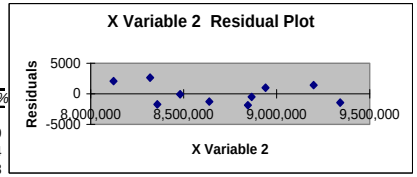
| | Coefficients | Standard Error | t Stat | P-value | Lower 95% | Upper 95% | ower 95.0% | pper 95.0% |
|---|---|---|---|---|---|---|---|---|
| Intercept | 0 | #N/A | #N/A | #N/A | #N/A | #N/A | #N/A | #N/A |
| Taxes | 0.000656024 | 8.72205E-05 | 7.521448007 | 0.000286043 | 0.000442603 | 0.000869 | 0.000443 | 0.000869 |
| Skier Days | 0.003093262 | 0.002039445 | 1.516717316 | 0.180127241 | -0.001897081 | 0.008084 | -0.001897 | 0.008084 |
| Enplanements | 0.017235135 | 0.014002342 | 1.230875175 | 0.264428291 | -0.017027361 | 0.051498 | -0.017027 | 0.051498 |
| Park Visitation | 0.003203912 | 0.001773154 | 1.806899771 | 0.120792588 | -0.00113484 | 0.007543 | -0.001135 | 0.007543 |

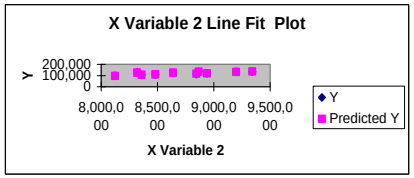
RESIDUAL OUTPUT

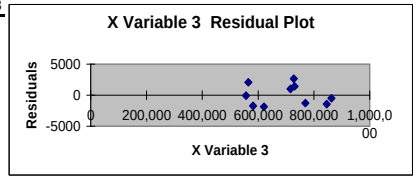
| Observation | Predicted Y | Residuals | Standard Residuals |
|---|---|---|---|
| 1 | 96319.26325 | 2066.736753 | 1.30974021 |
| 2 | 106764.5987 | -1739.598711 | -1.102425056 |
| 3 | 109850.0768 | -88.07679671 | -0.05581636 |
| 4 | 115528.2497 | -1880.249699 | -1.191558931 |
| 5 | 118908.6399 | 1007.360112 | 0.63838805 |
| 6 | 125962.19 | -1276.190023 | -0.808751955 |
| 7 | 125638.5379 | 2649.462107 | 1.679027119 |
| 8 | 131722.2765 | 1430.723468 | 0.906683472 |
| 9 | 135298.6512 | -515.6512037 | -0.326780426 |
| 10 | 136511.3939 | -1443.393945 | -0.914713054 |

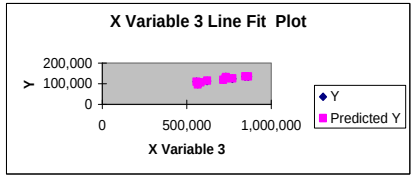


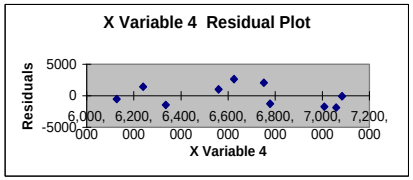



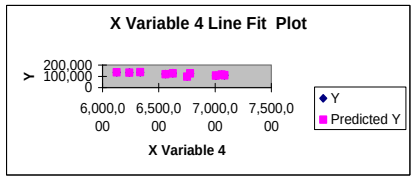




Source: The SGM Group, Inc.

## FIGURE 2: UPDATED MMH MODEL

| *Regression Statistics* | |
|---|---|
| Multiple R | 0.999823227 |
| R Square | 0.999646485 |
| Adjusted R Square | 0.899575782 |
| Standard Error | 399.3835778 |
| Observations | 13 |

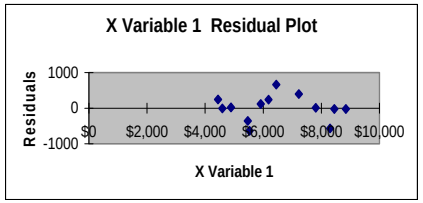
ANOVA

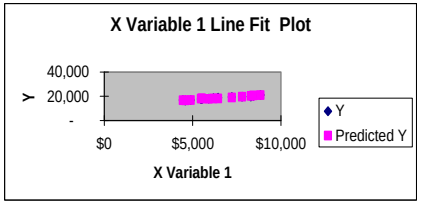
| | *df* | *SS* | *MS* | *F* | *ignificance F* |
|---|---|---|---|---|---|
| Regression | 3 | 4510436846 | 1503478949 | 9425.772322 | 4.73E-16 |
| Residual | 10 | 1595072.422 | 159507.2422 | | |
| Total | 13 | 4512031919 | | | |

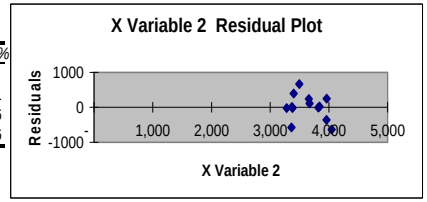
| | *Coefficients* | *Standard Error* | *t Stat* | *P-value* | *Lower 95%* | *Upper 95%* | *ower 95.0%* | *Upper 95.0%* |
|---|---|---|---|---|---|---|---|---|
| Intercept | 0 | #N/A | #N/A | #N/A | #N/A | #N/A | #N/A | #N/A |
| TOT | 1.344176746 | 0.149027497 | 9.019655912 | 4.05765E-06 | 1.012123 | 1.676231 | 1.012123 | 1.676231 |
| Yosemite | 2.645986501 | 0.125148981 | 21.14269308 | 1.24581E-09 | 2.367137 | 2.924836 | 2.367137 | 2.924836 |
| Skier | 0.246061993 | 1.04432383 | 0.23561848 | 0.818483994 | -2.080836 | 2.57296 | -2.080836 | 2.57296 |

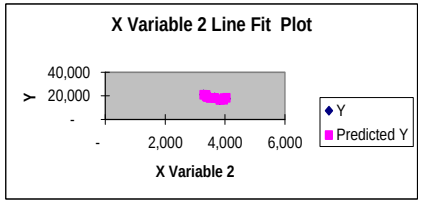
RESIDUAL OUTPUT

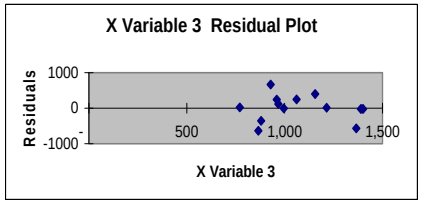
| *Observation* | *Predicted Y* | *Residuals* | *Standard Residuals* |
|---|---|---|---|
| 1 | 16523.46788 | -7.467875507 | -0.021319575 |
| 2 | 16924.45862 | 23.54138157 | 0.067206831 |
| 3 | 16714.54182 | 248.4581822 | 0.709307866 |
| 4 | 18037.11202 | -356.1120175 | -1.016642129 |
| 5 | 18350.57442 | -638.5744189 | -1.823026534 |
| 6 | 17901.05069 | 114.9493139 | 0.328161673 |
| 7 | 18224.58041 | 239.4195852 | 0.683504136 |
| 8 | 18136.98996 | 665.0100385 | 1.898495946 |
| 9 | 18996.3333 | 396.6666967 | 1.13241917 |
| 10 | 19703.19751 | 13.80249213 | 0.039403879 |
| 11 | 20391.71112 | -571.7111168 | -1.632142637 |
| 12 | 20636.26814 | -21.90385174 | -0.062531949 |
| 13 | 20910.04994 | -22.27419597 | -0.063589222 |

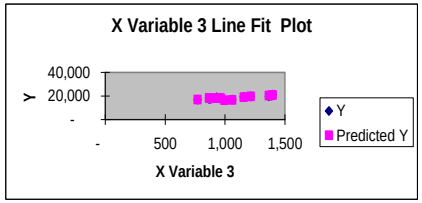


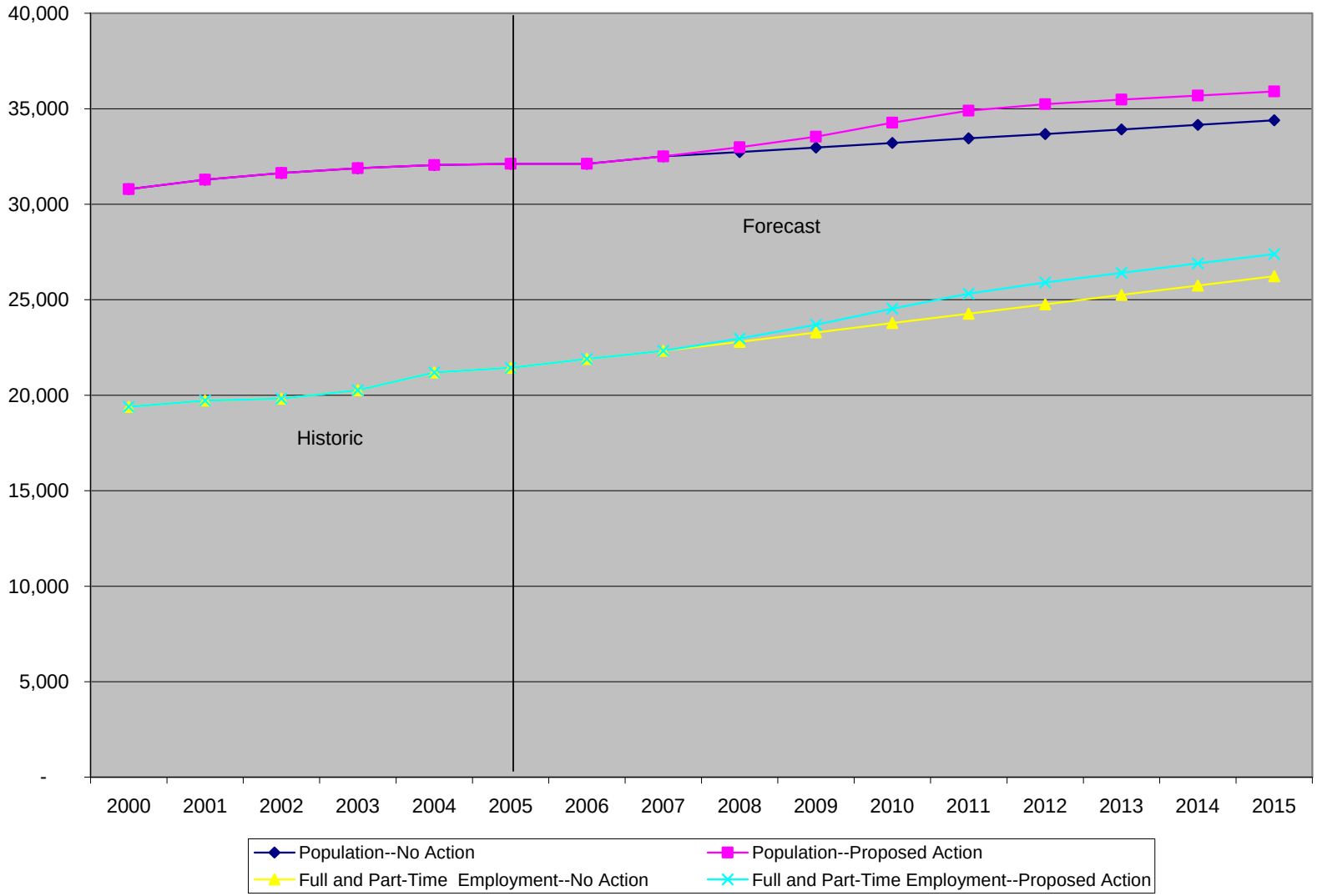



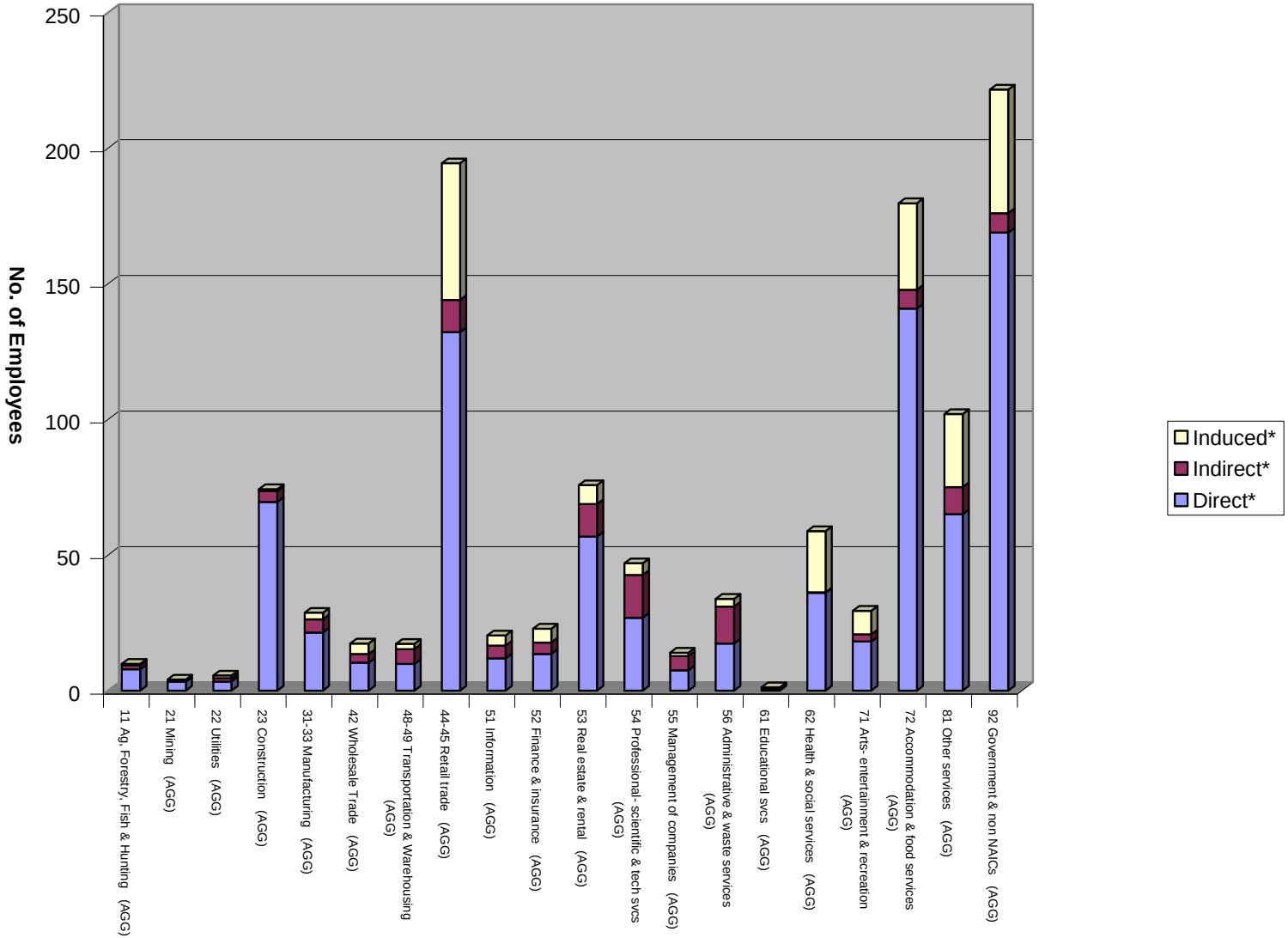

Source: The SGM Group, Inc.

**FIGURE 3: POPULATION AND EMPLOYMENT FORECAST—MONO AND INYO COUNTIES 2000-2015**




Source: The SGM Group, Inc.

**FIGURE 4: TWO-COUNTY EMPLOYMENT IMPACT—DISTRIBUTION BY ECONOMIC SECTOR 2015**




Source: IMPLAN and The SGM Group, Inc.

# Endnotes

[1] The SGM Group, Inc., Technical Memorandum: *Mammoth Yosemite Airport DEIS—Economic Impact of Airport Expansion,* Prepared for the Federal Aviation Administration, May 2005.

[2] Mammoth Lakes Fact Sheet, Mammoth Lakes Visitors Bureau, updated 5/18/04.

[3] Ibid.

[4] Mammoth Lakes Winter Visitor Survey, Final Report, Prepared by the Town of Mammoth Lakes, June 2002.

[5] Town of Mammoth Lakes, "Notes on Technical Memorandum Economic Impact of Airport Expansion," Summer 2006.

[6] California Department of Finance, Demographic Research Unit, and Table2: E-5. City/County Population and Housing Estimates, 1/1/2005. In this analysis, California data is used in lieu of comparable data from the Town of Mammoth Lakes for population and housing because the state maintains an historic record that facilitates trend analysis and housing type distribution evaluation.

[7] California Department of Finance, Demographic Research Unit, .Table2: E-5. City/County Population and Housing Estimates, 1/1/2005. I

[8] Mammoth Lakes Winter 2002 Visitor Survey Report, Record of Interviews Intrawest Corporation and Mammoth Lakes Visitors Bureau.

[9] Town of Mammoth Lakes, "Notes on Technical Memorandum Economic Impact of Airport Expansion," Summer 2006

[10] Mammoth Lakes region, Record of Contact personal interviews with Coldwell Banker, local real estate agents and local developers, 5/20-5/25/04.

[11] "The World's Finest Resorts" brochure and interview with Mammoth Realty Group, 5/21/04

[12] Mammoth Realty Group and Coldwell Banker personal interviews, 5/21/04.

[13] Realtor and local developer interviews 5/20-5/25/04.

[14] Dempsey Construction, Town of Mammoth Lakes Community Development Department, and Town of Mammoth Lakes Land Use Element Draft, 7/13/04.

[15] Town of Mammoth, Notes on Technical Memorandum Economic Impact of Airport Expansion," Summer 2006

[16] Ibid.

[17] Ibid.

[18] Mono County Land Use Element, http://www.monocounty.ca.gov/nd, May 2004.

[19] Mono County GIS.

[20] Mono County Land Use Element,, http://www.monocounty.ca.gov/nd, May 2004

[21] U.S. Census 1980 and 1990; U.S. Census 2000, Summary File 1, Table P1: Total Population and Mono County Housing Element, Adopted 2004.

[22] California Department of Finance, Demographic Research Unit, City/County Population and Housing Estimates, 1/1/05.

[23] Ibid.

[24] Superior Court of California, County of Mono, Facilities Master Plan, May 6, 2003.

[25] Summary of interviews with local real estate agents and developers in Mammoth Lakes, 5/20/04-5/25/04.

[26] Ibid.

[27] Ibid.

[28] Ibid.

[29] Intrawest Corporation Interview, 5/25/04.

[30] Mono County Community Development Department personal interviews, 5/24/04 and telephone interviews with Mono County project planners, 6/04 and 7/04.

[31]IMPLAN, Summer 2005.

[32] Ibid.

[33] Mammoth Lakes Visitors Bureau, Mammoth Lakes Fact Sheet, updated 5/18/04.

[34] Ibid.

[35] Mammoth Lakes Summer Visitor Survey Report, 2002

[36] Mammoth Lakes Winter 2002 Visitor Survey Report, Mammoth Lakes Visitors Bureau.

[37] Mammoth Mountain, personal interview, 5/20/04.

[38] Summary of interviews with local real estate agents and developers in Mammoth Lakes, 5/20/04-5/25/04.

[39] Mammoth Mountain, telephone interview, 10/04

[40] Definitions of Input-Output modeling components are included at the end of this technical memorandum. That discussion includes a description of the Input-Output models as well as definitions of Value Added, Total Output, and other components of the evaluation.

[41] Population and employment data through 2003 are provided by BEA, US Department of Commerce; forecasts through 2005 are prepared by The SGM Group, Inc.

[42] URS Forecast Enplanements, Mammoth Yosemite Airport, Summer 2006.

[43] See for example, "Benefit Transfer of Outdoor Recreation Use Values," by Randall S. Rosenberger and John B. Loomis, US Department of Agriculture, Forest Service, Rocky Mountain Research Station, 2001. Benefit transfer is a practical way to evaluate economic impacts of future environmental resource development strategies when primary research is not possible. In this case, because of a lack of previous experience at Mammoth Yosemite, it is not possible to test previously experienced service impacts on regional employment or future growth and development. Using comparable experience at similar sites therefore becomes a potential alternative analytical strategy.

The case studies reviewed in the initial technical memorandum provided background examples of the potential economic effects of air service on regional employment in a surrounding affected region. Based on that analysis, a composite model was derived to estimate the potential impacts of similar air service improvements on the Two-County study area surrounding Mammoth Yosemite Airport.

[44] URS Forecast Enplanements, Mammoth Yosemite Airport, Summer 2006.

[45] The SGM Group, Inc.

[46] IMPLAN prepares tax outputs based on the latest regional coefficients, which for this model was 2003. Only Indirect Business Taxes can be converted directly to 2006 dollars. Using that example, the inflation rate from 2003 to 2006 dollars is approximately 108 percent, resulting in a 2006 value for total tax benefit of $14.8 million.

[47] California Department of Finance, Research Division, http://www.dof.ca.gov/HTML/DEMOGRAP/repndat.htm#estimates

[48] Inyo County Assessor's Office, September 2004 (includes City of Bishop).

[49] Town of Mammoth Lakes, Updated Comprehensive Plan, September 2004.

[50] MIG, Inc., IMPLAN Professional, Version 2.0, User's Guide, June, 2000, pp. 125-126, 253.

# Appendix E-2

## Additional Economic Summary Tables

This appendix is provided in support of the discussion in Section 4.3.3 of the EIS. This appendix contains more detailed economic data describing the existing economic conditions within the Two-County Study Area.

| Table | Title |
|---|---|
| E-2.1 | Economic Sectors and Average Wages for the Two-County Study Area, 2005 |
| E-2.2 | Economic Sectors for Mono and Inyo Counties, January 2001 – June 2004 |
| E-2.3 | Average Annual wages for Mono and Inyo Counties and the Two-County Study Area, 2002 |
| E-2.4 | Seasonal Economic Indicators for the Town of Mammoth Lakes and Mono County, 2005-2006 |

## TABLE E-2.1

## ECONOMIC SECTORS AND AVERAGE WAGES FOR THE TWO-COUNTY STUDY AREA, 2005

| | Industry | Two-County Employment | Employment Distribution | Average Salaries |
|---|---|---|---|---|
| 11 | Ag, Forestry, Fish and Hunting | 151 | 0.70% | $8,306.73 |
| 21 | Mining | 67 | 0.31% | $65,107.52 |
| 22 | Utilities | 67 | 0.31% | $86,504.08 |
| 23 | Construction | 1,578 | 7.36% | $28,471.29 |
| 31-33 | Manufacturing | 323 | 1.51% | $30,257.59 |
| 42 | Wholesale Trade | 230 | 1.08% | $32,972.89 |
| 48-49 | Transportation and Warehousing | 193 | 0.90% | $43,379.76 |
| 44-45 | Retail Trade | 2,845 | 13.27% | $21,634.22 |
| 51 | Information | 237 | 1.11% | $37,093.91 |
| 52 | Finance and Insurance | 268 | 1.25% | $32,445.88 |
| 53 | Real Estate and Rental | 1,243 | 5.80% | $17,824.27 |
| 54 | Professional - Scientific and Technical Services | 629 | 2.93% | $33,770.35 |
| 55 | Management of Companies | 157 | 0.73% | $53,572.71 |
| 56 | Administrative and Waste Services | 366 | 1.71% | $19,921.32 |
| 61 | Educational Services | 14 | 0.07% | $7,453.36 |
| 62 | Health and Social Services | 802 | 3.74% | $29,339.14 |
| 71 | Arts - Entertainment and Recreation | 351 | 1.64% | $12,353.78 |
| 72 | Accommodation and Food Services | 4,463 | 20.82% | $23,949.16 |
| 81 | Other Services | 1,727 | 8.06% | $21,989.69 |
| 92 | Government and Non-NAICs | 5,720 | 26.69% | $52,366.61 |
| **Totals** | | **21,433** | **100.00%** | **$32,315.16** |

Sources: BEA, IMPLAN, and The SGM Group, Inc.

Note: Beginning in 2002, the economic industry switched from the SIC coding system to NAICS. The North American Industry Classification System (NAICS) replaced the U.S. Standard Industrial Classification (SIC) system. Sector 92 in the NAIC system is "Public Administration." In the IMPLAN program, the 92 Government and non-NAICs sector includes all levels of government plus any other economic sectors relating to public administration not otherwise classified.

## TABLE E-2.2

## ECONOMIC SECTORS FOR MONO AND INYO COUNTIES, JANUARY 2001 - JUNE 2004

| Sector | Mono County | | Inyo County | |
|---|---|---|---|---|
| | June 2004 | Average Distribution 2001-2004 | June 2004 | Average Distribution 2001-2004 |
| Goods Producing | *780* | *8.6%* | *510* | *6.7%* |
| Services (Excluding Leisure and Hospitality) | *2,020* | *27.8%* | *2,720* | *34.8%* |
| Retail Trade, Transportation and Utilities | 830 | 11.5% | 1,510 | 19.2% |
| Financial Activities | 440 | 6.3% | 170 | 2.0% |
| Professional and Business Services | 420 | 5.2% | 440 | 5.4% |
| Educational and Health Services | 110 | 1.4% | 310 | 5.0% |
| Other Services | 220 | 3.5% | 290 | 3.2% |
| Leisure and Hospitality Services | *2,860* | *41.8%* | *1,340* | *18.5%* |
| Arts, Entertainment, and Recreation | 180 | 1.6% | 90 | 1.2% |
| Accommodation | 1,790 | 27.4% | 600 | 8.1% |
| Food Services and Drinking Places | 890 | 12.9% | 650 | 9.2% |
| Government | *1,620* | *21.7%* | *3,290* | *40.3%* |
| Federal Government | 210 | 2.8% | 480 | 4.9% |
| State Government | 140 | 2.3% | 390 | 5.5% |
| Local Government | 1,270 | 16.6% | 2,420 | 29.9% |
| **Total** | **7,280** | **100.00%** | **7,860** | **100.00%** |

Sources: California Employment Development Department, Labor Market Division and The SGM Group, Inc.

## TABLE E-2.3

## AVERAGE ANNUAL WAGES FOR MONO AND INYO COUNTIES AND THE TWO-COUNTY STUDY AREA, 2002

| Sector | Mono County | Inyo County | Two-County Study Area |
|---|---|---|---|
| Wage and Salary Disbursements | $26,566 | $26,794 | $26,688 |
| Non-Farm Earnings | $29,231 | $29,053 | $29,139 |
| Private Earnings | $25,151 | $23,353 | $24,290 |
| Construction | $36,921 | $35,273 | $36,322 |
| Manufacturing | $23,806 | $38,238 | (D) |
| Wholesale Trade | $17,930 | $28,149 | (D) |
| Retail Trade | $24,776 | $23,951 | $24,304 |
| Transportation and Warehousing | D | D | (D) |
| Information | $23,310 | $31,372 | $28,637 |
| Finance and Insurance | $30,200 | $24,359 | $26,487 |
| Real Estate and Rental And Leasing | $26,264 | $11,090 | $22,162 |
| Arts, Entertainment, and Recreation | $10,940 | $8,030 | $9,482 |
| Accommodation and Food Services | $23,278 | $16,726 | $20,987 |
| Other Services, Except Public Administration | $21,176 | $19,068 | $19,906 |
| Government and Government Enterprises | $49,803 | $43,231 | $45,526 |
| Federal, Civilian | $64,475 | $60,887 | $62,150 |
| Military | $46,042 | $15,920 | $43,436 |
| State and Local | $48,062 | $40,950 | $43,119 |
| State Government | $38,773 | $45,735 | $45,021 |
| Local Government | $48,438 | $40,110 | $42,870 |

These average salaries reflect both full- and part-time employment. Data for 2002 was the latest available information from the Bureau of Economic Analysis of the U.S. Department of Commerce.

Note: "D" indicates that information for this category was not divulged as a result of privacy concerns.

Sources: Regional Economic Information System and The SGM Group, Inc.

## TABLE E-2.4

## SEASONAL ECONOMIC INDICATORS FOR THE TOWN OF MAMMOTH LAKES AND MONO COUNTY, 2005-2006

| Month | Mammoth Lakes Occupancy 2005 | National Park and Monument Visitation | | | Mammoth Mountain And June Lake Resorts 2005-2006 | | | Mono County | |
|---|---|---|---|---|---|---|---|---|---|
| | | Devils Postpile | Yosemite | | Mammoth Mountain Skier Days | June Mountain Skier Days | Average Company Payroll | 2005 Employment | 2005 Unemployment Rate |
| | | | 2005 Total | Tioga Pass 2003 | | | | | |
| January | 53% | 0 | 91,238 | 0 | 323,002 | 24,530 | 2,386 | 8,870 | 4.6% |
| February | 54% | 0 | 103,756 | 0 | 279,290 | 25,517 | 2,357 | 8,810 | 4.7% |
| March | 56% | 0 | 143,335 | 0 | 259,743 | 18,489 | 2,322 | 8,590 | 4.5% |
| April | 36% | 0 | 195,385 | 0 | 253,868 | 12,533 | 2,139 | 8,430 | 4.1% |
| May | 23% | 0 | 304,552 | 0 | 67,911 | 0 | 1,259 | 7,410 | 5.7% |
| June | 27% | 1,093 | 413,124 | 82,701 | 23,059 | 0 | 899 | 7,430 | 5.8% |
| July | 49% | 25,473 | 554,567 | 157,209 | 6,486 | 0 | 803 | 7,470 | 5.8% |
| August | 49% | 28,760 | 485,643 | 189,337 | 0 | 0 | 774 | 7,520 | 5.3% |
| September | 37% | 12,076 | 430,134 | 143,809 | 0 | 0 | 785 | 7,420 | 5.2% |
| October | 22% | 0 | 318,508 | 78,632 | 0 | 0 | 817 | 7,590 | 5.4% |
| November | 20% | 0 | 152,671 | 2,154 | 55,784 | 0 | 1,417 | 8,080 | 5.2% |
| December | 44% | 0 | 111,231 | 0 | 225,931 | 13,954 | 2,166 | 9,250 | 3.8% |
| **Total** | **---** | **67,402** | **3,304,144** | **653,842** | **1,495,074** | **95,023** | **---** | **---** | **5.0%** |

Sources: Mammoth Lakes Visitors Bureau, National Park Public Use Statistics Website and Yosemite National Park, Mammoth Mountain, Hayes Planning Associates, and California Employment Development Department Labor Market Information.

## Appendix E-3

### Technical Memorandum: Mammoth Yosemite Airport DEIS Economic Impact of Airport Expansion

This appendix is provided in support of **Section 5.11** of the EIS. This memorandum was updated as reported in Appendix E-1.

# *Technical Memorandum:*

## MAMMOTH YOSEMITE AIRPORT DEIS

### *ECONOMIC IMPACT OF AIRPORT EXPANSION*

**May 2005**

***Prepared for*:**

**The Federal Aviation Administration**

***Prepared by*:**

***The SGM Group, Inc.***

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Reston, Virginia
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**Voice: 703.860.1838**

**Fax: 509.461.8306**

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# Tables

# Figures

# I. Introduction

Mammoth Yosemite Airport is located approximately six miles east of the Town of Mammoth Lakes, in Mono County, California (Figure 1). Under the proposed airport improvement project, the Town of Mammoth Lakes would expand the airport to accommodate commercial jet aircraft up to the size of a B-757-200. Proposed improvements would include new or expanded airside and landside facilities and associated changes to how existing property is used as well as other landside improvements:

- Extend Runway 9/27 by 1,200 feet to the west for a total length of 8,200 feet,
- Strengthen the runway and taxiways to accommodate up to B-757-200 aircraft,
- Widen the runway from 100 to 150 feet by adding 50 feet of pavement on the south side of the runway and shifting the runway centerline 25 feet to the south,
- Widen the parallel taxiway from 50 to 75 feet by adding 20 feet of pavement on the south side 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 to accommodate three air carrier aircraft with expansion capabilities to accommodate up to six air carrier aircraft,
- Install a localized navigation facility, and
- Implement new flight procedures.

A second build alternative under consideration consists of extending Runway 9/27 2,000 feet to the west for a total length of 9,000 feet. All of the remaining improvements would be the same as those described for the proposed project. As indicated in Table 1, proposed improvements at Mammoth Yosemite Airport are expected to generate commercial air service with total annual enplanements of 29,300 beginning in 2007, increasing to 167,100 by 2017.[1]

An additional alternative could involve construction of runway and terminal improvements at Eastern Sierra Regional Airport located in the City of Bishop. Details concerning the characteristics of possible improvements at Eastern Sierra have not yet been defined; however, general economic impacts derived for potential improvements at Mammoth Yosemite would be comparable to those that could be experienced if the improvements were implemented at Eastern Sierra.

The analysis that follows examines potential economic effects of proposed improvements in a two-county region that includes Mono and Inyo Counties, the area surrounding the Town of Mammoth Lakes. This two-county impact area, which represents a broader area than the impact area defined for other topic areas in the DEIS, has been selected because data available is often limited to defined jurisdictions. The smallest jurisdiction for which detailed economic information is available over time is primarily at the county level.

The impact study follows the analytical process illustrated conceptually in Figure 2. As shown, this process begins with an evaluation of existing economic conditions in the defined two-county study area, including an analysis of population growth in general and employment growth by economic sector. This review establishes baseline economic conditions within the study area and is the foundation on which projections of future growth and development are built.

Supplementing the initial existing conditions analysis is a study of similar historic growth and development experience affecting winter resort communities in comparable locations served by commercial airports. These case studies specifically examine how change in airport accessibility has affected area wide employment historically.

The information gathered for both the existing conditions analysis as well as from the case study evaluations is blended into a comprehensive view of how airport access contributes to economic value in resort communities. Resort economies are fundamentally different than typical regional economies—resort environments attract visitors, and those visitors create a demand for services. In part, people who arrive at these locations via commercial air service are representative of the total visitor population, contributing to growth in economic activity. As a result, change in air service helps to generate change in demand for employment in the service- and resort-based economy. In turn, change in employment contributes to economic value through an increase in total output, value added, employee compensation, additional taxes, and other component measures of economic activity.

Other attributes are measured through evaluation of potential fiscal impacts, an examination of the potential change in revenues and expenditures that could be experienced by local jurisdictions associated with proposed improvement programs. The broader region has traditionally developed in concert with the winter resort activities, supplemented and complemented by summer visitation to surrounding national parks and recreational attractions. Increasing accessibility has the potential to enhance that process. In evaluating the overall economic impacts, this study considers both long-term regional effects as well as short-term effects related to construction expenditures.

The primary issue addressed by this economic impact study is whether or not a link could be established between the proposed airport improvements and a change in employment. Without that link, it is difficult to estimate the value of economic impacts associated with the proposed action. Improvements at the airport that result in commercial air service lead to improved accessibility for the community. As a resort economy centered on the activities at Mammoth Lakes and other facilities and attractions throughout the region, accessibility is important. Any means to improve accessibility could result in an increased economic activity. An increase in economic activity associated with particular economic sectors characteristic of a resort economy has the potential to generate additional employment throughout the region. Measuring that potential change is the critical process in measuring potential economic impacts associated with the proposed improvements.

# II: Existing Conditions

The description of the existing economic conditions and development activity in the Mammoth Lakes region provides a context in which to evaluate long-term economic impacts of proposed improvements to the Mammoth Yosemite Airport. Using a broad understanding of these conditions, it is the objective of the impact analysis to identify and measure the linkage between an improved level of access to the region and change in local and regional economic activity. Measuring that linkage is based on two major tasks. The first involves an evaluation of comparable experience in case study locations similar to that of Mammoth Lakes. The second involves applying that experience to the Mammoth regional economic forecasts. The following section begins this process with a description of recent development trends and overall regional economic conditions.

The first section summarizes market conditions in the Mammoth Lakes region, which includes Mono and Inyo counties and the only two incorporated areas, the Town of Mammoth Lakes and the City of Bishop. The two-county area was selected as the basis for the economic impact analysis for several reasons. First, although it represents an area larger than that selected for other components of the Environmental Impact Analysis, counties are the smallest jurisdiction for which long-term economic data are available on a consistent basis. Second, this area encompasses the primary area that could be affected by changes in the resort economy that dominates the area. Year-round access throughout the area is available primarily along the north-south transportation corridor centered on California's US Route 395. East-west access throughout a significant portion of the region is often unavailable during the winter season, the period of time during which the resort center serves a major portion of the region's visitors. As a result, the potential change in employment throughout the impact area, although tied to year-round activities, is most affected by opportunities linked to winter-season activities.

As input to the analysis for all jurisdictions, baseline demographic and housing data were available from the California Department of Finance, Demographic Research Division, as this division offers the most current data by subarea. Employment data was derived from several sources. Total employment by county was available through the Bureau of Economic Analysis of the U.S. Department of Commerce, Regional Economic Information Service. Subarea employment distribution was provided by the State of California, Employment Development Department, Labor Market Information Division (LMI). As information from these sources is used in this analysis, its application is defined and purpose described.

## *Mammoth Lakes and Mono County*

### Mammoth Lakes

The Town of Mammoth Lakes, California, the center of economic activity in the region, is located in Mono County on the east side of the Sierra Nevada mountain range and is the only incorporated jurisdiction within Mono County. Located at an elevation of 7,800 feet, directly below Mammoth Mountain's summit of 11,053 feet, the town is nearly equidistant from the Los Angeles Basin and San Francisco in terms of drive time.[2] The Los Angeles Basin is approximately a six-hour drive and San Francisco, a seven-hour drive. The closest major city with an international airport is Reno, Nevada, which is a three-hour drive to the north/northwest. The incorporated boundaries of the town measure approximately 25 square miles; however, only four square miles of developable land are located within the town limits. The Inyo National Forest surrounds the remaining land area, which effectively contains its growth.[3]

Mammoth Lakes is currently experiencing an increasing level of private sector development activity led by the Intrawest Corporation, one of the largest resort developers in North America. Intrawest has acquired 60 percent ownership in Mammoth Mountain and expects to invest nearly $750 million in improvements in the Town of Mammoth Lakes and the Mountain over the next decade.[4] As a result of this investment, the Town of Mammoth Lakes is experiencing growth rates greater than those realized in the greater Eastern Sierra region. In this study, the Eastern

Sierra region refers to the geographic area covering Mono and Inyo counties, including the Town of Mammoth Lakes and the City of Bishop. As of January 2004, the full-time resident population was estimated by the California Department of Finance at 7,470, a total that represents a growth rate of 56 percent over the period 1990 to 2004.[5] Half of the full-time population is between the ages of 25 and 54 with a median age of 32 years (Table 2).[6]

In 2004, according to the California Department of Finance, there were a total of 8,680 housing units with a vacancy rate of 65 percent, indicating the magnitude of the second home market in the Town.[7] A large percentage of homeowners maintain a primary residence elsewhere (primarily in Southern California) and spend only part of the time in Mammoth's mountain resort.[8] The ratio of permanent residents to visitors is important in understanding Mammoth Lakes' population and the potential economic impacts. The town experiences large fluctuations in the total non-resident population because of the seasonal nature of its tourism-dependent economy. In the winter, during the peak tourist season, the community and the ski area require additional employees to meet peak service demands. As a result, the resident population coupled with the tourism population can exceed 35,000 people during the peak winter tourism season.[9] The town, therefore, accommodates a significantly larger population when temporary tourist populations are present.

The demands and resulting impacts from these population fluctuations, from the average daily residents to peak occupancy periods, are currently being addressed by the area as it continues to evolve from a primarily ski resort to a four-season resort. Over the last decade, in response to growing demand for additional year-round activities, two golf courses have been built, a variety of summer music festivals have been introduced, and other special events such as national road and mountain bike events have been organized. The expansion is designed to help draw golfers, music lovers, cyclists, hikers and participants in other activities and to attract a more stable year-round tourism base. The permanent population in the Town of Mammoth Lakes at build-out is expected to reach 11,000 with a peak capacity of about 57,400 people.[10]

The Town of Mammoth Lakes has addressed several measures in anticipation of this potential growth, recommending a specific plan to limit the high density residential uses consistent with a mountain resort community and to provide for a mix of commercial and visitor lodging along with affordable workforce housing. The private sector is responding to this plan with a new kind of residential product following a growing trend in ski/recreational areas experienced elsewhere in the country. Since Intrawest Corporation's initial participation at Mammoth Mountain beginning in 1996, several nationally recognized resort developers, in addition to the Intrawest Corporation, have successfully initiated construction in this market.[11]

In anticipation of this growth in year-round tourism, the type of development currently proposed is primarily high-density residential with resort-associated retail—a product that differs from the existing housing stock, which is primarily single-family homes and small condominium/townhouse complexes. The type of high-density residential product entering the market, along with resort condominiums, is fractional-share ownership for condominiums. Under this management framework, an owner buys into a portion of the real estate (i.e. two weeks per year) with a sales price prorated as a function of the number of vacation weeks purchased. This partial ownership, referred to as a residence club concept, is the fastest growing segment of the luxury vacation home industry. This residential product has been marketed at several resort destinations including Aspen, Vail, and Telluride in Colorado; and Heavenly Valley Ski Resort, and Northstar Club, Lake Tahoe; and the Teton Club in Jackson Hole, Wyoming.[12] The Town of Mammoth Lakes is expecting five or six residential products of this type to enter the market by the year 2010. These residential complexes offer all the services and product finishes of a five-star hotel, coupled with direct access to the mountain and ski areas. There are two projects of this genre currently in preliminary stages of development: a five-star hotel (the Westin) and the 80/50 private-residence club that has over 150 reservations for the initial phase of 45 units. Sales prices are expected to range up to $2,000 per square foot.[13]

The growing second home market and Intrawest's investment in Mammoth Lakes have helped to stimulate a rise in real estate prices. Over an eight-year period, multi-family residential prices have increased from an average of $100 per square foot to just over $600 per square foot.[14] Major residential developments proposed or currently in the planning process include several projects that are described in the following section (Table 3).

**Snow Creek Resort** is a master-planned, full service resort situated on 345 acres.[15] At completion, Snow Creek will include 2,300 units of resort residential development consisting of single-family homes, multi-family condominiums, overnight lodging, 150,000 square feet of resort commercial building (including an athletic club), and an 18-hole golf course. Approximately 40 percent of the residential product is complete and 20 percent of the commercial development is occupied. Nine holes of the eighteen-hole course are in play. Prices for the new residential units, which range in size from 2,500 to 3,000 square feet, are approximately $1.0 million. The majority of these units are owner-occupied, serving primarily as second homes to Southern Californians.

**Intrawest Corporation** plans to develop a total of 2,800 residential units in Mammoth Lakes with a variety of residential housing types ranging from golf-course townhouses to condominium hotel units.[16] Since 1994, Intrawest has added approximately 800 units to the market. An additional 2,000 units are proposed to be added to the Mammoth Lakes residential market over the next 12 years. Also proposed are 45,000 square feet of supporting commercial space. Units are expected to range in price from $480 per square foot to over $600 per square foot.

**North Village**, located at the intersection of Route 203 and Lake Mary Road, is a planned residential/commercial node of four different planned residential projects with a total of 3,000 bedrooms. Intrawest Corporation, Dempsey Construction, the 80/50 private residence, and the local developer Ward Jones, plan units for this area of the Town.[17] These four developers plan to build a variety of second home units from a luxury hotel/condominium product to fractional share resort condominium units. Prices are expected to range from $500 per square foot to over $2,000 per square foot. Over the last six years, condominium unit prices at this location for multi-family units have increased from an average of $150 per square foot to over $500.

As shown in Table 3, approximately 4,270 residential units are proposed as additions to the Town of Mammoth Lakes market along with approximately 165,100 square feet of associated retail space. These proposed additions will increase the number of housing units by 50 percent from an existing base of 8,680 units, and add nearly 15 percent to existing supply of commercial space for a total of 1.35 million square feet. The existing commercial inventory in the Town of Mammoth Lakes, as shown in Table 4, is approximately 1.18 million square feet. The majority of this space is located in small shopping centers, with ground floor retail/office space with street frontage along Main Street and along Old Mammoth Road.

## Mono County

Mono County is located on the eastern side of the Sierra Nevada, along the California-Nevada border. The main highway providing year-round access is US 395. Located within the county are the Inyo and Toiyabe National Forests, Mono Basin National Forest Scenic Area, Devils Postpile National Monument, Bodie State Historic Park, and portions of Yosemite National Park and the Ansel Adams Wilderness. The Town of Mammoth Lakes is the only incorporated community in the county. The Mono County government oversees the unincorporated areas, including June Lake, Bridgeport, Crowley Lake, Bodie, Lee Vining, Benton, Convict Lake, Twin Lakes, Walker, Topaz, and Coleville. Mammoth Mountain Ski area and June Lake Ski areas are among the major employers.

Development in Mono County is limited by the lack of large concentrations of private lands outside of existing communities. Parcels of private land large enough for development are often agricultural and not available for development.[18] Furthermore, much of the land is not suitable for

development, either because of the steep topography, lack of access, or as a result of the threat of a natural disaster from seismic or volcanic activity, avalanche, or flooding.[19]

Land use within the unincorporated areas of Mono County is constrained by land ownership. Approximately 94 percent of the land in the county is publicly owned; 88 percent is federally owned; and the State, the Los Angeles Department of Water and Power, or Native American Tribal groups own the remainder. The majority of private land within the county is concentrated in community areas, with the remainder dispersed throughout the county in small parcels.[20] The population of Mono County (including the Town of Mammoth Lakes) grew by almost 32 percent from 9,960 in 1990 to 12,850 in 2000.[21] In 2004 the population was estimated at 13,520 (Table 2).[22] There are nearly as many housing units in the county as there are inhabitants, but more than half of them serve as vacation retreats or second homes for people residing in larger cities. A total of 12,860 housing units are located in the county with approximately 56 percent designated as vacant.[23] This high vacancy rate is indicative of the large second home market in the county. The growth in the second home market appears to result from increasing development pressures in Antelope Valley and the northern areas of the county, from Chalfont and the Bishop area, and in the Long Valley community around Crowley Lake. The Crowley Lake area development activity is a spin-off of increasing development pressure in the Mammoth area. Growth is expected to continue in the future, with county population expected to reach 27,400 by 2022—an increase of 112 percent over current levels.[24] The majority of the residents in the county live near the town of Mammoth Lakes. The resident or permanent population, however, represents only a fraction of the total actual population during peak visitation periods. It is estimated that the population of the county triples during the summer and winter seasons because of the number of visitors.

The Mono County economy is largely driven by tourism, generated by year-round recreational opportunities offered from its Eastern Sierra location accessible throughout the year. According to local sources, this growth can be attributed to a recent increase in retirees settling in Mammoth Lakes in particular and Mono County in general.[25] Economic conditions are contributing to an increase in the number of Californians choosing to retire early, and an increasing number of retirees are choosing to locate in Mammoth Lakes and Mono County. The retirement market is fueled by the lifestyle based on access to nature and outdoor recreational activities. In addition, the investment Intrawest Corporation made beginning in 1996 in Mammoth Mountain and June Mountain has upgraded the ski resort, including the ski area, mountain services, lodging and mountain facilities. These improvements have helped to make Mammoth Mountain one of the top ski resorts in the country. Intrawest is a leading developer of this village-centered resort concept in North America with similar product at Whistler in British Columbia, and Copper Mountain and Squaw Valley in California. This investment in the Town, the Mountain, and in other winter activities, along with the opening of two new golf courses, has made this resort a premier four-season resort.[26]

These recently upgraded recreation facilities have helped to attract families back to the area who for years went elsewhere during a period of decline in the early 1990s.[27] These families are now buying into the upgraded real estate and investing in second homes, helping to drive up a second-home market that is now priced in excess of $500,000 per unit.[28] Additional large-scale development in Mono County, as described in the following sections, now in planning stages, may continue to drive additional growth and development.

**Intrawest at June Lake:** Intrawest Corporation is currently seeking approval for a 110–acre site located on the Old Rodeo Grounds at June Lake, between Gull and Silver Lakes. The development is expected to include approximately 652 multi-family units plus 102 single-family lots. The site is located across from the June Mountain ski area, which is operated by Mammoth Mountain. The entire project is expected to be phased in over a ten-year period. Plans also include up to 14,500 square feet of supporting retail. This development is designed to appeal to the second-home owner.[29]

Additional single-family development underway or proposed is located primarily around Crowley Lake and Long Valley. This development activity, shown in Table 3, includes Paradise Community, Chalfont, White Mountain Estates, King Lake, and Crowley Lake. New homes planned in these communities are intended as vacation retreats or second homes for people residing in larger cities. Prices are expected to average approximately $600,000 for a single-family home.[30] As shown in Table 3, build-out of the remaining projects will increase the seasonal population, adding another 1,130 housing units to the county housing supply. In general, these homes are expected to average from $400,000 to $600,000 in current dollars.

Proposed new industrial/commercial space in Mono County is concentrated around the Mammoth Yosemite Airport, June Lake, Crowley Lake, and in the Long Valley Area. The total estimated additional space is approximately 2.93 million square feet and includes retail, commercial, and light industrial projects. Table 4 shows the inventory of commercial space in the county, much of which is supporting retail such as convenience stores and light industrial/warehousing.

Overall, the services, retail trade, and government sectors dominate Mono County's employment; and industry projections for the future estimate that the job growth in Mono County will continue in the same three sectors. In 2003 the leisure and hospitality services sector represented about 40 percent of the total employment, while the government sector accounted for an additional 22 percent of total employment.[31] This distribution is expected to continue, particularly in terms of accommodations and related services, as the county continues to grow. Food services alone accounts for approximately 13 percent of total employment, with growth expected to continue along with tourism.[32] Government, including education, city and county government continues to be a major employment sector in the county, and this sector is expected to see some growth as the demand for government services, particularly local government, expands in concert with expected population growth.

Since 1997, annual average unemployment rates in the county have declined, suggesting a moderately strengthening economy in the area. From 1997 though the first half of 2004, Mono County's unemployment rate dropped 5.1 percentage points, from a high of 10.3 percent in 1997 to 5.4 percent through the first half of 2004.[33] The job growth and economic health of Mono County can be attributed to continued growth in tourist activity and a resulting growth in the accommodations and retail services sectors. Average annual wages in Mono County for 2001 and 2002, shown in Table 5 and Figures 3-5, expressed in 2002 dollars, range from $10,940 in the arts, entertainment and recreation field to $64,500 in federal and civilian government. These average salaries reflect both full- and part-time employment. Data for 2002 was the latest available information from the Bureau of Economic Analysis of the US Department of Commerce.

The major job centers in the county are concentrated in Mammoth Lakes (services, retail trade, and government), June Lake (seasonal services and retail trade) and Bridgeport (government). The county's major employers include June Mountain Ski Area, Mammoth Elementary School, Mammoth Hospital, Mammoth Lakes Fire Department, Mammoth Mountain Inn, Mammoth Mountain Ski area, Mono County government, Mountainside Grill (restaurant), and Whiskey Creek at Mammoth (restaurant).[34]

## Mono County Tourism

Tourism is the major generator of economic activity in the study region, and both Mono County and the Town of Mammoth Lakes offer distinct seasonal attractions, including skiing and snow-related sports in the winter and mountain biking, hiking golfing, fishing, horse back riding and rock–climbing in the summer. During the 1980s Mammoth Mountain was the premier ski resort in the nation based on the number of skier visits, fueled by an annual average of 384 inches of snowfall per year.[35] In the summer, major area attractions include Yosemite National Park, the Ansel Adams and John Muir Wilderness areas, and Mono Lake.

The Mammoth Lakes Visitor's Bureau estimates an annual average of 2.8 million visitors per year. The winter season, from November through April attracts approximately 1.3 million visitors

and in the summer season, June through September, the town hosts approximately 1.5 million tourists.[36] The shoulder seasons are spring and fall.

The historic skier-day statistics provided by Mammoth Mountain Ski Area for Mammoth Mountain and June Mountain are shown in Table 6. As indicated, Mammoth Mountain reached a peak skier visitation in 1985-1986 season with approximately 1.43 million skiers. During this time, the Mountain was ranked the number one ski area in the nation.[37] Throughout the following decade, little was done to maintain the success of the mountain, while other national resorts improved their facilities in an effort to capture more of the skier market.[38] In the 1996-1997 the number of skiers at Mammoth Mountain declined to approximately 800,000. Other resorts, including Vail and Aspen, began improving their facilities, emphasizing guest services, which helped to attract skiers away from Mammoth Mountain. Since 1996, this condition has turned around as Mammoth Mountain and Intrawest began investing in the Mountain, improving snowmaking capabilities, renovating the mountain lodging and ski facilities. As shown in Table 6, the skier numbers have started to improve. In the 2003/04 season, the Mammoth Mountain Ski Area attracted a total of 1.3 million skiers in Mammoth with an additional 89,500 skiers at June Lake. During the 2003 summer season, as shown in Table 7, Yosemite National Park estimated a total of approximately 3.475 million visitors. These visitors also visit other regional attractions such as Mono Lake, June Lake, and Devils Postpile National Monument. The average summer visitor spends 4.3 nights per visit.[39] The Mammoth Lakes Visitor's Bureau estimates that typical winter visitors to Mammoth Lakes travel in small groups averaging four people. On average, three of the four visitors ski and one person in the group does not. The average winter visitor spends four nights per visit, which usually include a weekend.[40]

According to the Town of Mammoth Lakes Finance Department, there are over 4,300 rentable rooms in Mammoth Lakes, including hotels, motels, inns, condominiums, bed and breakfast accommodations, cabins, and campgrounds. Occupancy rates in the winter months average 54 percent; occupancy rates in the summer months are on the order of 39 percent. Occupancies in February peak at 56 percent. In the lowest months, May and October, they range from 21 to 26 percent. Occupancy rates, even in the winter months, are low during midweek when compared with the weekends because of the character of the local tourist market. Over 80 percent of the existing market depends on the weekend drive-up tourist or second-home owner from Southern California. As shown in Table 3, an additional 189 units are expected to be added to the market in Mono County and Mammoth Lakes in 2004; 250 units are proposed for 2005; and for 2006 and beyond, an additional 4,964 units are proposed. If built as planned, the number of rentable rooms could double within the foreseeable future. At this time, no definitive date is forecast for completion of proposed projects beyond 2005.[41]

Mammoth Mountain Visitors Bureau estimates that over 80 percent of the visitors, throughout the year, are from California, primarily southern California—Los Angeles, Orange County, and San Diego. Over 50 percent have household incomes greater than $100,000. The skier profile is slightly different with 97 percent from Southern California in 2002/2003 and only a small percentage from elsewhere, including international tourism from the U.K. It is estimated that Mammoth Mountain captures 2 percent of the total U.S. skier visits. The total number of skiers and snowboarders in the U.S is estimated at 57.3 million.[42]

Mammoth Mountain ski area has a 24,000 skier maximum daily capacity, which is a factor limiting the potential for increased winter recreation activity.[43] Sherwin Bowl, located east of Mammoth Mountain, is the one area of potential mountain expansion. This area is already served by infrastructure, but there is little or no potential for obtaining approval from the U.S. Forest Service for additional development. An Environmental Impact Review was completed in the nearly 1990s with a Record of Decision that was active only through 1998. As a result, the decision has since lapsed. The area could have accommodated an additional 8,000 skiers per day.[44]

June Lake Ski Area, approximately 30 minutes from Mammoth Mountain, also owned by Mammoth Mountain, sold approximately 89,000 ski passes in 2003-2004 and averages about 800 skiers per day in a busy month and up to 2,750 per day on the busiest weekend of the year,

President's Day. The skier capacity stated in the June Lake Master Plan allows for 4,000 skiers at one time on the Mountain.[45] In comparison to Mammoth Mountain, June Mountain generally has greater appeal to families and those learning to ski or snowboard.

## *Bishop and Inyo County*

### Bishop

The second of the two incorporated jurisdictions within the study area, the City of Bishop, encompasses approximately 2.5 square miles and is located on the north end of Inyo County, approximately 45 miles south of the Mammoth Yosemite Airport. It is the only incorporated area within Inyo County and, as indicated, a possible location of an additional airport development alternative. The population of Bishop is estimated at 3,630 persons.[46] As shown in Table 2, the State of California, Department of Finance, estimates a total of 1,870 housing units with a 9.8 percent vacancy rate. The housing unit mix is broken down as follows: 49 percent single-family units, 31 percent multifamily, and 20 percent mobile homes. Traditionally, only year-round residents have lived in the city, as indicated by the vacancy rates. Recently there has been a new trend towards second-home ownership, and 87 percent of the recent real estate transactions in the city involved sales to second-home buyers for prices exceeding $250,000.[47] The city is nearly built-out with only six acres left that are currently vacant and under private ownership. As a result, there is limited opportunity for additional growth within the city limits (Table 8).[48]

The city has an estimated 820 motel/hotel rooms in 22 properties.[49] There are no campgrounds within the city limits.[50] The City of Bishop has the largest bed base in Inyo County and is the most developed area of the county. Bishop offers visitors access to many popular camping, fishing, hiking, and winter activity sports that are located in the Bishop Creek Recreation Area. The area is a popular destination for visitors heading to and from Mammoth Lakes during both the summer and winter tourist seasons. The summer season is the busiest season for Bishop, stretching from mid-March through the end of November.[51] Tourism is estimated to represent 25 percent of the local economy.[52] The City of Bishop's labor-force is estimated at 1,210 employees with a current unemployment rate of approximately 5.3 percent.[53] Commercial development is concentrated primarily along Main Street with a new K-Mart Shopping Center that was built in 2000. The center includes a 105,300 square foot K-Mart store and a 5,500 square foot Von's grocery store. Distribution of development space is shown in Table 9. The City of Bishop's economy has been steady over the past several years primarily relying on summer tourist recreation trade and the winter tourism spillover from Mammoth Lakes. Lodging is more affordable in Bishop, with significantly less snowfall than Mammoth Lakes. As a result, the city can serve as an alternative overnight location for winter vacationers.[54]

### Inyo County

The total land area of Inyo County is approximately 10,140 square miles. Approximately 98.1 percent of this land is in public ownership, with the federal government holding most of this land. The extent of public ownership has important implications for land use regulation in the county, because the amount of private land available for development is less than 2 percent of the total county area. As indicated, the City of Bishop is the only incorporated city in Inyo County. The population estimates for the county (including the City of Bishop) as of January 2004, prepared by the State of California, Department of Finance was 18,515 (Table 2). This total represents a 1.2 percent growth over the population in 1990, which was estimated at 18,280 persons.[55] A significant percentage of this population growth is in the 65 and over age group bracket. The county estimates that the overall population of Inyo County will reach 20,700 by 2020.[56]

Inyo County offers potential for absorption of spillover growth and development from Mono County; however, the majority of buildable private land in Inyo County is already developed.[57] Many of the remaining vacant parcels are owned either by government entities or characterized by infrastructure and/or environmental constraints that preclude their development. Given these constraints, the rate of housing growth has been minimal in Inyo County in recent years. In 1980,

Inyo County had a housing stock of 8,480 units, which increased to 8,710 units in 1990 and 9,150 in 2004.[58] [59] This growth represents a 2.7 percent increase since 1980, and a 5.15 percent increase from 1990 to 2004. Generally, housing is concentrated in the City of Bishop, which represents 20 percent of the total housing stock, and in communities that parallel Highway 395. Most of the growth has occurred adjacent to the City of Bishop and in the Starlite Estates and Mustang Mesa communities.[60] As shown in Table 3, Inyo County has three new residential developments planned with a total of 370 units. All of the new proposed development is single-family homes in subdivisions, with prices ranging from about $300,000 to $1 million. The recent influx of homebuyers in Inyo County includes young retirees from the Los Angeles/Southern California area. As a result, housing prices have been increasing, especially in the areas located between Bishop and the Mono County line.[61]

The overall vacancy rate in the county is estimated at just below 15 percent, which is attributed to that portion of the market serving primarily as second homes, additional recreational-oriented units, and company–owned and not rented to the general public (i.e. LADWP-owned houses).[62]

Commercial/industrial development in Inyo County as shown in Table 9 has averaged an annual growth rate of 50,000 square feet over the last five years (excluding the 165,800 square foot K-mart retail center). Much of this is growth is attributed to additional small businesses serving the local community. This growth is expected to continue at a steady pace in parallel to local residential population growth. There has been no significant overnight accommodation development since the year 2000.

Employment in Inyo County is dependent on the services sector. Approximately 44 percent of the employees in the county are employed by the services sector. The next largest category is retail trade at 21 percent and public administration with approximately 15 percent of the total. Most of the county employers are small enterprises, with an average of 9 employees per business.[63] Most of the employers serve the local market. Tourism-related employment is the growth sector in Inyo County. Despite the slow population growth, Inyo County has maintained a stable economy in the local serving retail and commercial sector with a strong base of retirees (Figures 6 and 7).[64]

## Inyo County Tourism

As a tourism area, Inyo County is rich in history, culture, nature-related, and recreational opportunities. A county of wide open spaces, Inyo has the most unique elevation range—from 282 feet below sea level located at Badwater in Death Valley National Park, to the highest point in the 48 contiguous states at Mt. Whitney at 14,497 feet. Death Valley is the largest National Park in the 48 states, with almost 3 million acres of desert wilderness. Because of the variation of topography and seasons, tourist visitation levels fluctuate for each geographic region within Inyo County. In general, the tourist season stretches from May through September when occupancy rates countywide exceed 90 percent. During the winter months, October through April, occupancy rates are about 30 percent.[65] Summer and spring are the peak seasons for the area from Lone Pine to Bishop, the southern end of the county, along Highway 395; however, summer is Death Valley's lowest tourist season, except for international visitors. Throughout the county, international visitors are highest in the summer. Conversely, while the winter months are not very busy along Highway 395, it is the busiest season for Death Valley.[66]

The majority of county visitors are from Southern California, primarily from Los Angeles, San Diego, and Orange County.[67] Death Valley, however, attracts more visitors from Las Vegas and from international locations. The City of Bishop attracts more tourists from Reno, Nevada. The Coalition of County Chambers of Commerce of Inyo County estimates that over 1 million visitors, domestic and international drive along Highway 395 on route to Southern California, Las Vegas, Reno, and other areas, passing through the communities located in Inyo County. Inyo County's visitation peaks in the summer months, and the majority of summer visitors stay in Inyo County for an average of 1 to 3 nights.[68]

Inyo County and the City of Bishop have experienced limited growth over the last two decades as a result of the scarcity of developable land, yet these areas have maintained a strong seasonal tourism base and a stable retail/commercial core. The growth that has occurred in Inyo County has primarily resulted from spillover in demand originating in the Mammoth Lakes market.

## *Study Area Economic Profile*

This section of the existing conditions analysis examines economic characteristics of each of the two counties. Using current employment distribution for each county, it is possible to apply input-output models to determine current levels of economic output on a county-by-county basis. Economic output is measured in terms of value added, total output, labor income, and related tax generation.[69]

The discussion that follows describes relative strengths and weaknesses of individual economic sectors, and their importance to the future growth and development in the counties. In addition, the baseline information is indicative of the potential qualitative impacts of proposed airport improvements in the long-term, helping to identify and understand what elements of the economy could experience primary economic impacts. Tourism is the major industry in the region, but there is no single economic sector identified as the "tourism industry" sector. As a result, discussions of economic activity related to tourism aggregate data from several separate sectors, including accommodation and food services; retail services; arts, entertainment and recreation; and portions of other sectors.

Table 10 summarizes the latest available data for Mono County including overall expenditure data and sector-by-sector values reflecting countywide economic activity. Data on structural matrices, the factors that measure the interaction among local economic sectors and the surrounding region, lag behind other available information. Therefore, this analysis of economic value is limited to 2001 sector interaction information, although employment information, as reported in previous tables, is available through early 2004. The information provided should be viewed as a snapshot of the value of local economic conditions as last measured. Because of limited availability of current data, measures of economic output build on the last year collected. In terms of required data for use of the input-output model available for this analysis, the latest available date for required transaction coefficients was 2001. As a result, information from that year was used in estimating relative economic output for the two counties. Although this structural matrix data is several years old, it remains illustrative of the relative strengths and weaknesses of individual economic sectors and how those strengths and weaknesses differ between the two counties as relevant transaction coefficients change slowly over time.

In 2001, an employment base of 9,500 in Mono County generated overall productivity equal to nearly $603 million. Total employee compensation exceeded $208 million, with value added on the order of $384 million. Table 11 and Figure 8 illustrate the percentage distribution by economic sector for Mono County in 2001, showing the dominance of the resort-based industry. For example, the real estate sector captured nearly 9.5 percent of the employment but nearly 15.5 percent of the total industry output and over 17.2 percent of value added for the county. The accommodations and food services sector added an additional 27 percent of the employment, nearly 23 percent of the industry output, and just over 21 percent of value added. The strength of the government sector is also evident, with nearly 19 percent of the employment, nearly 38 percent of the employee compensation, and over 29 percent of the value added. The high percentage of value added and employee compensation components of the county's economy follows from the earlier information that average wages in the government sector are significantly greater than those in other dominant sectors of the local economy. Together, the four primary sectors of the Mono County economy—real estate, accommodation and food services, government, and retail trade—account for nearly 67 percent of the total county employment and more than 75 percent of the total value added. Figures 6 through 11 graphically illustrate the data contained in the relevant two tables.

Similar data for Inyo County is shown in Tables 12 and 13 and illustrated in Figures 12 through 15. Inyo County, with a 2001 employment base of 10,328, generated total industry output of nearly $685 million, employee compensation of just over $240 million, and value added of nearly $398 million.[70] When compared with Mono County, however, the distribution among economic sectors is significantly different. In Inyo County, the real estate sector captured only 2.8 percent of industrial output with an employment base of just over 3 percent. Retail trade captured just over 9.6 percent of industry output from 13.5 percent of employment—the result of relatively low wages when compared to other dominant sectors of the local economy. The government sector accounted for over 28 percent of the total industry output from nearly 26 percent of the employment, generating over 45 percent of local employee compensation. In contrast to Mono County, the same four sectors for Inyo County, retail trade, real estate, accommodation and food services, and government, account for nearly 58 percent of the total employment and nearly 63 percent of the total value added; however, the dominance shifts to government and retail trade as the primary contributors.

In general, Mono County demonstrates stronger resort economy characteristics, reinforcing conclusions drawn from data contained in the previous set of tables and figures. A comparison of outputs for the two counties is shown in Figures 16 through 18.

As shown in Table 14 and Figure 19, annual full- and part-time employment for the two-county impact area has grown from 17,057 in 1990 to approximately 21,057 in 2004.[71] During the same period, population has grown from 28,398 in 1990 to nearly 31,800 in 2004. Employment growth has averaged just over 1.5 percent annually during this 14-year period; population growth only 0.81 percent. In this summary, population is resident population in the two counties; employment is an annual average of full- and part-time employment.

## *Summary—Existing Conditions*

The existing conditions analysis provides a picture of past development trends and examines future demand for growth and development in the two-county region. The majority of the expanded growth in the region has occurred since 1996 when Intrawest Corporation purchased a 60 percent interest in Mammoth and June Mountains along with the developable real estate. Development in Mammoth of three new village areas (The Village at Mammoth, Sierra Star, and Juniper Springs) brought a new character to the resort, different in nature, at a price that the area had not previously seen.

This new development, both residential and commercial, is luxury in character and links Mammoth's commercial /residential area to the ski resort in a manner similar to that of the nation's other premier winter resorts. At the same time, Intrawest Corporation and Mammoth Mountain upgraded the ski area's lodging facilities and the ski operations. This development has helped to change the character of the ski area.

Two new golf courses and a variety of summer programs have helped to expand the summer season in Mammoth, contributing to a growing effort to make this area a four-season resort. The increased pace of development in Mammoth Lakes has spilled over to neighboring Inyo County, which is also dependent on the tourism industry, albeit summer rather than winter visitation. This expansion can be documented in Inyo County in the form of stabilizing the tourism base, creating a more attractive environment for year-round young retirees and summer tourism.

This region continues to draw approximately 83 percent of its visitors from Southern California in the winter and 94 percent in the summer.[72] Most of the visitation is extended weekend stay, averaging approximately 4 days.

Future development is limited in both Inyo and Mono Counties by land ownership. The majority of the remaining land is publicly owned, either by the U.S. Forest Service or the Bureau of Land Management. The majority of private land within the counties is concentrated in community areas, with the remainder dispersed through the counties in small parcels. Those parcels of

private land that may be large enough for development are in many cases agricultural lands that are not available for development. As a result, opportunities for additional growth and development in this two-county area are constrained.

The next phase of the economic impact study is designed to demonstrate a potential link between changes in accessibility in a resort economy and potential change in the employment base represented by the existing conditions evaluation. This step involves case studies of similar resort communities that already have airport access. Development activity in similar environments with commercial air service can possibly be used to demonstrate a link between change in access, measured by change in number of passenger enplanements, and overall economic conditions. Similar experience in comparable resort communities can provide a basis on which to measure potential change in the Mammoth Lakes region, and the next section of the economic impact analysis examines applicable case study areas. Based on that examination, forecasting models are derived to measure the link between airport accessibility and regional employment conditions.

# III: Case Studies—Economic Impact Analysis

## *Introduction*

Measuring the long-term economic impacts of airport accessibility on resort communities differs from that of traditional urban economics. In more traditional regional economies, airport activity results from changing demand for accessibility into the area to serve the requirements of an existing economic activity center. The greater the employment base and the broader the market served, the greater the demand for improved transportation access.

In a ski resort community, the situation is generally reversed. The economy is based on a concentration of activities that result from patrons or visitors coming to the area in response to special attractions. The level of resulting employment is therefore a function of the level of visitation coupled with the required employment base to serve that level of visitation. As a result, in contrast to a more traditional urban environment, employment is the dependent factor while the number of visitors coming to the community is primarily an independent factor. Increasing the number of visitors, as measured in this case by one component of that visitation, the number of enplanements increases the demand for employees in the service- and accommodations-based based economy.

This section of the analysis describes characteristics of airport-related growth and development based on a review and analysis of four case-study airports, and the link between changes in airport access and economic activity. The paragraphs that follow include a summary of airline operations and enplanement data relating to airports operating in a manner comparable to proposed future operations at Mammoth Yosemite Airport. Because of the lack of past history with respect to localized impacts of improvements in airport-based access in the Mammoth Lakes region, the use of case-study examples is important to the derivation of a model linking changes in capacity and activity with changes in tourism demand in the region. A selective review of similar case-study examples is therefore necessary to establish statistical relationships between changes in airport activity and changes in levels of tourism and related employment.

Initially, three of the four case-study airports were selected based on the updated Ricondo & Associates, “Forecasts of Aviation Demand Final Report, Mammoth Yosemite Airport, May 2004.” The intent of the selection process was to develop a cross section of facilities with commercial air service that have characteristics similar to the Mammoth region, including national caliber skiing, a winter and summer tourism base, elevation (geographic and topographic terrain), remote location (far from a major metropolitan area and therefore, airport), and access and regional demographic information including tourism-based employment. The initial locations selected were then refined in the course of our study based on interviews with Mammoth Mountain, ski resort developers, and other ski areas. The case study airports were intended to be those airports with existing regional and commercial air service that exhibit similar characteristics to what is expected to occur at the improved facility proposed for Mammoth Yosemite airport. The following four airports were ultimately considered:

- Telluride and Montrose Regional Airports (considered as a pair), Colorado;
- Aspen-Pitkin County Airport, Colorado;
- Eagle County Regional Airport (Vail), Colorado; and
- Jackson Hole Airport, Wyoming.

These case study areas were chosen because of the similarities of their regions to the Mammoth Lakes area and because of the availability of data to support an analysis of the relationship of air service to economic development over time. Telluride is a relatively remote location served by two regional airports. The other three case study examples were originally referenced in the Ricondo study. Summary characteristics for each of these airports are shown in Table 15.

Three other airports were initially considered but not selected, based on regional differences compared to the Mammoth Lakes region or because of information constraints: Yampa Valley Regional Airport in Hayden, Colorado, serving Steamboat Springs; Glacier Park International Airport in Kalispell, Montana, serving Big Mountain ski area and Glacier National Park; and Whistler/ Blackcomb Ski Resort in Vancouver, Canada. Yampa Valley Regional Airport was not selected, as the airport is located only three hours from the Denver metropolitan area and within two hours of the Eagle County Regional Airport and Aspen-Pitkin Airport. Given the proximity and level of service provided at Denver, these airports likely serve some ski visitors traveling to the Yampa Valley/Steamboat Springs area. In addition, Yampa Valley Regional just began service during the summer in the summer of 2002, so there was little trend data to evaluate.

Glacier Park International Airport in Kalispell, Montana, also was not selected because of a lack of sufficient economic development data and a lack of data on local economic conditions. Data is apparently not collected on a local basis for Flathead County where the airport is located. Demographic data is only available through the 2000 U.S. Census and State of Montana, and there are no current published figures. Local development data, for Flathead County, such as sewer data also was not available, as most of the county is on septic tanks or drain fields and the county has no uniform building code.[73] In addition, the ski area, Big Mountain, is primarily a local mountain and not considered the same national caliber as Mammoth Lakes in terms of snow conditions and/or terrain. Big Mountain estimates approximately 500,000 skiers per year but comparable data for a series of years was not available.[74] Based on the lack of baseline economic conditions data and limited resort comparability, Glacier Park International Airport was not selected as a case study.

Whistler/Backcomb Ski Resort, located in British Columbia, is served by Vancouver International Airport approximately 10 miles from downtown Vancouver and 45 minutes from the ski area. While the ski area is comparable to the Mammoth Lakes area, the airport is a large international facility with daily jet service to Asia, Europe, and Mexico City, not comparable in size to the proposed expansion at Mammoth Yosemite airport. The Vancouver metropolitan area has over 2.1 million people. This airport was ruled out as a case study facility based on both airport size and regional population base.

The case studies selected offer the possibility of examining long-term effects of airport accessibility over time on an average annual basis by studying the historic changes in the relationship between regional employment and airport enplanements for the selected case study examples. In this approach, it is possible to test the existence of a statistical relationship between airport activity as measured by the number of enplanements and overall average annual employment as a function of several factors. Additional factors are chosen on the basis of data availability as well as relationship to levels of activity at a specific resort community, and these other factors can include, for example, visits to national parks, skier days, retail expenditures, and tax receipts. In the long-term, a demonstrated link between changes in airport activity and levels of employment provides a basis for measuring the change in economic value linked to airport accessibility. This analytical approach is used in the long-term economic impact analysis section. The results of this long-term analysis encompass any intrinsic change in value associated with improved seasonal variations when measured on an annual average basis.

The methodology used to forecast the potential impact of the proposed airport improvement project is based on derivation of multi-variable linear regression models. These models are used to forecast future employment as a function of related historic characteristics and trends. As part of this process, two different approaches were used. The first involved preparation of employment forecast models for each of the case study airports, using annual data comparable among the four. Tables 16 through 21 represent the test models for each of the selected case study areas. In all of the models, “Total Employment” includes full- and part-time employment as reported by BEA (Bureau of Economic Analysis, US Department of Commerce), and population is resident (not visitor) population in the county jurisdiction in which the airport is located. For each location, the applicable jurisdiction is defined.[75]

Economic value is measured in terms of change in value-added, total output, taxes, employee compensation, and labor income, all based on changes in employment as well as other factors. Additional impacts include an evaluation of potential changes in fiscal effects. Economic impacts in these categories are addressed in other sections of the document. Definitions for each factor appear at the end of the impact analysis text. From the perspective of the Town of Mammoth Lakes and the long-term General Plan, increased accessibility to the area provides a potential tool or mechanism to enhance marketability. Marketing the area is a qualitative effort; however, improving accessibility has the potential to help improve the ability to enhance that effort over time.

## *Economic Impacts of Airport Accessibility*

Out of the group of case study locations initially considered, four specific locations were ultimately used to derive statistical models. The four case study areas used in the initial statistical modeling effort included the following:

- Telluride and Montrose Regional Airports,
- Eagle County Regional Airport (Vail),
- Aspen/Pitkin County Airport, and
- Jackson Hole Airport (Wyoming).

Each of these airports serves a mountain-resort area centered on skiing in the winter and additional national park visitation or other summer attractions.[76]

### Telluride Regional Airport

Telluride is the county seat of San Miguel County, Colorado, located on the southern half of the Western Slope of the Rocky Mountains. It is surrounded by public land, and lies in a box canyon with one access road. Until the 1970s it was relatively undeveloped. As resort development began, real estate prices started to increase.[77] Uranium mines, which were the base of the economy, continued to operate well into the 1980s. In the 1990s small-acreage "ranchette" development began, and the tourism industry began to take over mining and agriculture as the driving economic force. Telluride is located seven hours from Denver, six hours from Colorado Springs, and two hours from Durango, Colorado.[78]

Telluride markets itself as two towns in one: Telluride and Mountain Village. These two towns are a 12-minute gondola ride from each other. Telluride is nestled at the base of Telluride Ski Mountain (8,750 feet), surrounded by 13,000-foot peaks. The town is less than one mile long, so all accommodations are located within a short walk to Main Street, shops and restaurants, or to the two ski lifts and the year-round gondola accessing the Mountain. The valley floor and Town Park are popular with cross-country skiers. Town Park also has an ice-skating rink and a sledding hill. Telluride was ranked as one of the top ten ski resorts in North America by "SKI" and "Skiing."[79] The resort town has a full-time population of approximately 1,985. In peak tourist season the population of the town can reach over 10,000.[80]

The European-style Mountain Village is at an elevation of 9,450 feet; it is the center of skiing operations and the ski school. The 92-acre Village offers slope-side accommodations where skiers can ski in-and-out of the lodging complex, and reach lift ticket windows, equipment rental facilities, restaurants and shops as well as cross-country and snowshoeing trails. The Village is also a summer resort with an 18-hole golf course and 3,000 acres of National Forest for hiking and biking.[81]

Two airports serve Telluride: Telluride Regional Airport (FAA location identifier TEX) in San Miguel County, Colorado; and Montrose Regional Airport (FAA location identifier MTJ) in

Montrose County, Colorado. Montrose Airport is located approximately 70 miles to the northeast. The choice of including Montrose Regional Airport as part of the analysis is a result of changing agreements among the airports and the airline companies providing service. Airline guarantee programs are currently focused on providing jet service at Montrose. As a result, the number of enplanements at Telluride has recently declined while service at Montrose has increased.[82]

Montrose Regional Airport facility covers approximately 1,137 acres at an elevation of 5,759 feet. It is served by a single 7,500 by 100 foot runway. Skywest and Continental Airlines provide commercial air service, with daily service to and from Denver (Skywest) and Houston (Continental). There are approximately 11 flights per day departing and arriving. The airport currently experiences approximately 70,000 enplanements per year, of which nearly 40 percent are air-carrier based and 60 percent commuter-service based.

The Telluride Regional Airport encompasses over 540 acres at an elevation just under 9,100 feet. It is a publicly owned airport served by a single-asphalt runway that is 6,870 feet long by 100 feet wide, which accommodates small regional jets.[83] It is located approximately ten minutes from the Town of Telluride and the neighboring ski resort town of Mountain Village. At the top of Deep Creek Mesa, it is North America's highest commercial airport, 9,078 feet above sea level. The airport maintains operations 365 days per year. The airport was built in 1985, initially without any commercial service. It attracted commercial air service beginning in 1991, and by 1992 it offered 21 commercial flights per day. In 1995 air service peaked with 42,500 enplanements with 65 percent on commercial flights and the remainder on general aviation carriers. In 1994-1995, Continental Airlines, the major carrier in and out of Telluride, cancelled service out of all airports west of the Mississippi, which resulted in several years of declining airline enplanements. In 2003 there were an estimated 30,500 enplanements, of which 51 percent were related to commercial service.[84] Telluride Regional Airport enplanements are shown in Table 16 and indicate the trends since 1993 when commercial air service was securely established. According to the Telluride Airport manager, the declining trend can be attributed to three factors: First, the runway capability is limited to D-III, which restricts the type of aircraft flying into the facility; second, as indicated, the community's airline guarantee program is directed to securing jet service into Montrose Airport, resulting in a loss of service to that facility; and third, general aviation traffic has shifted to larger private jets servicing an influx in second home owners from Texas.[85]

Telluride Regional Airport offers daily air access from two cities: Denver and Phoenix. There are daily flights from Phoenix on America West Express and from Denver on Great Lakes Airlines. America West flies 19-seat Beechcraft 1900 aircraft and Great Lakes Airlines flies 37-seat deHavilland-8 propeller jets.[86]

According to the Telluride Airport Authority, the enplanement figures for the summer and winter are approximately the same. The largest originating tourist markets served include New York, Dallas, and Atlanta via the nearby airport, Montrose, and through Denver with connections to Telluride. Since 1995, the airport has relied heavily on General Aviation and private jets as this resort community serves as a second-home market to patrons from Texas. In 1994, 35 percent of the enplanements were general aviation. By contrast, in 2003, 49 percent of the enplanements were via private planes. This shift in enplanements indicated growth of the tourism industry and the second home market in Telluride despite a decline in commercial air service.

In the past, in order to sustain commercial service to the area, the Town of Telluride and Mountain Village have requested a volunteer tax from local businesses and the ski resort. This volunteer tax has generated $2 to $3 million to help subsidize air service. This year an excise tax of 2 percent has been imposed on local businesses to help improve the overall subsidy.[87]

Although the Town has not calculated the number of tourists that visit the area annually, the best measure used over the years is that provided by the ski resort. According to their estimates, the area generates approximately one million tourists per year. This number is derived from the number of ski passes sold in the winter, occupancy rates in the Town, and use of the summer

recreation facilities. According to the Telluride Visitor's information Center, summer tourism has begun to rival winter tourism in the Telluride area, despite the additional winter air service. The town has created a strong arts community that balances the ski industry in the summer. [88]

As shown in Table 16, skier days in the winter have increased from 300,400 in 1993 to 367,800 in 2003, a 22 percent increase over an 11-year period. The peak year was 1998 with 382,500 skier days. In the summer, the Town of Telluride and the Town of Mountain Village host a variety of festivals, each of which draw between 3,000 and 6,000 visitors to the area. The Blue Grass Festival (6,000 people), the Jazz Festival (3,000 people), and a film festival (6,000 people) are major attractions. Summer visitors are primarily from Colorado, Texas, and Arizona. The majority of winter visitors are from Texas—primarily from the Houston and Dallas areas.[89]

Occupancy rates for the Town, from 1997 to the 2003 as shown in Table 16, were provided by the Telluride Visitor's Center. These rates indicate that average annual occupancy ranges between 30 and 39 percent. Winter occupancy rates are higher and range from 43 percent to 59 percent, on average. February and March are traditionally the busiest months. Summer occupancy rates are between 36 percent and 45 percent with July and August the peak months. The average stay in the area is 4 days. Monthly data provided by the Visitors Information Center indicate that the shoulder seasons occur in April and May and again in October and November with occupancy rates during those months hovering between 10 and 20 percent historically.[90] According to the Visitors Information Center, the key to sustaining the current level of occupancy and improving rates in the shoulder seasons is improved marketing for the two conference hotels in Telluride and Mountain Village, which together can accommodate approximately 500 people.

Table 16 indicates population and employment for the three counties that include the two airports serving Telluride: San Miguel, Montrose, and Ouray Counties. Telluride Regional Airport is located in San Miguel County; Montrose Regional Airport is located in Montrose County, and Ouray County covers the intervening area. Over the last decade this area has experienced steady growth as the employment base has shifted from mining to tourism. The population of the three-county area was nearly 46,500 in 2002 with an employment base of 30,897 (the last reported year).[91]

The Town of Telluride considers a regional airport providing service to the area essential to maintaining the tourism base, particularly because of its dependence on the Texas second-home market. The Town, as most resort communities, experiences seasonal market variations in occupancy rates. Attempts to minimize seasonal variation have concentrated on marketing efforts to expand and lengthen the summer season through summer arts and music programs and festivals, and by encouraging convention business using available meeting and convention facilities in the shoulder seasons. Over the past three decades, despite a decline in commercial air service, this community has moved successfully from a mining-based economy to a tourism-based economy.

Data available and selected for the Telluride/Montrose employment forecast model includes the following:

- Total annual employment—San Miguel, Montrose, and Ouray Counties,
- Population—San Miguel, Montrose, and Ouray Counties,
- Sales and Use Tax—San Miguel, Montrose, and Ouray Counties,
- Skier Days at Telluride, and
- Number of Enplanements—Telluride and Montrose Regional Airports.

County-level employment data is available from the Bureau of Economic Analysis of the US Department of Commerce, but is currently available only through 2002.[92] Population data, for the sake of annual consistency, was also provided through BEA. Sales and Use Tax data was

available from the Department of Local Affairs (DoLA) for the State of Colorado, but only through 2001.[93] The number of skiers was available through the 2003/2004 season from Colorado Ski Country USA.[94] Output of the model is shown in Table 17 and Figure 20.

Two sources were used to evaluate the number of enplanements for the two airports, including FAA TAF forecasts[95] and additional information provided by the Telluride Airport Manager.[96] Enplanement data provided by the airport manager had the advantage of including passengers on general aviation service, information not usually available. The resulting statistical models were tested using both sources, with more consistent results attributed to the combined FAA-TAF enplanement data for the two airports.

Data available for the evaluation is shown in Table 16. Several variations of linear regression models were tested, but as it turned out, including population generated an unacceptable coefficient for number of skiers. The final linear regression model relies on measuring total employment as a function of sales and use tax, number of ski visits, and enplanements.

$$TotalEmployment = (0.004028 * Sales/UseTax) + (0.01696 * skierdays) + (0.01095 * enplanements)$$

The full output of the Telluride regression model is shown in Table 17 and Figure 20, including the relevant statistical factors and the fit of the forecast output. For the purposes of this analysis, the critical output is the coefficient for enplanements, indicating a statistical link between number of boarding passengers and total three-county employment.

For the reported years, the enplanement contribution to overall full- and part-time employment in the three-county area averaged between 12 and 15 percent; i.e. for this model approximately 12.7 percent of the total three-county employment is statistically linked to the number of annual enplanements at the two airports. As a result, an increase in the number of visitors to the resort community increases demands on the local and regional service sector employment as well as other economic sectors to a lesser extent, and airport access contributes to that increase.

### Eagle County Regional Airport (Vail)

The Town of Vail is located in Eagle County in west central Colorado, 120 miles west of Denver. It is surrounded by the White River National Forest; Interstate 70 is the major transportation corridor east to Denver and west to Grand Junction.

The history of Vail as a ski resort began with the 1939 construction of Highway 6 from Denver through the Gore Valley. During World War II, the Army's Tenth Mountain Division used the Vail area for backcountry survival training. After the war, several of the men who trained there were drawn back to the mountain valleys for the recreational lifestyle it offers. The veterans, teaming up with a uranium prospector drew up a plan for the ski resort. The plan was successful, and construction of the ski area began in 1962. By winter 1965, the Town of Vail was incorporated. Vail Mountain had the first gondola in the United States, along with two double chairlifts and a beginner poma lift, serving six square miles of terrain. Supporting retail opened soon after.[97] Over the last four decades, Vail has been on a quest to become "the premier mountain resort community in North America."[98]

Vail Resorts Development Company and the Town of Vail recently launched the first of several projects as part of a project called *Vail's New Dawn.*[99] This $500 million redevelopment program is an attempt to fulfill the goal of becoming the premier mountain resort community in North America. Over the past 10 years, Vail Resorts has invested over $125 million in improvements to the Mountain. Additional plans call for new skier service facilities, additional shopping, dining and lodging, a new ice skating rink, entertainment venue, enhanced streetscapes.

Vail marketing efforts describe a resort designed to combine the facilities of an alpine resort with a small-town commercial and residential environment. The Vail area offers a variety of recreational opportunities with 1,100 acres of open space, 350,000 acres of national forest, 5,290 ski-able acres, 15 miles of recreational paths, an outdoor amphitheater, and the highest botanical gardens in the world.[100] In 2002, the population of the Town of Vail was 4,500 and the surrounding county is 44,970 (Table 18).

Total county employment and population are growing steadily as shown in Table 18. Vail Mountain is the largest employer for the county. Since 1993, overall employment in the county has grown from 24,200 to 39,100, which represents a steady annual average increase of 6 percent. This growth can be attributed to the efforts put forth by the Vail Resorts Development Company and the Town of Vail to improve the ski area and related winter activities. In addition, Vail has attempted to attract the non-skier in the winter offering a variety of retail shops and a lively town environment. Summer activities are marketed to include hiking and mountain biking.

The figures in Table 18 related to sales and use tax also reflect the area's steady growth. The collected sales and use tax has increased from $6.6 m to $14.6m over a ten year period. This growth rate of 12 percent per year is a reflection of the successful retail environment and the strong second home market provided by the town and the county.[101] [102] Local officials estimate that as much as 75 percent of the Town of Vail housing stock is second homes.[103]

There are seven ski resorts located in the Vail area: Arapahoe Basin, Beaver Creek, Breckenridge, Copper Mountain, Keystone, Vail, and Ski Cooper. Combined, the number of skier days at these resorts has increased from 5.5 million in 1993 to 6.2 million in 2002, as shown in Table18. This growth pattern has been steady over the last decade averaging an annual average growth rate of 1.3 percent. These seven resorts provide 115 ski lifts, 780 ski trails, and 13,341 ski-able acres.[104] Vail, Beaver Creek, Breckenridge, Keystone and Heavenly are marketed together under the PEAKS Discount and reward program.

Eagle County Regional Airport (FAA location identifier EGE) serves this area and is located just 30 minutes west of Vail on Interstate 70. A single 8,000 by 150 foot runway serves the airport, which covers over 630 acres at an elevation just above 6,500 feet.[105] Commercial air service began in 1992 with approximately 35,000 enplanements.[106] One year later, in 1993, as shown in Table 18, the airport experienced a 50 percent growth in enplanements, increasing to 53,000 passengers. The airport has continued to experience steady growth since then and served 163,900 passengers in 2002. This change represents an average annual growth rate of 16.7 percent. In 2000 air passengers peaked at 183,500.

Eagle County Regional Airport offers non-stop service from 13 major cities across the country on six of the largest domestic airlines with 757-jet service.[107] In the winter, American, Continental, Delta, Northwest, and U.S. Airways provide non-stop jet service between EGE and major U.S. cities, including Atlanta, Charlotte, Chicago, Cincinnati, Dallas, Denver, Houston, Los Angeles, Miami, Minneapolis, New York, Newark, and Philadelphia. In the summer, United Airlines flies daily, non-stop B-757 to Denver, and American Airlines flies daily non-stop to Dallas. The New York/New Jersey, Illinois, and Texas markets are the strongest markets for the airport.[108] The Vail area is a large second home market to visitors with primary residence in Texas.

The Vail/Eagle County Airport has traditionally served the winter ski market; however, enplanement figures in the summer months have increased considerably over the years because of flight guarantees and incentives to increase enplanement figures during the summer season. The Vail/Eagle County Airport has also continued to improve as part of the regional upgrading. The airport opened a new passenger terminal in 1996. Improvements in 2003 and 2004 included a new control tower taxiway improvement overlay, installation of T/W lighting, new navigational aid systems to improve access into Eagle County Airport during inclement weather.[109] The facilities for private aircraft are offered through the Vail Valley Jet Center, which has seven acres of ramp parking and over 110,000 square feet of hanger space. The jet center offers catering

services, flight planning assistance, aircraft maintenance and cleaning, and full concierge services.[110]

The Vail/Eagle County area has recognized the need to be proactive to maintain their position as a premier national resort community. The efforts by the Town of Vail and Vail Resorts Development Company in the last decade to improve the resort community and infuse $500 million phased over several decades indicate a local awareness of the competitive nature of the winter ski market. Attempts to upgrade the ski facility, to link the regional ski areas together and market them as a package, along with subsidizing air service in the slower months indicate a local, focused effort to maintain Vail's national position as a successful mountain resort. The data displayed in Table 18 and the local interviews support the conclusion that, despite a competitive recreation market, the Vail region has maintained its market share in the last decade, with a strong steady growth in the numbers of skiers, enplanements, sales and use tax, and employment base. Market share has remained in an environment where three other commercial airports serve the broader competing region: Yampa Valley Regional Airport (85 miles), Aspen (100 miles), and Denver International Airport (110 miles).

In contrast to Telluride, which is developing a year round tourist market, with arts and festivals in the summer and small conventions in the shoulder seasons to balance the winter season; Vail is improving the existing infrastructure: the Mountain, the airport and the retail/ non-skier market to continue to bill itself as the premier U.S. mountain resort.

Data available for the Eagle County Regional Airport employment forecast model includes the following:

- Total annual employment—Eagle County,
- Population—Eagle County,
- Sales and Use Tax—Eagle County,
- Skier days at resorts in the Vail region, and
- Number of enplanements.

As with the Telluride study, county-level employment data is available from BEA through 2002. Population is also from BEA, and sales and use tax data was available from DoLA, but only through 2001. The number of skiers was available through the 2003/2004 season from Colorado Country USA, and includes the individual resorts of Arapahoe Basin, Beaver Creek, Breckenridge, Copper Mountain, Keystone, Ski Cooper, and Vail—all of which are within the same region. Data on the number of enplanements is from the FAA Terminal Airport Forecasts System.

Data available for the evaluation is shown in Table 16. As in all case study models, several regression calculations were tested to determine a most reasonable application. In this case, the best-fit linear regression model includes factors relating to population, skier days, and enplanements. The pattern on sales and use tax collections during the evaluation years experienced more than two changes in direction, which resulted in an unreasonable coefficient when included in the model. The final equation selected is the following:

$$Totalemployment = (0.564 * Population) + (0.00126 * skierdays) + (0.04041 * enplanements)$$

Output of the Eagle County Regional Airport model is shown in Table 18 and Figure 21, including the relevant statistical factors as well as the fit of the forecast output. In the case of Eagle County, the two most significant contributors to the forecast of total employment are population and enplanements. On average, the enplanements component is statistically responsible for 15.5 percent of the estimated total employment in a given year.

## Aspen-Pitkin County/Sardy Field

The City of Aspen is located in the west central segment of Colorado's Rocky Mountain, 220 miles west of Denver via I-70. The Aspen/Pitkin County Airport is located four miles from the City of Aspen and within four to nine miles from each of the Aspen ski areas. Sunlight is located approximately 40 miles away in Glenwood Springs. The Aspen/Pitkin County Airport is one of Colorado's 13 commercial service airports (there are a total of 79 public use airports in the state) and is the third busiest airport in the state based on enplanements.[111] In 2002 there were over 336,000 annual enplanements. The state estimates that over 80 percent of the annual enplanements are visitors to the region.[112] These visitors usually pursue recreational interests such as skiing, fishing, hiking, and hunting (Table 19).

The Aspen-Pitkin County Airport (FAA location identifier ASE) began operation in 1946 as a privately-owned facility with a gravel landing strip. The primary user at that time was the Aspen Institute, the forerunner to Aspen Airways. The original facility consisted of a log cabin terminal building and a single gravel runway. In 1956, Aspen Airport Corporation officially deeded the Airport to Pitkin County making it a publicly-owned, public-use airport. In 1958 the airport was officially dedicated as the Aspen/Pitkin County Airport. In 1976 a new 17,500 square foot terminal building was constructed and in 1983 the single runway at Aspen/Pitkin County was lengthened and widened to 7,006 feet long by 100 feet wide with air traffic limited to aircraft with a wingspan of less than 96 feet by county ordinance.[113]

The terminal area was redeveloped in 1986/87, and included new vehicular access roadways coupled with an expansion of the new terminal to 38,000 square feet.[114] The restriction to aircraft with a wingspan of less than 96 feet is the result of a county regulation adopted in the early 1990s. Service into and out of Aspen is limited to smaller commercial aircraft such as the Dash 8, the Avro 85 regional jet and the BAE 146-200/300.[115] Winter commercial air service is provided by Air Wisconsin operating as United Express, Mesa Air operating as America West Express, and Mesaba Airlines operating as Northwest Jet Airlink.[116] There are 18 flights per day in the winter with an average load factor in 2002/2003 of 63.5 percent.[117] Winter load factors over the last 18-years have averaged between 50 and 70 percent.[118] During the summer, the number of flights is adjusted based on load factors, but there are generally 10 commercial flights per day.[119] There are three other commercial airports located in the surrounding region contributing to regional accessibility: Eagle County Regional Airport (78 miles), Yampa Valley Regional Airport (155 miles), and Denver International Airport (220 miles).[120]

Enplanement figures shown in Table 19 reflect the passenger history of the airport. Over the last decade, from 1993 to 2002 the number of enplanements has grown from 251,000 to 336,600. This increase represents a 35 percent growth in passenger traffic. The peak year was 2001 when there were 363,700 enplanements. An analysis of the monthly enplanements shows that typically, 35 percent of the annual enplanements are in the winter months—December through March.[121] The largest winter markets draw nationally from New York, California, and Texas.[122] The recently experienced increase in total enplanements is most likely the result of significant growth in the volume of air taxi (charter) and commuter service. The airport does not track air taxi enplanements. The growth in FAA reported total enplanements is primarily attributed to a significant increase in the category listed as commuter since 2001.

The airport service area encompasses five ski resorts: Aspen Mountain, Snowmass, Buttermilk, Aspen Highlands, and Sunlight ski resorts, totaling 5,240 acres of ski-able terrain.[123] Annual skier days for these resorts are shown in Table 19. During the past ten ski seasons, from 1993 to 2003, the 1997/98 ski season experienced the highest level of activity with a total of 1.66 million skiers. Since then the number of skiers using the five resorts overall has declined. In 2003 there were 1.39 million skiers visiting the Aspen area resorts, an annual average decline of 4.5 percent.

Aspen has created an active summer tourist market with a variety of educational as well as recreational activities. The peak summer months occur from late June through late August. The Aspen area hosts the Aspen Music Festival and School, an annual Food and Wine Festival, The

Aspen Institute summer series with Executive seminars, and the Aspen Writer's Foundation offering summer camps and retreats for writers. The Aspen Music Festival, which hosts approximately 100,000 visitors in the summer for a 9-week period from June through August, is internationally renowned and has been running for 55 years.[124] Summer recreational activities include golf and tennis, horseback riding, kayaking, yoga camps, and spa treatment facilities. Aspen has created a year-round resort with skiing and winter sports in the winter along with educational classical music and food and wine programs, hiking and golfing in the summer. The city also offers year-round shopping at high-end retail boutiques and day spa centers.

Table 19 shows the sales and use tax figures for the years 1993 to 2003. Sales and use taxes increased from 1993 to 1998, from $11.7 to $17.5 million. Since 1998 there has been a steady decline to pre–1994 figures. The sales and use taxes collected in 2002 totaled $14.1 million. This decline in collections reflects an economy that is in flux, changing to accommodate escalating real estate prices local-serving retailers are moving out of the core downtown area and are being replaced by trendy tourist-serving boutique shops. Total 2002 employment in the county was 21,600, which has been declining since 2000 paralleling a declining local skier market.[125]

Table 19 illustrates the annual fluctuations in occupancy rates year-round and for the summer and winter seasons. Aspen's highest occupancy rates were in the "heyday period" during the years 1996-1998. The busiest months were February, March, and August when occupancies ranged between 80 and 90 percent.[126] The slowest months were experienced during the shoulder seasons including April, May, and November. For the last three years, average annual occupancies have been on the order of 53 percent, which reflects an overall decline in the tourism industry, both in the winter and summer months. The average summer occupancy rates are between 60 and 70 percent. The average winter occupancy rates generally range between 70 and 80 percent. Coupled with declining occupancy rates, the number of lodging pillows (or beds—the standard measuring for estimated number of visitor accommodations) has also declined since 1995 when there were an estimated 9,400 lodging pillows. In 2000, the area had a low of 7,750 pillows. Currently there are an estimated 8,000 lodging pillows. This trend reflects the lodging unit conversion to rental properties or commercial space.[127] The spiraling real estate prices in Aspen and lodging prices have also contributed to the unstable overnight accommodations market in Aspen.[128]

The City of Aspen and Pitkin County have faced several years of declining tourist-related economic activity attributed to spiraling real estate prices, several difficult ski seasons without sufficient snow, the 9/11 terrorist events, and the general slowdown of the U.S. tourist travel markets.[129] The local population has also shifted away from Pitkin County and the City of Aspen, where real estate prices have been increasing, to areas up valley including New Castle, Elk Run, and Blue Lake. As a result, the number of year-round residents in Aspen and Pitkin County has been declining while the number of second-home owners has been increasing. Local public officials estimate that about 50 percent of the residents are second-home owners.[130] Pitkin County's population in 2002 was estimated at 14,900. The City of Aspen has a population of about 5,800. Where employment exceeds population, it is the result of a combination of factors, including commutation from outlying areas and the inclusion of full- and part-time employment. As counted, population only includes year-round population.

The Aspen market profile indicates a booming market occurred in the early 1990s. Since 1997/98, however, this market has been in flux with declining skier visitation numbers, a changing retail environment, and soaring real estate prices. Aspen has been successful in creating a year-round tourism market with a strong arts and cultural center in the summer to complement the winter skier market. Aspen's economy, however, like many other resorts has been struggling with the need for diversification, changing its economic base from a dependence on a younger skier market and related visitor expenditures to one relying on real estate activity, construction, driven by a growing semi-retired/retired community.[131]

Data available and selected for the Aspen-Pitkin employment forecast model includes the following:

- Total annual employment—Pitkin County,
- Resident population—Pitkin County,
- Sales and use tax—Pitkin County,
- Ski visits—Aspen resort area (includes Aspen Mountain, Aspen Highlands, Buttermilk Mountain, Snowmass, and Sunlight)[132], and
- Number of enplanements.

Sources of data are the same as those previously indicated, including enplanements.[133] Data available for the evaluation is shown in Table 19. Various regression models were tested, with the model generating the strongest correlation illustrated in Table 20 and Figure 22. In the case of Aspen-Pitkin, a negative coefficient for the number of skier days is consistent with the data, given the pattern of decline over the past several years. The last two years, including the 2003-2004 season, have begun to indicate a slight increase in the level of activity in general, but not in those facilities closest to the town of Aspen. The final regression model forecasting total employment as a function of chosen variables includes population, sales and use tax, ski visits, and enplanements.

$$Totalemployment = (1.5709 * Population) + (0.000115 * Sales/UseTax) - (0.00326 * skierdays) + (0.00243 * enplanements)$$

Using this model, the enplanements component contribution for Aspen-Pitkin is significantly less than that compiled for both Telluride and Eagle County. As a result, the percentage employment benefit linked to changes in the number of enplanements is on the order of 3 percent over the past 5 years.

### Jackson Hole Airport

Jackson Hole Airport is located in northwest Wyoming, in Grand Teton National Park about 10 miles from the City of Jackson. Nearby attractions include Grand Teton and Yellowstone National Parks, Bridger-Teton and Caribou/Targhee National Forests, Gros Ventre, and Jedediah Smith Wilderness areas and the Snake River. Ski resorts in the area include Snow King, Jackson Hole Mountain Resort, and Grand Targhee Summer and Ski Resort. The Jackson Hole area has two distinct seasonal attractions: skiing and winter sports in three resorts in the winter; and two national parks, Grand Teton and Yellowstone, in the summer. This area has traditionally been dominated by summer tourism as the two national parks provide a large summer attraction. Yellowstone Park visitation, as shown in Table 21, averages about 3 million visitors per year. Summer activities include national park visitation, whitewater rafting on the Snake River, and the Grand Teton Music Festival. Visitors typically drive to the area in the summer and stay 7-10 days, either camping or lodging, in the accommodations located throughout the valley.[134]

In the 1940s, to diversify the economic base, the Jackson Hole area opened its first ski resort, Snow King. In the 1980s following the success of this local resort, Jackson Hole Mountain and Grand Targhee ski resort opened for skiing.[135] Combined, these resorts average about 595,000 skier days per year. The largest resort is Jackson Hole Mountain with about 375,000 skier days per year.[136] The average winter stay for tourists is 4 to 5 days.[137] Lodging occupancy rates available for the winter months of 2004 through the Jackson Hole Chamber of Commerce were 52 percent in January, 69 percent in February, and 55 percent in March. At that time, the Chamber of Commerce had not gathered monthly occupancy data for previous years.[138]

The Jackson Hole Airport (FAA location identifier JAC) is a publicly-owned facility located on approximately 533 acres in Teton County, Wyoming. Located at an elevation of about 6,450 feet,

it is served by a single 6,300 by 150 foot runway. Although commercial air service to Jackson Hole began in 1959, it only began in earnest in 1986 when the Jackson Mountain Resort initiated a revenue-guarantee program with the City of Jackson for commercial air service.[139] Prior to 1986, the nearest active commercial airports were located in Salt Lake City, Utah; Billings, Montana; or Denver, Colorado. Jackson Hole Airport currently offers commercial service via American Airlines, Delta, Northwest, United, and United Express. Flights originate from Cincinnati, Chicago, Salt Lake City, Atlanta, Minneapolis, and Denver.[140] During the winter season, airlines use Boeing 757 jets (with a seating capacity of 178 passengers) and 737-300 jets (seating capacity up to 128 passengers), Airbus 319s (seating capacity up to 124 passengers), and deHavilland Dash–8 Turboprops (seating capacity of 46-60 passengers). The arrival of commercial air service has increased accessibility by tourists and second-home owners.[141]

An examination of monthly enplanements in 2003 indicates that the busiest months for air carriers occur during July and August with the slowest during the shoulder months of November and April.[142] This pattern has remained consistent since the mid-1980s, when air service began in earnest. Air traffic during the winter months, December through March, represents 35 percent of total enplanements; and traffic during the summer months, June through August, represents 37 percent of total enplanements.[143] Overall, enplanements have been relatively constant over the last eleven years, ranging between 167,400 in 2001 (post 9/11) and 192,300 in 1992. The level of activity depends on numerous factors including snow levels and airline service provided.[144] The largest origination markets are Chicago, Denver, New York, California and Texas.[145]

The City of Jackson is located in Teton County, which lies in a long mountain valley known as Jackson Hole.[146] The year-round population of the City of Jackson is about 8,800.[147] The population of Teton County in 2002 was nearly 18,600. This population has increased steadily since 1992 with an average annual increase of 500 per year or 4 percent (Table 21). Land prices have escalated about 15 percent per year between 1986 and the mid-1990s, making it relatively expensive to develop and live in the area.[148] Consequently, the local population growth has slowed while the second-home market has grown. The U.S. Census Bureau estimates that 20 percent of the housing stock is for seasonal use and second-home owners.

Employment in Teton County has grown with population, as shown in Table 21. Over the last eleven years total employment has increased from 15,800 to 23,700, at an average annual increase of 4.5 percent. Employment is higher in the summer months, during the peak tourist season, than during the winter months. Sales, use, and retail taxes collected, also an indicator of the growth in Teton County, are shown in Table 21. Tax collections have more than doubled in the last eleven years in concert with growth in the ski areas, the expanding second-home market, and the escalating real estate prices. As in previous examples, employment is larger than population as a result of commutation into the area from outlying counties as well as because total employment includes both full- and part-time jobs. Population only includes year-round residents.

Jackson Hole, with the improved accessibility via air, is becoming more of a winter resort. Traditionally a summer resort-destination locale with the nearby national parks, the opening of the two ski resorts in the 1980s with non-stop air service from points east has encouraged winter visitation, particularly from the New York /Chicago markets. This case study indicates characteristics similar to those of the Mammoth Lakes area in that the summer tourist market is, in part, driven by the proximity to major national parks that attract several million tourists yearly.

As shown in Table 21, data available for the employment forecast model includes the following:

- Total employment—Teton County,
- Resident population—Teton County,
- Sales, use, and retail taxes—Teton County,

- Visitors (total recreation visits) to Yellowstone National Park, and
- Number of enplanements.

As with the previous airport models, population and employment data is available from BEA. Sales, use, and retail tax data is available from the State of Wyoming.[149] The number of visitors to Yellowstone National Park is available from the National Park Service.[150] Enplanements were provided by the airport manager and used after comparison to those available from the FAA. The two data sources were comparable, but available in greater detail from the airport. Airport data was used in the model primarily because the service provider was able to provide disaggregated information.[151]

Tested models resulted in the chosen application illustrated in Table 21Figure 23, incorporating total employment; population; sales, use, and retail taxes as a total; Yellowstone recreation visitors; and number of enplanements.

$$TotalEmployment = (0.7753 * Population) + (0.00008675 * Taxes) + (0.00007133 * Visitors) + (0.01383 * Enplanements)$$

For the reported years, the statistical contribution to overall full- and part-time employment in Teton County, linked to the number of enplanements, averaged 15 percent.

## *Composite Model*

The next step in formulating the forecasting model to measure the potential impact of airport service on total employment in the study area that encompasses both Mono and Inyo Counties is derivation of a composite model. This model brings together the various inputs collected and evaluated for the four case-study airports to estimate the statistical contribution of enplanements to total employment in Mono and Inyo Counties.

Several configurations were tested to determine those statistically significant. The results centered on four factors: taxes (particularly those directly related to visitor activity), skier visits, National Park visitation, and number of enplanements. Applications indicated that adding population to the data mix resulted in illogical signs for regression model coefficients. Data collected and shown in Table 22 includes the four case-study areas in combination with similar data from Mono and Inyo Counties. The resulting output equation, illustrated in Figure 24, is the following:

$$TotalEmployment = (0.0006519 * Taxes) + (0.003153 * skierdays) + (0.003036 * Parkvisits) + (0.018174 * enplanements)$$

The output coefficient linking enplanements to total employment using this model is 0.018174. As shown in Tables 22 and 23, the composite model factor is comparable to the average coefficient for the three Colorado airports and 7.5 percent greater than the average for the four airports studied in the analysis. The preferred alternative is approximately mid range for the set of alternatives considered.

The coefficient chosen for use in the forecast model for the two-county Mono and Inyo impacts linked to the level of enplanements is the composite model coefficient. That model appears to represent the most consistent logical application of the available annual historic data. For the selected years, application of the model indicates a statistical contribution of change in the number enplanements to change in total employment is approximately 11 percent. As indicated the model uses data from case study examples as well as from Mono and Inyo Counties, and used available data from 1993 through 2002. The year 2002 was the latest year for which data existed in all selected categories.

## *Mammoth Yosemite Airport Model*

The next step in the economic analysis generates an estimate of relevant growth and development factors in Mono and Inyo Counties for the target years 2007 through 2017. The factors used to create the forecasting model necessary to estimate long-term economic impacts include population, transient occupancy taxes, Yosemite National Park visitors, and overall ski activity. The model estimates changes in employment associated with proposed airport improvements, and changes in employment are then used to measure potential change in economic value.

As with the case study applications, the Mammoth Yosemite Airport model uses enplanement forecasts to estimate the change in total regional employment linked to the proposed airport improvements. As defined, the affected region includes two counties: Mono and Inyo. Estimating change for each of the input variables over time, given their previous cyclical variation, is, in fact, only an estimate. Forecasts for each of the significant variables are used to derive a baseline employment estimate (without implementation of the airport improvement program) for the period of time 2007 through 2017. The desired output of the model is an estimate of change in total employment as a function of total enplanements attributed to implementing the airport improvement program.

As shown in Table 24, each of the data categories is projected through 2017. Transient occupancy taxes are estimated based on trend analysis from 1992 through 2002. Yosemite visitors are projected based on a constant increase of 1 percent per year. Since long-range major planning efforts for the future of Yosemite National Park are currently underway, this forecast is used only as a source to help measure the change in total employment output. Ski activity is also estimated on the basis of trend analysis of existing data from 1992 through 2004. Population estimates are derived separately and not included as input to the forecast model. In this case, population becomes a dependent variable, determined by the projected change in employment using average labor force participation rates experienced historically.

The resulting impact model is shown in Figure 25 with the added coefficient measuring the contribution linked to enplanements as derived from the composite forecast model.

$$Totalemployment = (1.328 * TOT / 1{,}000) + (2.432 * Yosemitevisitors / 1{,}000) + (8.326 * skierdays / 1{,}000) + (0.018174 * enplanements)$$

"TOT" refers to "transient occupancy taxes." These taxes are collected on top of lodging fees and represent a contribution to the economy from visitors. The output of the model application is summarized in Tables 24 and 25 and Figure 26. By 2017, enplanements projected at an improved Mammoth Yosemite Airport would lead to an additional 3,037 full- and part-time employees (averaged on an annual basis) over that which would have occurred without the airport improvement project. The estimated impact of 3,037 additional employees linked to the forecast enplanements is the basis on which to measure long-term change in economic value for the two-county area attributed to the proposed airport improvement program. Measuring the change in economic value is discussed in the next section.

The Mammoth Yosemite Airport model functions as an extension of the composite model when applied to forecasts of relevant input data. The no-project forecast is an estimate on which to base an evaluation of potential change over time, keeping all other factors unaffected by a change in enplanements. This approach results in a conservative estimate of the potential change in employment attributed to the airport improvement project. If changes are made to the enplanements factor in the composite model for the future based on proposed enplanements at Mammoth Yosemite Airport in 2017, then the application of the composite model is mathematically the same as applying the Mammoth Yosemite model to the estimated change in enplanements for 2017.

# IV: Measuring Economic Value

This section of the analysis uses the output of the employment-change model to measure potential long-term economic value attributed to implementing the proposed improvement project at Mammoth Yosemite Airport. Change in employment is the key to estimating the overall economic impact of the proposed improvements. Based on past trends, change in employment can be used to estimate change in population and housing. Coupled with other components of growth and development, this change can also be used to estimate a change in commercial development attributed to the overall increased employment in the two-county impact area. Measuring economic value attributed to the estimated increase in employment is accomplished through application of input-output models and refers to value added, total output, employee compensation, taxes, and other measurable factors.

The forecast model used to estimate change in employment in the study area is fundamentally linked to the number of enplanements associated with proposed improvements at Mammoth Yosemite Airport. Estimates of future enplanements reflect the potential number of visitors to the area as a result of air service. The airport sponsor, with approval by the Federal Aviation Administration, provides the estimate of future enplanements at the airport as a primary input to the employment change forecasts.[152] The enplanement forecasts are projected to be the same for all of the build alternatives; therefore, the economic value would likewise be the same.

## *Input-Output Model Application*

The long-term economic impact analysis uses input-output models prepared by IMPLAN to measure the value of direct, indirect, and induced spending on the economy. These models build on existing conditions and linkage characteristics to predict the potential capture within a defined region of a direct infusion of capital. In this case the direct infusion of capital has the potential for creating measurable economic impacts.

To illustrate the principles involved, consider the example of increasing activity in the local and regional service and retail sectors—two important economic sectors that could expand in the study region as a function of improved airport accessibility. Both of these sectors are important to the two counties as well as to the broader region. For both the service and retail trade sectors, multipliers are relatively small, primarily because of the lack of diverse intermediate products. These sectors are responsive to increases in population and employment, through change in demand for products as well as services. Both the services and retail trade sectors rely on visitor access to generate regional income. In a resort economy, access to increased visitors and resulting expenditures drives the local economy. Service sector employment is directly linked to increased local expenditures. Increased retail activity creates an increased demand for product. Where retail product comes from affects the intensity of the multiplier effect. These requirements or inputs are known as intermediate demands, in contrast to final demands, which are the requirements for consumption by individuals or households.

In input-output analysis, the pattern of intermediate demands is the prime consideration. By examining the relationship between intermediate demand, individual economic sector output, and final demand, it is possible to predict the effects of a forecast change in the output of one industry on the rest of the economy, and also the effects on each industry of a change in national output. Understanding and predicting these relationships is essential to forecasting the impact of changes in the ability to support additional manufacturing and other related business service activities.

Other components of spending include household spending resulting from wages received by workers in the study region. Wages received by employees are spent on housing, food, clothing, and other required living expenses; and, subsequently, these expenditures serve as income to those providing the services to households. Expenditures continue to multiply as long as they are captured within the region. These subsequent rounds of expenditures to acquire additional goods and services are defined as induced impacts generated by the initial direct expenditure. The

increased value of goods and services produced in the region that are required as direct inputs to construction and industrial facilities help to attract new industry and service-based companies into the region. This increased level of attraction is, at least in part, a result of expanded capacity of the airport and represents indirect impacts resulting from the initial improvement program expenditures.

The combination of indirect and induced effects has a "ripple-like" quality, passing from one layer of the economy to the next. The ripple effect is reduced, however, when the goods and services purchased, or labor resources employed, originate outside the two counties comprising the study area. It is necessary to estimate this leakage function in evaluating the total impact of the successive rounds of spending in the economy, and this estimate is generated by examining the capacity of the local economy to provide the product and labor resources required for construction and manufacturing. The indirect and induced effects of the initial direct expenditures of a public project are defined, respectively, as follows:

- Indirect: The local jobs, materials, equipment, and services required to produce the non-labor resources; and
- Induced: The local jobs, materials, equipment, and services required to fulfill the household demands for goods and services, which are generated by the wages of additional employees.

The ripple impact of the indirect and induced effects multiplies the original impact of the purchase, represented by the cost of new construction of the airport improvements and the projected scale of associated economic activity. The common measure of the magnitude of the ripple effect is called a multiplier. A multiplier measures the total magnitude of the impact on each particular economic indicator as a multiple of the initial, direct effect. For instance, a multiplier of 1.0 would signify no ripple effect, as the total impact was only 1.0 times the initial impact. In contrast, a multiplier of 2.0 would imply that the total impact of the proposed investment is twice the direct effect.

The actual magnitude of a multiplier depends on the likelihood that goods and services purchased in a region would be produced in, or provided from, that region. A common technique used in the performance of an economic impact study is to determine the total direct "economic impact" (by which most studies mean the impact on one economic indicator: the total output) of the project and then multiply that amount by an assumed multiplier. Such a method is inherently inaccurate, since the actual multiplier depends on the nature of the purchases, the types of materials with which the goods are produced, and the particular purchase patterns of the geographic region being measured.

IMPLAN is a PC-based input-output model used to estimate the total economic impact of the proposed development alternatives when measured against the baseline employment projections, originally formulated for the U.S. Forest Service, and is currently maintained by a non-profit group at the University of Minnesota. It does not assume a multiplier but, rather, uses past consumption and production patterns in the surrounding region to estimate what portion of the purchased goods and services originate or are produced in the region. The resulting multiplier represents the total impact that the model estimates, per indicator measured, divided by the amount of the original direct impact on that indicator.

The calculation of indirect and induced effects requires an input-output technology coefficients matrix, otherwise known as the direct coefficients matrix. Elements in this matrix express the dollar's worth of each resource required per dollar's worth of production. Generally, the data in such a matrix are based on data collected by region-specific surveys, or by "regionalizing" a national technology coefficients matrix. The latter are produced by several sources, most notably, the Bureau of Labor Statistics (BLS) of the US Department of Labor and the Bureau of Economic Analysis (BEA) of the US Department of Commerce.

The technological coefficients allow for the determination of changes in demand for resources by a sector associated with a change in employment or production in that sector. In regional analysis, these demands will, in general, only be partially fulfilled by other sectors in the same region. All or part of the purchases of many goods and some services will leak out of the region and result in payments for goods and services imported from other regions. These leakages reduce the indirect and induced effects on the economy of the region where the direct changes occur and consequently reduce the multiplier effects of that change. The input-output model used in this analysis represents an application developed over many years. This process allows for an estimate of necessary region-specific data for any region beginning at the county level.

The model is based on the application of regional Social Accounting Matrices, or "SAMs." It creates balanced industry by commodity input-output accounts as well as complete social accounting matrices. The default trade flow assumptions are Regional Purchase Coefficients (RPCs), which are derived using an econometric equation that predicts local purchases based on the region's specific characteristics. The ratio of locally purchased to imported goods is perhaps the most significant factor affecting subsequent multipliers. The greater quantity of goods purchased locally, the more local economic activity will result and the larger the output multiplier.[153]

The Social Accounts of a region track the monetary flows between industries and institutions. In particular, the input-output accounts are a subset of the entire social accounts of a region. Social accounts track all monetary flows, both market and non-market. The market flows are those between producers of goods and services and consumers, both industrial, and non-industrial (i.e. households, government, investment, and trade). The non-market flows are those between households and government, government and households, capital and households and so on. These flows are often called inter-institutional transfers.[154]

Sources of information used to establish these models include the following:

- US Bureau of Economic Analysis Benchmark I/O Accounts of the US,
- US Bureau of Economic Analysis Output Estimates,
- US Bureau of Economic Analysis REIS Program,
- US Bureau of Labor Statistics ES202 Program,
- US Bureau of Labor Statistics Consumer Expenditure Survey,
- US Census Bureau County Business Patterns,
- US Census Bureau Decennial Census and Population Surveys,
- US Census Bureau Economic Censuses and Surveys,
- US Department of Agriculture,
- US Geological Survey,
- 528 Industrial Sectors, typically 4 digit SIC in manufacturing, 2-3 digit for other sectors, and
- All elements balanced to the National Income and Product Accounts.

The model application provides a basis for translating estimated changes in direct employment to value of total goods and services generated by resulting demand within Mono and Inyo counties.

## *Long-Term Employment Benefits*

As discussed, measuring long-term economic benefits associated with the proposed improvements at Mammoth Yosemite Airport is based on the differential employment associated with the build alternative versus a no-action alternative. If there is an effect on long-term employment as a result of the proposed improvements, then there is value associated with those improvements in terms of employment compensation, value-added, and tax benefits. The employment related to the airport falls into three categories: airport-related employment located on site, visitor industry-generated employment related to the number of visitors passing through the airport, and additional net regional employment associated with other industries that locate in the area because of the proximity of the airport. The estimated change in employment is

determined by application of the employment forecast model derived from the case study analysis discussed in the previous section of this report. As previously mentioned, the airport sponsor, with approval by the FAA, provides the enplanements forecast used to generate estimated change in employment in the study region.

The projected total employment difference between the no-action and build alternatives, including direct, indirect, and induced, is shown for all three employment categories in Table 25. Long-term changes do not appear until after commercial operations at the airport begin—starting in 2007. Beginning in that year, the resulting employment differences between the no-action and build alternatives begin to grow as enplanements increase from 29,300 in 2007 to 167,100 in 2017.[155] The change in total employment by category over time is also shown by component in Table 27 and Figure 27. As shown, application of the forecasting model indicates that the projected employment differential is expected to increase from just over 530 in 2007 to 3,037 in 2017. Short-term employment impacts associated with construction are discussed in a separate section of this analysis.

Total employment change is comprised of direct, indirect, and induced effects represented by the multiplier effect. By 2017, this employment multiplier effect (ratio of total employment to direct employment) is expected to reach 1.39, which reflects the dominance of the service industry in the two counties. This multiplier effect, which is a measure of the ratio of direct employment to total employment, equals 1.39 using data shown in Table 28 (3,037/2,186). For each 100 new jobs created, an additional 39 jobs result in support of changes in direct employment. As shown in Table 25, overall employment in the two-county area is projected to grow to nearly 27,700 by 2017 without the proposed airport improvements and to nearly 30,725 with the proposed airport improvements.[156] Employment benefits in Mono and Inyo counties, linked to the proposed improvements, are shown for 2017 and include direct, indirect, and induced employment attributed to employment changes at the airport (Table 28).

The value of the expected change in employment over time, however, is related to expected employment compensation; iterative expenditures by households in purchasing additional goods and services; and the taxes paid by individuals, households and businesses. The value represented by these expenditures is discussed in the next section of this study.

## *The Economic Value of Long-Term Effects*

The value of long-term economic impacts is a function of the projected differential change in total employment attributed to the proposed improvements at Mammoth Yosemite Airport.[157] In the previous section, total estimated long-term change in the two-county study-area employment was calculated to include changes in direct airport employment, increases in employment associated with the visitor industry, and employment in other economic sectors. Using the techniques described, the analysis was able to determine the total employment change attributed to increased capacity at the airport, which is projected to reach 3,037 in 2017. It is important that projected changes in total employment do not begin to appear until and after 2007, when the improved airport is expected to begin operation. The next sections of this report summarize the economic value associated with each component of the projected change in employment as an estimate of the total value of long-term economic effects. As indicated previously, short-term impacts associated with construction are discussed in a separate section of this memorandum; however, the definitions of impact measures are the same.

### Value Added

As indicate in the introduction, value added is the combination of wages, state and local taxes paid by households, dividends, interest, and profit. Value added represents the total sum of value created by business and household expenditures in the region or study area and, as such, is an effective measure of economic activity. In economic terms, value added is also known as gross regional product.

As shown in Table 29, value added for the two counties based on the projected employment benefit is approximately $138.6 million by 2017. For this value, the multiplier effect is on the order of 1.38. For every $1,000 value added generated as a result of new employment, $380 addition is created as a result of indirect and induced employment in support of direct employment. The primary economic sectors affected include accommodation and food services and government, each with approximately 24 percent of the total value generated. The total value added shown combines contributions from increased airport employment, visitor-generated employment, and other regional employment increases within the two-county study area.

### Tax Related Impacts

Table 34 illustrates the potential tax increments associated with implementation of the proposed improvements by 2017. This output as shown combines contributions from all three components, including airport, visitor-generated, and net regional. Total 2017 tax benefits associated with building the proposed improvements are estimated to be nearly $35.4 million—a total that is already included in value added. This total incorporates the entire tax-related contributions of the estimate 3,037 additional employees and their associated business activities attributed to the proposed improvement project.[158] Indirect business taxes associated with building the proposed improvements are shown in Table 33 and are estimated to be $8.54 million in 2017—a total also included in value added.

## *Additional Measures of Economic Value*

Other measures of economic value shown in tables 30 through 34 include total output, employee compensation, and indirect business taxes. Total output (Table 30), which represents a single total measuring the overall value of an industry's total production, is estimated at nearly $240 in 2017. Employee compensation (Table 32), one of the components of value added, is expected to reach nearly $76 million by that date.

## *Summary—Economic Value*

The technical analysis measures potential long-term economic impacts associated with the proposed improvements at Mammoth Yosemite Airport. The impacts measured are based on the enplanement forecasts provided by the study sponsor and approved by the FAA. What is important beyond the technical components is the demonstrated link between airport accessibility and long-term economic growth and development in the two-county study area. The proposed improvements are not expected to result in immediate benefits to the surrounding jurisdictions of Mono and Inyo counties, but rather continue to contribute to the long-term ability to attract new resort-based industry in support of existing growth and development patterns.

Airport investment may be a necessary element in realizing long-term growth and development benefits, but not the only element required. Over time, a lack of investment in supporting infrastructure can have a detrimental effect on economic stability in a region, and the potential order-of-magnitude value of that impact is apparent from the analysis. It is also important to recognize that airport access by itself will not solve economic problems relating to seasonal and weekly variations in visitor-based activity. Whatever economic improvements or changes might occur in terms of increased occupancy rates during mid-week or during shoulder seasons is encompassed in the economic impacts measured on an average annual basis. Data does not exist to allow a direct measurement of potential changes in mid-week or seasonal activity levels. It is possible only to estimate potential long-term effects on an average annual basis.

Beginning in 2007, change in employment in the two counties, resulting from airport and related development, is expected to grow from approximately 530 to 3,037 by 2017, including additional employment at the airport, additional employment associated with tourism, and additional employment associated with other serviced sector economic activity characteristic of the two-county economy (Table 26). These changes are annual and cumulative, and would continue to increase if the period of analysis were extended.

The economic value of the estimated employment change is based on the measured value added. By 2017, value added is expected to reach nearly $139 million. Again, value added benefits are annual and cumulative and would continue to grow in relation to the effects of Build versus No-Action Alternative (Table 29).

Associated with change in employment is change in employment compensation. Employment compensation is also included in value added. As shown in Table 31, total employment compensation associated with the proposed improvements is projected to reach nearly $76 million by 2017. As with all of the impact measures for the study area regional economy, the major contribution to employee compensation originates in the accommodation and food services and government sectors with a combined 47 percent of the total. Using employment compensation and full- and part-time employment for the two-county study area, it is possible to estimate average 2017 salaries for each affected economic sector in 2004 dollars. Table 32 displays overall average salaries in 2017 which are projected to be on the order of nearly $25,000. All average salaries are stated in 2004 dollars, and include both full- and part-time employment.

The economic sectors with the most significant contribution to the forecast employment change in 2017 exhibit some of the lowest average salaries. For example, the accommodation and food services sector, representing nearly 32 percent of the total additional employment forecast for 2017, is expected to experience an average annual salary of approximately $17,500 (in 2004 dollars). In contrast, the highest average salary sector, manufacturing, which is only projected to contribute 5.4 percent of the additional employment, is forecast to experience an average annual salary on the order of $50,000. The government sector is projected to account for 16.5 percent of the additional employment and average nearly $37,300 in annual salary. Overall, salary forecasts indicate, in the long-term, that additional employment linked to the proposed airport improvement project may not earn annual incomes sufficient to support acquisition of market-rate

housing in and around the Town of Mammoth Lakes. Average salaries, measured in 2004 dollars, represent an annual average of full- and part-time employment.

Other financial impacts include taxes associated with increased employment and related income. Total taxes generated by the difference in employment by 2017 are estimated to be on the order of $35.4 million (Table 34). Of this total, approximately $8.54 million are indirect business taxes, $14.95 million are generated as the result of household expenditures, $8.64 million from employee compensation, $2.64 million as the result of corporations, and nearly $605,000 from proprietary income.

This analysis demonstrates that long-term regional economic impacts associated with the proposed airport improvement project at Mammoth Yosemite Airport do not begin to manifest themselves until after operational activity begins in 2007, with significant usage and increased economic effects forecast for 2017. The airport can be an important contributor to the future growth and development in the Mono and Inyo counties, helping to increase the overall return on investment projected in the region from both the public and private sectors. The differences between the build and no-action alternatives, although starting out relatively small, begin to grow as the long-term effects of airport improvement are realized. Change in employment is the key basic variable to measuring the value of airport improvement project. Investment in the airport improvement project is not the only contributor to long-term regional growth and development, but the analysis demonstrates that the economic benefits are measurable and potentially significant over time.

# V. Development Impacts and Fiscal Analysis

Application of the input-output model generates an estimate of the potential value linked to implementation of the proposed airport improvement program as a result of a potential increase in population and employment. In addition, an increase in population and employment generates an increase in development; and, in 2017, the estimated increase in development is a function of a projected increase of 3,037 employees over and above that which is expected to occur without the airport improvement project. The ability to realize potential development opportunities is dependent on numerous significant factors in addition to airport-linked potential, including market feasibility, compatibility with approved land use plans in both counties and the incorporated areas within those counties, and availability of suitable land for development. Using current development averages, it is possible to estimate the extent of commercial development potential that might be linked to the airport improvement project. Additional employment linked to the proposed airport improvement program will, in turn, increase the demand for housing and commercial development. Increased housing demand is proportional to the projected increase in population; increased demand for commercial/retail space is proportional to projected increase in employment. Employment change can be used to estimate this additional development through a series of steps.

Using past trends in labor force participation rates, future change in employment can be used to estimate a concurrent change in population. Further, past trends in housing construction and occupancy data, including average persons per household, can be used to translate future population change into an estimate of change in future demand for housing units. Existing housing unit distribution patterns can also be used to estimate how this increase in demand for housing units is translated into housing type. Similarly, past history in average square feet of retail and commercial space per employee can be used to generate an estimate of change in demand for commercial and retail space. Where information is available, past trends can also help to generate an estimate of possible distribution of increased development demand by jurisdiction.

This section of the analysis reviews the process used to estimate change in development activity and the potential output. This analysis generates an order-of-magnitude estimate of the possible demand for additional residential and commercial space linked to the proposed airport improvements. Actual realization of these projections in the long-term is a function of changing market conditions as well as public and private sector policies and marketing efforts. Past trends can be used to predict an estimate of potential development activity as a way to frame the possible impacts linked to proposed airport improvements. An increase in development demand grows out of any increase in regional tourism and related economic activity, and this increased demand affects future fiscal considerations.

### Population and Development

The employment difference linked to the airport improvement project is projected to grow from just over 500 in 2007 to 3,037 in 2017. During the same time period, population growth associated with that estimated employment change is expected to increase from just over 760 to just over 3,820 (Table 25). Estimated population change is based on past trends in the ratio of number of employees to resident population, evaluated using historic data from 1990 through 2003.

Population forecasts are coupled with housing stock data to measure the historic relationship between resident population and total number of housing units. Historic data on the number of housing units, both occupied and total, is also shown in Table 35 and is derived from data supplied by the California Department of Finance.[159] Based on these historic conditions, the forecast change in population is projected to result in a change in total number of housing units from nearly 540 in 2007 to 2,755 by 2017, with occupied unit change increasing from 326 in 2007 to 1,627 in 2017 (Table 26). The choice of vacancy rates for future development, based on

historic housing market parameters, would likely be less for employee-based residential development; however, a significant percentage of additional housing may continue to represent a seasonal market. As a result, annual average vacancy rates may still be close to those characteristic of earlier historic data. Using the existing market trends, therefore, represents a worst-case estimate of vacancy rates over time. The resulting demand could impact limited development opportunities on a smaller scale.

Table 35 and Figure 28 indicate recent distribution of housing units by type for each jurisdiction in the two-county study area. That distribution is used to estimate the potential distribution of additional housing units by type and jurisdiction in 2017, as shown in Table 36. The distribution by type and jurisdiction is subject to changing market conditions over an extended period of time, but the data illustrated in this table indicates a possible configuration assuming recent current development patterns continue. Out of the total of 2,755 units, it is estimated that nearly 39.5 percent would be located in the Town of Mammoth Lakes. Ultimately, the actual distribution within the Town would be less as determined by availability of developable land, land use constraints, and market value. The allocation of units in the Town would require a significant component of high-end second homes compatible with current market trends. Smaller numbers of units are projected for the remaining jurisdictions, again subject to land availability and market value.

Commercial development estimates are based on an inventory of existing space by jurisdiction, coupled with historic trends in average square feet per employee (Table 35). As shown, approximately 6.14 million square feet of commercial development exists in the study area. This estimate is based primarily on county assessment data. Estimated employment by jurisdiction is used to calculate an average square feet per employee. That estimate is then applied to the total change in employment forecast for 2017 to determine additional commercial and retail space that could result from implementation of the proposed airport improvement program

Current commercial space inventories include an estimate of total commercial space in Inyo County of approximately 3.2 million square feet,[160] and total commercial space in the Town of Mammoth Lakes, of approximately 1.183 million square feet.[161] Using current employment, the Inyo County total implies an average of nearly 290 square feet of commercial space, including industrial, office, and retail uses, per employee. Total commercial space in Mono County is on the order of 2.93 million square feet with approximately 1.75 million located in the unincorporated areas of the county. Based on an existing employment of just over 10,000, the average square feet per employee in Mono County is approximately 293.

Using the existing ratio of square feet per employee, the two-county market area would realize an increase in demand for approximately 882,000 square feet of commercial/retail space by 2017 as a result of increased economic activity linked to the airport improvement project (Table 39). Of that total, nearly 246,600 square feet is allocated to the Town of Mammoth Lakes (28 percent of total), with an additional 201,700 square feet estimated for the remainder of Mono County (23 percent). A total of 434,400 square feet (49 percent) is estimated for Inyo County, including the City of Bishop. The percentage distribution is based on existing patterns of employment by subarea shown in Table 38. Using existing distribution patterns results in an illustrative example of how future commercial development patterns might occur.

Estimated population and employment impacts, in combination with the projected change in the number of housing units and the potential increase in commercial/retail square feet in the two-county study region, provide the input necessary to measure potential fiscal impacts in 2017 for each of the affected jurisdictions. The fiscal impact component of the economic analysis is addressed in the next section.

## *Fiscal Impact Analysis*

The last element of analysis of long-term economic impacts involves an evaluation of the potential fiscal effects of the proposed action on affected jurisdictions. This analysis is based on existing local budget parameters and is an order-of-magnitude estimate of the possible long-term effects. Long-term impacts on fiscal conditions actually involve numerous decisions and conditions that are not trend oriented and cannot, as a result, be forecast over time. What follows is a best-case estimate of the potential impacts of the proposed action as it might affect Mono and Inyo counties, and the individual jurisdictions of the Town of Mammoth Lakes and the City of Bishop.

Fiscal impacts are predicated on the estimated changes in employment, population, and related development activity linked to the airport improvement program in 2017. As shown in Tables 36, total additional occupied housing units, projected for the four jurisdictions included in the study region, are expected to reach 1,627 out of a total projected 2,755 units. At the same time, total additional employment is expected to reach 3,037 with additional commercial development reaching nearly 882,000 square feet (Table 39). To measure the potential fiscal effects of the expected increase in development activity in 2017, it is necessary to allocate changes to the individual jurisdictions included in the analysis.

Because the Town of Mammoth Lakes has its own Fiscal Impact Model, the inputs used to measure a long-term change in revenues and expenses have been adapted to that model for the Town component of the study. The Mammoth Lakes model is based on changes in development activity rather than employment and population. The Mammoth Lakes model encompasses all estimated changes in development, including seasonal lodging units and second homes. As shown in Table 40, the additional development projected for the Town includes 1,087 total residential units, 208 lodging units, nearly 246,000 square feet of commercial development, and approximately 840 additional jobs. The projected development increases linked to improvements at the airport are used in the Town's fiscal impact model to estimate a change in overall revenues and expenses associated with those increases against previously calculated long-term baseline values.[162]

Mono and Inyo counties and the City of Bishop do not currently use fiscal impact models. As a result, for these jurisdictions the method used to estimate potential long-term fiscal effects of projected increased development activity is based on per capita estimates using the last actual budget for each jurisdiction. The development increases linked to proposed improvements at the airport are disaggregated as a function of existing patterns of development. Existing patterns will change over time, and potential capture rates will also change; however, sufficient historic data does not exist to forecast long-term changes in these patterns given the complexity of factors that can influence those changes over time. In addition, budget expenditures are affected by changing conditions and are not always representative of historic trends.

Therefore, as an estimate of potential effects, the existing patterns of distribution are used as a best estimate of possible future effects. Total revenues and expenditures are allocated to a percentage of population and employment for major budget categories. Existing total population and employment are then used to calculate average per capita revenues and expenditures. These averages are then applied to projected increases in population and employment linked to the proposed airport improvement project. The 2004 local budgets include the cost of providing services to the current tourist and seasonal populations; therefore, the per capita averages would reflect these costs. What is apparent from the analysis is that the concentration of higher-valued economic activity will continue to occur in and around the Town of Mammoth Lakes where the center of regional attraction exists and will continue to exist. The actual distribution of impacts will occur as a function of land availability and development capacity as well as market demand.

As shown in Table 25, the overall projected population impact associated with the proposed airport improvement program is 3,824 in 2017. Based on existing percentage distribution patterns, the future allocation to affected jurisdictions in the study area is shown in Table 36. As

shown, projected population growth in the City of Bishop is 291 with 1,294 in the remainder of Inyo County. Population growth impacts in the Town of Mammoth Lakes are projected to be 1,518 with 721 in the remainder of Mono County. The number of occupied housing units is projected to increase by 139 in the City of Bishop and 538 in the remainder of Inyo County; by 642 in the Town of Mammoth Lakes and 309 in the remainder of Mono County. Throughout the two-county impact area, the average number of persons per occupied housing unit is expected to be 2.35, ranging from 2.36 in the Town of Mammoth Lakes, to 2.10 in the City of Bishop, and to 2.41 in the unincorporated area of Inyo County.

## Fiscal Impact—Town of Mammoth Lakes

As indicated, the fiscal impact analysis for the Town of Mammoth Lakes uses their existing fiscal impact model. As part of the updated master plan, the Town created this model to estimate long-term effects for the build-out scenario. To measure the potential long-term effects of airport expansion, the build-out scenario has been used as a baseline model because there is no specific target date set for the realization of build-out conditions. Since the estimate of economic impacts associated with proposed airport improvements is based on change from a no-action option, using the existing model as a baseline conditions estimate allows for a specific calculation of fiscal impacts as a function of available airport access.

Application of the fiscal impact model relies on the output of the development forecasts linked to airport service improvements. This output includes changes in the number of housing units by type, change in the number of housing units, increased employment, and change in the estimated commercial development as shown in Table 40. Coupled with the projected increase in housing units and lodging units located in the Town, these additions to the development base comprise the inputs to the Town's fiscal model. Using these values as input to the fiscal impact model, the results indicate a positive cash flow condition.

The fiscal impact model used by the Town of Mammoth Lakes applies future tax rates to potential changes in commercial and residential development. The inputs used to determine the possible effects of proposed improvements at Mammoth Yosemite Airport are based on the projected changes in commercial and residential development associated with the expected change in employment and population. As shown in Table 40, total additional commercial development allocated to the Town is nearly 246,000 square feet in 2017. As shown, the steps used to reach this estimate are based on average square feet per employee attributed to existing development patterns. Using the distribution of employment by sub area coupled with existing commercial square footage in the Town generates a percentage applied to future increases. As a result, just 840 additional employees are projected for the Town. At an average of nearly 293 square feet per employee, this additional employment translates to nearly 246,000 square feet of additional commercial development.

As indicated in Table 40, the net change in revenues is estimated at nearly $2.95 million; the net change in expenditures is nearly $1.82 million. The net positive cash flow change is therefore nearly $1.14 million, resulting in a fiscal impact ratio of 1.63. The net positive effect does not resolve the overall long-term issue for the Town of potential fiscal difficulties, but it does indicate that long-term effects for the Town attributed to proposed improvements at the airport are positive.

## Fiscal Impact—Remainder of Mono County

As indicated previously, Mono County does not have access to a fiscal impact model. As a result, the process used to estimate potential long-term fiscal effects of projected increased development activity is based on per capita estimates using the last actual budget for the county. Total revenues and expenditures are allocated to a percentage of population and employment for major budget categories as shown in Tables 41 and 42. Existing total population and employment are then used to calculate average per capita revenues and expenditures. These averages are then applied to projected increases in population and employment as shown in Table 42. Based on these averages, the net benefit to the remainder of Mono County is

estimated at just over $1.03 million with a revenue/expenditure ratio of 1.23, excluding special funds. Special funds are normally self-sufficient over time and not based on per capita revenues and expenses. Population figures used in the analysis for the unincorporated area of Mono County are based on data from the California Department of Finance.

### Fiscal Impact—City of Bishop

The City of Bishop in Inyo County is an independent jurisdiction with its own budget. Using the same techniques applied in the Mono County calculation, the fiscal impact of the projected change in population and employment linked to the airport improvement project is a net loss of just over $266,000 and a revenue/expenditure ratio of 0.80 (Tables 44-46).

The primary reason for the loss outcome is the use of current expenditure patterns to projected future impacts. The last complete fiscal year for the City of Bishop resulted in a net loss of nearly $1.16 million that had to be drawn from previous budget reserves. As a result, the average per capita expenditures were greater than average per capita incomes. What the fiscal impact analysis indicates is that change in the projected 2017 population and employment in the city are not substantial and, in the long-term, would most likely not have a significant impact on fiscal conditions. Availability of affordable housing within the city's limits would continue to be a problem independent of the changes attributed to the airport improvement program. In general, however, the impacts resulting from a distribution of employment and population to the city would not improve fiscal conditions. Population figures used in the analysis for the City of Bishop are based on data from the California Department of Finance.

### Fiscal Impact—Remainder of Inyo County

The fiscal impacts for the remainder of Inyo County are determined in the same manner as those for the remainder of Mono County. As shown in Table 47, Inyo County also experienced a net deficit of just over $4.15 million during the last full fiscal year, but on the average the distribution of average costs and revenues as a function of changes in population and employment result in a net benefit over the long term. The estimated net change is a positive $4.16 million with a revenue/expenditure ratio of 1.35 (Tables 48 and 49).

Population figures used in the analysis for the unincorporated area of Inyo County are based on data from the California Department of Finance.

## *Summary—Fiscal Impacts*

The fiscal impact analysis indicates that the long-term impacts of development linked to proposed improvements at Mammoth Yosemite Airport are expected to be positive for each of the jurisdictions except the City of Bishop. The benefits that are shown are most pronounced in the Town of Mammoth Lakes, but only as a function of Town's ability to absorb the increased economic activity beyond that which would otherwise occur. In general, the overall effect on fiscal conditions is not expected to be significant except in terms of a potential increase in the demand for affordable housing along with services linked to that increase. Availability of affordable housing remains a concern for the entire region with or without the airport improvement program. The airport improvement program is projected to create economic value for the region. It remains for the jurisdictions to consider and implement effective policies to capture a portion of that increased economic value in support housing programs necessary for realization of that increase.

The fiscal impact analysis also demonstrates that the primary benefit from potential for increased economic activity associated with the proposed improvements to Mammoth Yosemite Airport will occur in and around the Town of Mammoth Lakes. The major center of attraction is located in the town, and that center of activity will continue to capture a major portion of the estimated increase in economic value. The higher potential fiscal impact ratio for the town in comparison to that projected for the other three jurisdictions indicates that the higher value improvements will continue to concentrate in the area of the town. Support services linked to additional population and service retail locating outside of the Town will tend to concentrate in those areas where additional housing development could occur. That development pattern will generally be associated with service sector support at lower economic value than those sectors concentrating in the Town area. The indicated hierarchy of development activity is consistent with the lower fiscal impact ratios projected for the remainder of Mono County, the unincorporated areas of Inyo County, and the City of Bishop.

The variation in fiscal impact ratios appears to indicate and reinforce the conclusion that the proposed airport improvement can contribute to an increase in the economic viability of a resort industry centered on the Town of Mammoth by increasing accessibility to the region. Additional activity in the outlying areas is consistent with the need for increased service sector and hospitality sector support, but that additional activity is less highly valued economically than the primary activities associated with the resort center. The result is a small enhancement to the outlying areas in terms of fiscal effects, except in the City of Bishop. Bishop is currently experiencing a short-fall in the revenue/expense ratio, and that short-fall would most likely affect the realization of benefits in the future, if changes in the local tax and revenue structure are not implemented in the interim.

The analysis also concludes that the primary concentration of economic benefits from the most valued components of the economy would most likely occur in the areas where attractions are most dominant. The area around the Town of Mammoth Lakes would continue to capture its share of increased economic activity within the constraints of land availability, land use policy, and related development costs. While the components of greatest value would concentrate in that area, additional economic activity would spin off into the surrounding environments, including the remainder of Mono County and into Inyo County. Primary components resulting from an overflow would include additional housing and service sector support elements into areas that can accommodate affordable housing and the population that follows that demand. Provision of affordable housing will continue to be a concern, with the expected growth associated with sectors of the economy that do not generate annual wages sufficient to purchase housing in the high-valued areas of the region. Alternative locations for the airport would tend to shift support development to the alternative locations; however, the primary components of linked economic growth and development would continue to occur in and around the Town of Mammoth Lakes in support of the activity center that draws patrons to the region.

# VI: Economic Impacts of Construction

The last section of the economic impact analysis addresses the short-term effects of construction. Economic impacts of construction are primarily limited to the specific period of time during which construction expenditures occur and represent an infusion of capital into the local economy. The extent to which a specific region benefits from this infusion of capital is a function of the ability of the local economy to provide both the labor and supplies required during construction. Where that ability is limited, economic effects leak out of the region into surrounding areas where additional capability exists. Construction costs would be similar for both Mammoth Yosemite Airport build alternatives. Construction costs for a build alternative at Eastern Sierra Regional Airport in Bishop have not yet been derived but would be similar to those estimated for Mammoth Yosemite.

The analysis that follows addresses both the overall estimate of construction impacts and the amount of economic benefits that might accrue to counties outside of the two-county impact area. The set of tables included presents the results of the economic impact analysis of proposed airport construction. This analysis is based on the construction cost estimate for the various components making up the proposed improvement project, including runway construction, taxiway improvements, aprons, and terminal facilities along with the equipment necessary to service these facilities. As shown in Table 50, estimated capital cost of construction for the 19 project components is expected to reach nearly $32.8 million with additional engineering and architecture costs of nearly $8.5 million. Total project costs are estimated at $41.28 million, all expressed in 2004 constant dollars.[163] As indicated, project costs include all components—from the supplemental environmental studies, runway and taxiway improvements, parking lots, holding aprons, the terminal building, and other support facilities. The total construction costs are used as the direct component of the total output presented as Tables 51 and 53. Total construction costs are the basis for application of the input-output model used to calculate overall industry output, value added, employment, employee compensation, and various components of tax revenue. Each of these outputs is shown in the tables that follow.[164]

Economic impact in terms of employment and value are shown in Tables 52 through 59. Total output for the construction expenditures is estimated at $59 million (Table 53). Total value added is nearly $30 million (Table 54), with employee compensation expected to reach nearly $19 million (Table 55). Total taxes generated by the infusion of capital are expected to reach just over $8.2 million (Table 58). Total employment is projected at just fewer than 750 jobs (Table 52). All economic values are measured in 2004 dollars.

Unlike long-term economic impacts, impacts generated by construction activities generally occur only during the construction period. In addition, a significant portion of the economic benefits attributed to construction leak out of the study region encompassing Mono and Inyo counties because of the lack of an extensive construction industry with experience related to airport construction activities. The impacts measured and reported in the following tables represent that component captured within the study area. Broader short-term economic impacts experienced in outlying counties during the period of construction are outside the scope of this analysis.

Based on the estimated period of construction, the overall benefits would occur as a function of the percentage distribution of expenditures over that timeframe. Preparing the analysis in constant 2004 dollars avoids a subsequent need to escalate costs as a function of the actual start and completion date of construction activities.

As indicated previously, economic impacts of construction generally occur in the year in which expenditures are made. The disposition of impacts over time is therefore a function of the percentage distribution of construction costs based on the program implementation schedule. Since all impact measures are presented in constant 2004 dollars, the measured impacts can be distributed over time as a function of the build-out schedule as soon as that schedule is known. The total impacts, in terms of jobs as well as value, remain the same.

## *Regional Economic Leakage*

The two-county study area that includes Mono and Inyo counties represents a major portion of the broader area that will contribute to the airport construction program with respect to employment and other measures of economic impact. The two counties, however, have only limited resources to allocate to the construction program because of limited experience in comparable construction activities historically. The number of companies located in the two-county region with experience in related construction activities is limited, and the resulting multiplier effects illustrated in Table 51 show this existing limitation. As derived from the two-county summary table 5, the multiplier effects within the two-county impact area from implementation of the construction program are relatively small, averaging 1.45 for employment, 1.43 for total output, and 1.55 for value added. These ratios characterize an economy where additional resources are required from outside the region to implement the proposed improvement program. The need to bring in outside resources means that a portion of estimated economic benefits attributed to the construction program "leak" out of the study area to a broader region.

In the case of long-term impacts, the situation is generally different. The resulting impacts are predominantly captured within the two-county study area because the resources exist historically to capture potential economic benefits. In this case, the primary economic sectors already existing within the two-county area are those that are most prone to experience long-term benefits from the proposed improvements.

To test the potential extent of leakage of economic benefits attributed to construction of the proposed airport improvement program, the economic effects of direct expenditures represented by the estimated costs were tested within a broader seven-county region. This broader region adds five counties to the primary impact area for the purpose of extending the analysis: Los Angeles County, Tulare, Kings, San Bernadino, and Kern. These counties represent a region that has the potential to contribute significantly to the contracting activities associated with construction of the proposed improvements at Mammoth Yosemite Airport.[165] Although they may not be the only external counties that experience some economic impacts attributed to the proposed improvement program, they represent a significant additional area that could contribute resources required to implement the construction project. Total impacts generated within the seven-county area are shown in Table 59 along with the estimated leakage beyond Mono and Inyo counties.

As shown in Table 59, the broader seven-county region would experience approximately the same total number of jobs, and could generate additional total output exceeding $21.8 million, along with a $14.1 million increase in value added. Additional employee compensation could reach nearly $8.6 million, and additional taxes could reach $3.9 million. For this broader impact region, multipliers increase to 1.83 for employment, 1.96 for total output, and 2.10 for value added. These higher multipliers are more representative of a primary impact area when measuring economic impacts of construction expenditures. As a result of the comparison, possible economic leakage from the two-county study area is illustrated comparatively in Figure 29.

## Glossary

The following are definitions for terms used throughout the impact valuation analysis. These terms refer to the various reports produced as part of the IMPLAN modeling effort in measuring the potential value of long-term economic impacts of proposed improvements at Mammoth Yosemite Airport.[166]

*Total Output*

Total Output, or Industry Output, is a single number reported in dollars for each industry included in the analysis. These dollars represent the value of an industry's total production. In this analysis, output is reported by industry sectors, and broken down as direct, indirect, and induced. Output can be defined either as the total value of purchases by intermediate and final consumers, or by intermediate outlays plus value-added. Output can also be thought of as a value of sales plus or minus inventory.

*Employment*

Employment is reported as a single number of jobs for each industry. Data can be reported for individual industries or aggregated into categories. In this analysis, employment data is reported as an aggregated output. Employment includes total wage and salary employees as well as self-employed jobs in a defined region. It includes both full-time and part-time workers and is measured in annual average jobs. The IMPLAN database for the two counties included in the model (Mono and Inyo Counties) draws on three primary data sets: The ES202 data (Unemployment Insurance Covered Employment and Wages Program from the Bureau of Labor Statistics, U.S. Department of Labor), the Regional Economic Information System from the Bureau of Economic Analysis of the Department of Commerce (R.E.I.S.), and County Business Patterns from the U.S. Department of Census.

*Value Added*

There are four subcomponents of *value-added*:

1. Employee Compensation,
2. Proprietary Income,
3. Other Property Type Income, and
4. Indirect Business Taxes.

*Employee compensation* describes the total payroll costs of each industry used in the analysis. It includes wages and salaries of workers who are paid by employers, as well as benefits such as health and life insurance, retirement payments, and non-cash compensation. Employee compensation is derived for each reported industry from ES202 and REIS data.

*Proprietary income* consists of payments received as income by self-employed individuals. Any income received for payment of self-employed work, as reported on Federal tax forms, is counted in this category. Totals include income received by private business owners, doctors, lawyers, and other similar business activities.

*Labor income* is the combination of employee compensation and proprietary income.

*Other property type income* consists of payments for rents, royalties, and dividends. Payments to individuals in the form of rents received on property, royalties from

contracts, and dividends paid by corporations are included in this category as well as corporate profits earned by corporations.

*Indirect business taxes* consist of excise taxes, property taxes, fees, licenses, and sales taxes paid by businesses. These taxes occur during the normal operation of businesses but do not include taxes on profit or income. Baseline indirect business taxes for the affected jurisdictions are derived from U.S. Bureau of Economic Analysis Gross State Product data.

*Total Taxes*

As shown in the Tax Impact table included in the analysis, total taxes include estimates of all taxes paid by households and businesses at the Federal, State, and Local levels. These taxes include corporate taxes, taxes based on proprietary income, personal taxes based on household income, and indirect business taxes generated in the course of doing business as defined above. Total taxes are initially reported in the year determined by the initial IMPLAN model data inputs—in this case that year was 2001. The only IMPLAN category that can be measured in terms of individual external reporting years is the Indirect Business Taxes category. As a result, analysis of this category is first reported for both 2001 and 2004 to determine an estimated inflation ratio. That estimated ratio is then applied to the total tax output as an approximation of the total 2004 tax impact. Individual categories within the tax analysis are not subject to the same average inflation ratios, but the application of the ratio measured for the Indirect Business Tax category represents a reasonable estimate of expected escalation.

## Table 1: Forecast Annual Enplanements--Mammoth Yosemite Airport 2007-20017

| Average Day and Peak Hour Projections | 2007 | 2012 | 2017 |
|---|---|---|---|
| *Annual Enplanements* | 29,300 | 136,800 | 167,100 |
| Peak Month | 8,500 | 27,400 | 33,400 |
| Average Day | 280 | 900 | 1,100 |
| Peak Hour | 280 | 320 | 360 |
| | | | |
| *Aircraft Departures* | | | |
| Air Carriers | | | |
| Annual | 370 | 1,335 | 1,524 |
| Peak Month | 70 | 270 | 300 |
| Average Day | 2.3 | 8.9 | 9.8 |
| Peak Hour | 2.3 | 2.5 | 2.8 |
| Regional/Commuters | | | |
| Annual | 0 | 530 | 606 |
| Peak Month | 0 | 110 | 120 |
| Average Day | 0 | 3.6 | 3.9 |
| Peak Hour | 0 | 1.1 | 1.2 |
| General Aviation and Military | | | |
| Annual | 3,825 | 4,475 | 5,175 |
| Peak Month | 570 | 670 | 780 |
| Average Day | 18.7 | 22 | 25.6 |
| Peak Hour | 2.8 | 3.3 | 3.8 |

Source: “Updated Forecast of Aviation Demand—Final Report, Mammoth Yosemite Airport,” Prepared for The Town of Mammoth Lakes by Ricondo & Associates, Inc., May 2004, Table 28, p. 36.

## Table 2: City/County Population and Housing Estimates—January 2004

*Mono and Inyo Counties*

| COUNTY/CITY | POPULATION | | | HOUSING UNITS | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | -------- SINGLE -------- | | ----- MULTIPLE ----- | | | | | |
| | TOTAL | HOUSE-HOLD | GROUP QUARTERS | TOTAL | DETACHED | ATTACHED | 2 TO 4 | 5 PLUS | MOBILE HOMES | OCCUPIED | PCT VACANT | PERSONS PER HOUSE-HOLD |
| **INYO COUNTY** | | | | | | | | | | | | |
| BISHOP | 3,632 | 3,555 | 77 | 1,873 | 843 | 78 | 262 | 323 | 367 | 1,690 | 9.77% | 2.104 |
| | | | | | | | | | | | | |
| BALANCE OF COUNTY | 14,883 | 14,678 | 205 | 7,274 | 4,653 | 134 | 145 | 145 | 2,197 | 6,102 | 16.11 | 2.405 |
| INCORPORATED | 3,632 | 3,555 | 77 | 1,873 | 843 | 78 | 262 | 323 | 367 | 1,690 | 9.77 | 2.104 |
| | | | | | | | | | | | | |
| COUNTY TOTAL | 18,515 | 18,233 | 282 | 9,147 | 5,496 | 212 | 407 | 468 | 2,564 | 7,792 | 14.81 | 2.340 |
| | | | | | | | | | | | | |
| **MONO COUNTY** | | | | | | | | | | | | |
| MAMMOTH LAKES | 7,472 | 7,254 | 218 | 8,683 | 2,241 | 1,003 | 1,758 | 3,488 | 193 | 3,069 | 64.66 | 2.364 |
| | | | | | | | | | | | | |
| BALANCE OF COUNTY | 6,048 | 5,968 | 80 | 4,176 | 2,760 | 256 | 307 | 74 | 779 | 2,556 | 38.79 | 2.335 |
| INCORPORATED | 7,472 | 7,254 | 218 | 8,683 | 2,241 | 1,003 | 1,758 | 3,488 | 193 | 3,069 | 64.66 | 2.364 |
| | | | | | | | | | | | | |
| COUNTY TOTAL | 13,520 | 13,222 | 298 | 12,859 | 5,001 | 1,259 | 2,065 | 3,562 | 972 | 5,625 | 56.26 | 2.351 |
| | | | | | | | | | | | | |
| **TWO COUNTIES** | | | | | | | | | | | | |
| BISHOP + MAMMOTH LAKES | 11,104 | 10,809 | 295 | 10,556 | 3,084 | 1,081 | 2,020 | 3,811 | 560 | 4,759 | 54.92% | 2.271 |
| | | | | | | | | | | | | |
| BALANCE OF COUNTIES | 20,931 | 20,646 | 285 | 11,450 | 7,413 | 390 | 452 | 219 | 2,976 | 8,658 | 24.38% | 2.385 |
| INCORPORATED | 11,104 | 10,809 | 295 | 10,556 | 3,084 | 1,081 | 2,020 | 3,811 | 560 | 4,759 | 54.92% | 2.271 |
| | | | | | | | | | | | | |
| **2-COUNTY TOTAL** | **32,035** | **31,455** | **580** | **22,006** | **10,497** | **1,471** | **2,472** | **4,030** | **3,536** | **13,417** | **39.03%** | **2.344** |

Source: http://www.dof.ca.gov/HTML/DEMOGRAP/repndat.htm#estimates; The SGM Group, Inc.

## Table 3: Proposed Large-Scale Development Activity 2004

| SUBDIVISION/PROJECT | 2004 | 2005 | 2006+ | TOTAL |
|---|---|---|---|---|
| ***Town of Mammoth Lakes*** | | | | |
| Snow Creek | | | | |
| • Residential (units) | | 30 | 1,451 | 1,481 |
| • Commercial (sq. ft.) | | | 120,000 | 120,000 |
| *Intrawest* | | | | |
| • Residential (units) | 189 | 175 | 1,833 | 2197 |
| • Commercial (sq. ft.) | 4,600 | 11,000 | 29,500 | 45,100 |
| *Ward Jones* | | | | |
| • Residential (units) | | | 200 | 200 |
| *80/50 Condominiums* | | 45 | 105 | 150 |
| *Dempsey- North Village* | | | 125 | 125 |
| *Mammoth lakes Housing, Inc. Old Mammoth Road* | | | 96 | 96 |
| *Mammoth Lakes Housing II* | | | *24* | *24* |
| *Subtotal – Town of Mammoth Lakes (units)* | *189* | *250* | *3834* | *4273* |
| *Subtotal – Town of Mammoth Lakes Commercial (sq. ft.)* | *4,600* | *11,000* | *149,500* | *165,100* |
| | | | | |
| ***Mono County*** | | | | |
| • June Lake Intrawest (residential units) | | | 754 | 754 |
| • June Lake Intrawest - (commercial square feet) | | | 14,500 | 14,500 |
| • Lake Ridge Estates | | | 118 | 118 |
| • Paradise Community | | | 50 | 50 |
| • Chalfont | | | 53 | 53 |
| • White Mountain Estates | | | 57 | 57 |
| • King Lake | | | 50 | 50 |
| • Crowley Lake | | | 48 | 48 |
| *Subtotal Mono County (units)* | | | *1,130* | *1,130* |
| *Subtotal Mono County Commercial (sq. ft.)* | | | *14,500* | *14,500* |
| | | | | |
| ***Inyo County*** | | | | |
| • Pine Creek (units) | | | 189 | 189 |
| • Mesta Mesa (units) | | | 117 | 117 |
| • 10-acre home sites | | | 64 | 64 |
| Subtotal Inyo County | | | 370 | 370 |
| **Total Residential Units Planned – Two County Area** | **189** | **250** | **5,334** | **5,773** |
| **Total Commercial Square Feet – Two County Area** | **4,600** | **11,000** | **164,000** | **179,600** |

Source: County of Mono Community Development Department; Mammoth Lakes Housing, Inc,; Inyo County Planning Department; Intrawest Resort Development Group; Dempsey Construction and Real Estate Development Consulting; and The SGM Group, Inc., field interviews, summer 2004.

## Table 4: Two-County Commercial/Industrial Development—August 2004

| COMMERCIAL/INDUSTRIAL SPACE | TOTAL (SQ. FT.) |
|---|---|
| ***Inyo County*** | 3,206,000 |
| *(Includes City of Bishop)* | |
| | |
| *Unincorporated Mono County* | |
| • June Lake Area | 104,500 |
| • Crowley Lake Area | 16,500 |
| • Long Valley Area | 702,500 |
| *Subtotal Unincorporated Mono County* | *823,500* |
| *Estimated Additional Square Feet on other areas of Mono County* | *923,600* |
| *Estimated total for Mono County* | *2,930,000* |
| | |
| ***Town of Mammoth Lakes*** | *1,183,000* |
| | |
| **Total—Two County Area** | **6,136,000** |

Source: Town of Mammoth Lakes, Community Development Department, County of Inyo Office of Assessor, City of Bishop - Planning Office, Long Valley Fire Protection District Development Impact Fee Calculation and Nexus Report, June Lake Fire Protection District Development Fee Calculation and Nexus Report, March 2003; and The SGM Group, Inc.

## Table 5: Average Annual Wages—Mono County 2001-2002

| Sector | 2001 Average Annual Income | 2002 Average Annual Income |
|---|---|---|
| Wage and salary disbursements | $24,914 | $26,566 |
| Nonfarm earnings | $27,793 | $29,231 |
| Private earnings | $24,111 | $25,151 |
| Construction | $35,497 | $36,921 |
| Manufacturing | D | $23,806 |
| Wholesale trade | D | $17,930 |
| Retail trade | $23,160 | $24,776 |
| Transportation and warehousing | $19,412 | D |
| Information | $19,212 | $23,310 |
| Finance and insurance | $25,500 | $30,200 |
| Real estate and rental and leasing | $25,827 | $26,264 |
| Arts, entertainment, and recreation | $11,203 | $10,940 |
| Accommodation and food services | $22,184 | $23,278 |
| Other services, except public administration | $19,514 | $21,176 |
| Government and government enterprises | $45,677 | $49,803 |
| Federal, civilian | $60,833 | $64,475 |
| Military | $44,593 | $46,042 |
| State and local | $43,487 | $48,062 |
| State government | $30,924 | $38,773 |
| Local government | $44,913 | $48,438 |

Source: REIS, Bureau of Economic Analysis, May 2004; The SGM Group, Inc.

Notes:

All state and local area dollar estimates are in current dollars (not adjusted for inflation).

E – The estimate shown here constitutes the major portion of the true estimate.

(D) Not shown to avoid disclosure of confidential information, but the estimates for this item are included in the totals.

(L) Less than $50,000, but the estimates for this item are included in the totals.

(N) Data not available for this year.

## Table 6: Mammoth Skier Days—1986-2004

| Season/Year | Mammoth | June | Total |
|---|---|---|---|
| **1980-81** | 983,979 | | |
| **1981-82** | 1,359,376 | | |
| **1982-83** | 1,259,160 | | |
| **1983-84** | 1,280,798 | | |
| **1984-85** | 1,230,750 | | |
| **1985-86** | 1,428,958 | | |
| **1986-87** | 697,457 | 85,476 | **782,933** |
| **1987-88** | 1,143,133 | 81,146 | **1,224,279** |
| **1988-89** | 1,065,313 | 93,986 | **1,159,299** |
| **1989-90** | 1,011,915 | 68,213 | **1,080,128** |
| **1990-91** | 484,350 | 26,036 | **510,386** |
| **1991-92** | 918,114 | 60,212 | **978,326** |
| **1992-93** | 935,928 | 59,831 | **995,759** |
| **1993-94** | 731,850 | 38,829 | **770,679** |
| **1994-95** | 976,391 | 84,626 | **1,061,017** |
| **1995-96** | 813,153 | 66,669 | **879,822** |
| **1996-97** | 800,982 | 64,646 | **865,628** |
| **1997-98** | 901,729 | 66,109 | **967,838** |
| **1998-99** | 908,618 | 51,120 | **959,738** |
| **1999-2000** | 895,293 | 33,766 | **929,059** |
| **2000-2001** | 1,122,082 | 34,033 | **1,156,115** |
| **2001-2002** | 1,154,441 | 59,751 | **1,214,192** |
| **2002-2003** | 1,284,110 | 81,691 | **1,365,801** |
| **2003-2004** | 1,310,107 | 89,536 | **1,399,643** |

Source: Mammoth Mountain, November 2004.

## Table 7: Yosemite National Park Visitors—1992-2003

| Year | Yosemite Visitors |
|---|---|
| **1992** | 3,952,495 |
| **1993** | 3,983,749 |
| **1994** | 4,105,755 |
| **1995** | 4,102,264 |
| **1996** | 4,190,557 |
| **1997** | 3,801,397 |
| **1998** | 3,792,754 |
| **1999** | 3,648,384 |
| **2000** | 3,550,065 |
| **2001** | 3,517,194 |
| **2002** | 3,468,174 |
| **2003** | 3,475,315 |

Source: Park Manager, Yosemite National Park, 8/25/2004.

**Table 8: Housing Characteristics—Two-County Study Area 2000-2004**

| Housing Distribution | | 2000 | 2001 | 2002 | 2003 | 2004 |
|---|---|---|---|---|---|---|
| | | | | | | |
| Bishop | Single Detached | 843 | 848 | 847 | 845 | 843 |
| | Single Attached | 76 | 76 | 78 | 78 | 78 |
| | 2-4 Unit | 262 | 262 | 262 | 262 | 262 |
| | 5 Plus | 323 | 323 | 323 | 323 | 323 |
| | Mobile Homes | 363 | 363 | 366 | 367 | 367 |
| | | | | | | |
| Unincorporated Inyo | Single Detached | 4,602 | 4,617 | 4,626 | 4,644 | 4,653 |
| | Single Attached | 134 | 134 | 134 | 134 | 134 |
| | 2-4 Unit | 145 | 145 | 145 | 145 | 145 |
| | 5 Plus | 145 | 145 | 145 | 145 | 145 |
| | Mobile Homes | 2,149 | 2,149 | 2,171 | 2,171 | 2,197 |
| | | | | | | |
| Mammoth Lakes | Single Detached | 2,123 | 2,171 | 2,204 | 2,204 | 2,241 |
| | Single Attached | 965 | 965 | 965 | 1,003 | 1,003 |
| | 2-4 Unit | 1,540 | 1,600 | 1,668 | 1,712 | 1,758 |
| | 5 Plus | 3,139 | 3,221 | 3,282 | 3,306 | 3,488 |
| | Mobile Homes | 193 | 193 | 193 | 193 | 193 |
| | | | | | | |
| Unincorporated Mono | Single Detached | 2,474 | 2,485 | 2,500 | 2,512 | 2,760 |
| | Single Attached | 210 | 225 | 225 | 256 | 256 |
| | 2-4 Unit | 296 | 300 | 304 | 307 | 307 |
| | 5 Plus | 74 | 74 | 74 | 74 | 74 |
| | Mobile Homes | 743 | 754 | 761 | 779 | 779 |
| | | | | | | |
| | **Total Units** | **20,799** | **21,050** | **21,273** | **21,460** | **22,006** |
| | **Total Occupied** | **12,840** | **12,950** | **13,059** | **13,146** | **13,417** |
| | **% Vacant** | **38.27%** | **38.48%** | **38.61%** | **38.74%** | **39.03%** |

Source: The SGM Group, Inc.; California Department of Finance, Demographic Research Division.

## Table 9: Development Activity, by Use, Inyo County, 1999-2003

*(In square feet)*

| JURISDICTION | 1999 | 2000 | 2001 | 2002 | 2003 |
|---|---|---|---|---|---|
| *Inyo Co* | | | | | |
| Residential | 104,068 | 108,498 | 87,289 | 85,266 | 70,510 |
| Commercial/Industrial | 27,357 | 203,537 | 23,710 | 13,352 | 38,350 |
| Motel | 34,096 | 15,502 | 0 | 0 | 0 |
| *Total* | *165,521* | *327,537* | *110,999* | *98,618* | *108,860* |
| | | | | | |
| *City of Bishop* | | | | | |
| Residential | 1,995 | 5,498 | 4,547 | 4,446 | 0 |
| Commercial/Industrial | 105,462 | 0 | 3,100 | 0 | 0 |
| *Total* | *107,457* | *5,498* | *7,647* | *4,446* | *0* |
| | | | | | |
| **Total** | **272,978** | **333,035** | **118,646** | **103,064** | **108,860** |

Source: County of Inyo Office of Assessor, City of Bishop – Planning; and The SGM Group, Inc.

## Table 10: Output, Value Added and Employment—Mono County 2001

| Industry | Industry Output* | Employment | Employee Compensation* | Proprietor Income* | Other Property Income* | Indirect Business Tax* | Total Value Added* |
|---|---|---|---|---|---|---|---|
| 11 Ag, Forestry, Fish & Hunting | $5.37 | 121.51 | $0.22 | -$0.95 | $0.71 | $0.11 | $0.09 |
| 21 Mining | $4.15 | 17.81 | $0.87 | $0.00 | $0.17 | $0.23 | $1.27 |
| 22 Utilities | $1.14 | 58.22 | $0.16 | $0.13 | $0.33 | $0.12 | $0.74 |
| 23 Construction | $78.78 | 928.07 | $23.89 | $8.52 | -$2.59 | $0.63 | $30.45 |
| 31-33 Manufacturing | $8.51 | 65.69 | $1.58 | $0.12 | $1.39 | $0.20 | $3.29 |
| 42 Wholesale Trade | $0.90 | 99.84 | $0.19 | $0.01 | $0.05 | $0.10 | $0.35 |
| 48-49 Transportation & Warehousing | $2.60 | 37.98 | $1.10 | $0.03 | $0.15 | $0.01 | $1.29 |
| 44-45 Retail trade | $50.00 | 1,061.14 | $19.06 | $3.16 | $2.31 | $5.25 | $29.79 |
| 51 Information | $6.43 | 81.04 | $1.49 | $0.28 | $0.62 | $0.11 | $2.50 |
| 52 Finance & insurance | $10.54 | 117.09 | $2.28 | $0.20 | $2.97 | $0.20 | $5.65 |
| 53 Real estate & rental | $93.29 | 901.72 | $10.48 | $4.33 | $40.55 | $10.70 | $66.07 |
| 54 Professional- scientific & tech svcs | $24.41 | 469.07 | $10.82 | $2.93 | $4.23 | $0.18 | $18.17 |
| 55 Management of companies | $0.89 | 36.11 | $0.03 | $0.00 | $0.00 | $0.00 | $0.03 |
| 56 Administrative & waste services | $8.39 | 134.81 | $2.91 | $0.49 | $1.06 | $0.26 | $4.72 |
| 61 Educational svcs | $0.52 | 103.30 | $0.06 | $0.00 | $0.04 | $0.00 | $0.11 |
| 62 Health & social services | $13.23 | 218.36 | $6.20 | $1.23 | $1.75 | $0.10 | $9.28 |
| 71 Arts- entertainment & recreation | $7.03 | 245.06 | $2.11 | $0.86 | $0.83 | $0.30 | $4.10 |
| 72 Accommodation & food services | $138.29 | 2,571.40 | $40.01 | $14.34 | $17.05 | $9.92 | $81.32 |
| 81 Other services | $23.99 | 444.15 | $5.74 | $1.39 | $4.44 | $0.66 | $12.24 |
| 92 Government | $124.31 | 1,789.64 | $78.82 | $0.00 | $30.13 | $3.60 | $112.55 |
| **Totals** | **$602.76** | **9,502.00** | **$208.02** | **$37.07** | **$106.20** | **$32.70** | **$384.00** |

*Millions of dollars
Source: BEA, IMPLAN, and The SGM Group, Inc.

## Table 11: Percentage Distribution by Economic Sector—Mono County 2001

| Industry | Industry Output | Employment | Employee Compensation | Proprietor Income | Other Property Income | Indirect Business Tax | Total Value Added |
|---|---|---|---|---|---|---|---|
| 11 Ag, Forestry, Fish & Hunting | 0.89% | 1.28% | 0.10% | -2.57% | 0.67% | 0.35% | 0.02% |
| 21 Mining | 0.69% | 0.19% | 0.42% | 0.00% | 0.16% | 0.70% | 0.33% |
| 22 Utilities | 0.19% | 0.61% | 0.08% | 0.34% | 0.31% | 0.37% | 0.19% |
| 23 Construction | 13.07% | 9.77% | 11.48% | 22.97% | -2.44% | 1.94% | 7.93% |
| 31-33 Manufacturing | 1.41% | 0.69% | 0.76% | 0.34% | 1.31% | 0.61% | 0.86% |
| 42 Wholesale Trade | 0.15% | 1.05% | 0.09% | 0.03% | 0.05% | 0.31% | 0.09% |
| 48-49 Transportation & Warehousing | 0.43% | 0.40% | 0.53% | 0.08% | 0.14% | 0.03% | 0.34% |
| 44-45 Retail trade | 8.30% | 11.17% | 9.16% | 8.53% | 2.18% | 16.07% | 7.76% |
| 51 Information | 1.07% | 0.85% | 0.72% | 0.76% | 0.59% | 0.34% | 0.65% |
| 52 Finance & insurance | 1.75% | 1.23% | 1.10% | 0.53% | 2.80% | 0.60% | 1.47% |
| 53 Real estate & rental | 15.48% | 9.49% | 5.04% | 11.69% | 38.18% | 32.73% | 17.21% |
| 54 Professional- scientific & tech svcs | 4.05% | 4.94% | 5.20% | 7.92% | 3.99% | 0.56% | 4.73% |
| 55 Management of companies | 0.15% | 0.38% | 0.01% | 0.00% | 0.00% | 0.00% | 0.01% |
| 56 Administrative & waste services | 1.39% | 1.42% | 1.40% | 1.31% | 1.00% | 0.79% | 1.23% |
| 61 Educational svcs | 0.09% | 1.09% | 0.03% | 0.01% | 0.03% | 0.01% | 0.03% |
| 62 Health & social services | 2.20% | 2.30% | 2.98% | 3.31% | 1.64% | 0.31% | 2.42% |
| 71 Arts- entertainment & recreation | 1.17% | 2.58% | 1.02% | 2.31% | 0.78% | 0.93% | 1.07% |
| 72 Accommodation & food services | 22.94% | 27.06% | 19.23% | 38.69% | 16.06% | 30.32% | 21.18% |
| 81 Other services | 3.98% | 4.67% | 2.76% | 3.75% | 4.18% | 2.03% | 3.19% |
| 92 Government | 20.62% | 18.83% | 37.89% | 0.00% | 28.37% | 11.01% | 29.31% |
| **Totals** | **100.00%** | **100.00%** | **100.00%** | **100.00%** | **100.00%** | **100.00%** | **100.00%** |

Source: BEA, IMPLAN, and The SGM Group, Inc.

## Table 12: Output, Value Added and Employment—Inyo County 2001

| Industry | Industry Output* | Employment | Employee Compensation* | Proprietor Income* | Other Property Income* | Indirect Business Tax* | Total Value Added* |
|---|---|---|---|---|---|---|---|
| 11 Ag, Forestry, Fish & Hunting | $10.06 | 185.24 | $1.17 | -$1.19 | -$0.01 | $0.18 | $0.15 |
| 21 Mining | $32.16 | 182.71 | $6.05 | $0.72 | $2.12 | $0.96 | $9.86 |
| 22 Utilities | $13.26 | 107.01 | $1.79 | $1.41 | $3.91 | $1.47 | $8.57 |
| 23 Construction | $46.46 | 535.94 | $14.10 | $5.03 | -$1.53 | $0.37 | $17.98 |
| 31-33 Manufacturing | $59.85 | 244.31 | $6.95 | $0.60 | $4.77 | $0.36 | $12.67 |
| 42 Wholesale Trade | $6.81 | 114.52 | $2.37 | $0.13 | $0.62 | $1.26 | $4.39 |
| 48-49 Transportation & Warehousing | $13.70 | 184.71 | $4.42 | $0.31 | $1.41 | $0.12 | $6.26 |
| 44-45 Retail trade | $65.81 | 1,396.75 | $25.35 | $4.18 | $2.99 | $6.77 | $39.29 |
| 51 Information | $16.06 | 134.61 | $3.40 | $0.64 | $0.99 | $0.56 | $5.60 |
| 52 Finance & insurance | $10.57 | 154.97 | $2.52 | $0.10 | $4.57 | $0.15 | $7.34 |
| 53 Real estate & rental | $19.08 | 313.98 | $1.80 | $0.82 | $8.53 | $2.15 | $13.30 |
| 54 Professional- scientific & tech svcs | $21.59 | 338.58 | $9.40 | $2.56 | $3.69 | $0.30 | $15.94 |
| 55 Management of companies | $4.87 | 85.45 | $2.28 | $0.08 | $0.15 | $0.07 | $2.58 |
| 56 Administrative & waste services | $10.78 | 322.23 | $4.52 | $0.93 | $1.11 | $0.14 | $6.70 |
| 61 Educational svcs | $2.37 | 65.00 | $1.18 | $0.07 | $0.28 | $0.02 | $1.55 |
| 62 Health & social services | $33.86 | 684.15 | $14.96 | $3.44 | $3.25 | $0.20 | $21.85 |
| 71 Arts- entertainment & recreation | $5.34 | 252.10 | $1.33 | $0.54 | $0.75 | $0.24 | $2.86 |
| 72 Accommodation & food services | $67.52 | 1,608.74 | $18.64 | $7.56 | $5.19 | $4.37 | $35.75 |
| 81 Other services | $51.39 | 747.63 | $9.64 | $3.12 | $10.70 | $1.67 | $25.13 |
| 92 Government | $193.43 | 2,669.37 | $109.12 | $0.00 | $45.28 | $5.67 | $160.07 |
| **Totals** | **$684.98** | **10,328.00** | **$240.99** | **$31.07** | **$98.75** | **$27.02** | **$397.83** |

*Millions of dollars
Source: BEA, IMPLAN, and The SGM Group, Inc.

## Table 13: Percentage Distribution by Economic Sector—Inyo County 2001

| Industry | Industry Output | Employment | Employee Compensation | Proprietor Income | Other Property Income | Indirect Business Tax | Total Value Added |
|---|---|---|---|---|---|---|---|
| 11 Ag, Forestry, Fish & Hunting | 1.47% | 1.79% | 0.48% | -3.82% | -0.01% | 0.66% | 0.04% |
| 21 Mining | 4.69% | 1.77% | 2.51% | 2.33% | 2.15% | 3.56% | 2.48% |
| 22 Utilities | 1.94% | 1.04% | 0.74% | 4.52% | 3.96% | 5.45% | 2.16% |
| 23 Construction | 6.78% | 5.19% | 5.85% | 16.19% | -1.55% | 1.38% | 4.52% |
| 31-33 Manufacturing | 8.74% | 2.37% | 2.88% | 1.93% | 4.83% | 1.33% | 3.18% |
| 42 Wholesale Trade | 0.99% | 1.11% | 0.98% | 0.43% | 0.63% | 4.67% | 1.10% |
| 48-49 Transportation & Warehousing | 2.00% | 1.79% | 1.83% | 1.01% | 1.43% | 0.43% | 1.57% |
| 44-45 Retail trade | 9.61% | 13.52% | 10.52% | 13.45% | 3.03% | 25.06% | 9.88% |
| 51 Information | 2.34% | 1.30% | 1.41% | 2.07% | 1.01% | 2.06% | 1.41% |
| 52 Finance & insurance | 1.54% | 1.50% | 1.04% | 0.32% | 4.62% | 0.57% | 1.84% |
| 53 Real estate & rental | 2.79% | 3.04% | 0.75% | 2.65% | 8.64% | 7.96% | 3.34% |
| 54 Professional- scientific & tech svcs | 3.15% | 3.28% | 3.90% | 8.24% | 3.73% | 1.11% | 4.01% |
| 55 Management of companies | 0.71% | 0.83% | 0.95% | 0.27% | 0.15% | 0.26% | 0.65% |
| 56 Administrative & waste services | 1.57% | 3.12% | 1.87% | 3.00% | 1.12% | 0.52% | 1.68% |
| 61 Educational svcs | 0.35% | 0.63% | 0.49% | 0.24% | 0.29% | 0.06% | 0.39% |
| 62 Health & social services | 4.94% | 6.62% | 6.21% | 11.07% | 3.29% | 0.72% | 5.49% |
| 71 Arts- entertainment & recreation | 0.78% | 2.44% | 0.55% | 1.75% | 0.76% | 0.89% | 0.72% |
| 72 Accommodation & food services | 9.86% | 15.58% | 7.73% | 24.33% | 5.25% | 16.17% | 8.99% |
| 81 Other services | 7.50% | 7.24% | 4.00% | 10.04% | 10.83% | 6.16% | 6.32% |
| 92 Government | 28.24% | 25.85% | 45.28% | 0.00% | 45.85% | 20.97% | 40.24% |
| **Totals** | **100.00%** | **100.00%** | **100.00%** | **100.00%** | **100.00%** | **100.00%** | **100.00%** |

Source: BEA, IMPLAN, and The SGM Group, Inc.

## Table 14: Employment and Population—Two-County Study Area 1990-2004

| Year | Full and Part-Time Employment | Population |
|---|---|---|
| **1990** | 17,057 | 28,237 |
| **1991** | 16,283 | 28,356 |
| **1992** | 16,516 | 28,744 |
| **1993** | 16,948 | 29,254 |
| **1994** | 16,963 | 29,878 |
| **1995** | 17,681 | 30,044 |
| **1996** | 17,712 | 30,077 |
| **1997** | 18,016 | 30,239 |
| **1998** | 18,464 | 30,146 |
| **1999** | 18,802 | 30,557 |
| **2000** | 19,393 | 30,798 |
| **2001** | 19,830 | 30,896 |
| **2002** | 20,284 | 31,331 |
| **2003** | 20,869 | 31,554 |
| **2004** | 21,140 | 31,791 |

Source: BEA, US Department of Commerce; US Census; The SGM Group, Inc.

## Table 15: Case Study Airport Characteristics

| Airport | Aspen/Pitkin County, Sardy Field | Jackson Hole Airport | Telluride Regional | Montrose Regional | Eagle County Regional Airport | Mammoth Yosemite Airport | Eastern Sierra Regional Airport |
|---|---|---|---|---|---|---|---|
| ***Physical Characteristics*** | | | | | | | |
| **Location** | Aspen, Colorado | Jackson, Wyoming | Telluride, Colorado | Montrose, Colorado | Vail, Colorado | Mammoth Lakes, CA | Bishop, CA |
| **Number of Runways** | 1 | 1 | 1 | 1 | 1 | 1 | 3 |
| **Length and Width** | 7,006 ft. by 100 ft. | 6,300 ft. by 150 ft. | 6,870 ft. by 100 ft. | 7,500 ft. by 100 ft. | 8,000 ft. by 150 ft. | 7,000 ft. by 100 ft. | 5,566 ft. by 100 ft<br>7,498 ft. by 100 ft.<br>5,500 ft. by 100 ft. |
| **Elevation** | 7,820 ft. | 6,451 ft. | 9,078 ft. | 5,759 ft. | 6,500 ft. | 7,128 ft. | 4,120 ft. |
| **2002 Passenger Boardings** | 188,330 | 184,874 | 17,264 | 70,510 | 163,948 | --- | --- |
| **Large Certified** | 176,918 (93.9%) | 121,970 (66.0%) | --- | 27,669 (39.2%) | --- | --- | --- |
| **Small & Commuter** | 11,085 (5.9%) | 62,467 (33.8%) | 17,264 (100%) | 42,841 (60.8%) | --- | --- | --- |
| **Air Taxi** | 327 (0.2%) | 437 (0.2%) | --- | --- | --- | --- | --- |
| **FFC & In-Transit** | 0 | 0 | --- | --- | --- | --- | --- |
| ***Economic Indicators*** | | | | | | | |
| **Enplanements** | Available | Available | Available | Available | Available | No Commercial Service | No Commercial Service |
| **Lodging Occupancy Rate** | Available | Available 2004 | Available | Not applicable | Not available | Available | Not Available |
| **Tax Data** | Sales, Use, and Retail Tax | Sales, Use and Retail Tax | Sales and Use Tax | Sales and Use Tax | Sales and Use Tax | Transient Occupancy Tax | Transient Occupancy Tax |
| **National Park Visitation** | Not applicable | Available | Not applicable | Not applicable | Not applicable | Available | Available |
| **Skier Days** | Available | Available | Available | Not applicable | Available | Available | Not applicable |
| **Wastewater Flows** | Available | Available | --- | --- | --- | Available | Available |
| **Employment** | Pitkin County | Teton County | San Miguel County | Montrose County and Ouray County | Eagle County | Mono County | Inyo County |
| **Population Estimates** | Available | Available | Available | Available | Available | Available | Available |

Sources: FAA Airport Master Records (9/30/04), FAA CY 2002 Passenger Boardings at Commercial Service Airports by Type of Carrier; Hayes Planning Associates, Inc.; and The SGM Group, Inc. The analysis combines Telluride and Montrose Regional Airports into one characteristic facility.

## Table 16: Telluride and Montrose Regional Airport Case Study—Area Analysis 1993-2003

| YEAR | 3-COUNTY POPULATION | 3-COUNTY TOTAL EMPLOYMENT | 3-COUNTY SALES AND USE TAX | SKIER DAYS | ENPLANEMENTS TELLURIDE PLUS MONTROSE | ANNUAL AVERAGE OCCUPANCY RATE | AVG ANNUAL SUMMER OCCUPANCY RATES (JUNE-SEPT) | AVG. ANNUAL WINTER OCCUPANCY RATES (DEC- MARCH) | OCCUPIED ANNUAL PILLOW NIGHTS |
|---|---|---|---|---|---|---|---|---|---|
| **1993** | 34,575 | 22,175 | $4,154,573 | 300,388 | 62,004 | N/A | N/A | N/A | N/A |
| **1994** | 36,360 | 24,081 | $4,686,962 | 301,748 | 63,594 | N/A | N/A | N/A | N/A |
| **1995** | 38,157 | 25,269 | $4,812,208 | 270,916 | 59,773 | N/A | N/A | N/A | N/A |
| **1996** | 39,542 | 25,979 | $4,548,717 | 306,507 | 63,674 | N/A | N/A | N/A | N/A |
| **1997** | 40,774 | 27,296 | $4,839,694 | 375,027 | 76,668 | 38% | 45% | 58% | 632,900 |
| **1998** | 41,927 | 28,188 | $5,616,120 | 382,467 | 80,340 | 39% | 41% | 59% | 657,100 |
| **1999** | 42,925 | 29,134 | $5,728,895 | 309,737 | 94,922 | 37% | 43% | 54% | 663,000 |
| **2000** | 44,000 | 30,175 | $5,927,019 | 334,506 | 83,825 | 33% | 43% | 43% | 588,200 |
| **2001** | 45,073 | 30,503 | $5,746,168 | 341,370 | 91,328 | 30% | 36% | 43% | 553,900 |
| **2002** | 46,466 | 30,897 | $5,824,695 | 367,252 | 87,774 | 33% | 37% | 50% | 638,100 |
| **2003** | N/A | N/A | N/A | 367,775 | 88,842 | 33% | 40% | 47% | 659,700 |

Source: Telluride Visitors Information Center, FAA TAF Enplanement Data; The SGM Group, Inc.

Note: The three counties used in this analysis include Miguel, Montrose, and Ouray Counties. The total enplanements reflect combined FAA TAF numbers for Telluride and Montrose airports. The occupancy rate data applies to Telluride only.

## Table 17: Telluride and Montrose Regional Airport—Employment Forecast Model 1993-2001

| Year | Total 3-County Employment | Total 3-County Employment Model Forecast | Difference (Actual-Forecast) |
|---|---|---|---|
| **1993** | 22,175 | 22,505 | (330) |
| **1994** | 24,081 | 24,690 | (609) |
| **1995** | 25,269 | 24,629 | 640 |
| **1996** | 25,979 | 24,214 | 1,765 |
| **1997** | 27,296 | 26,690 | 606 |
| **1998** | 28,188 | 29,984 | (1,796) |
| **1999** | 29,134 | 29,364 | (230) |
| **2000** | 30,175 | 30,461 | (286) |
| **2001** | 30,503 | 29,931 | 572 |

Source: http://www.media-coloradoski.com/; http://dola.colorado.gov/cedis/county/cty2.cfm?choice=1; Telluride Airport Manager; Regional Economic Information System, Bureau of Economic Analysis (BEA); The SGM Group, Inc.

Note: The methodology used to forecast the potential impact of the proposed airport improvement project is based on derivation of regression models to forecast future employment using related historic characteristics and trends. As part of this process, two different approaches were used. The first involved preparation of employment forecast models for each of the case study airports, using annual data comparable among the five. This table and the several that follow represent the test models for each of the selected case study areas. In the Telluride case study, the available data included existing employment, population, taxes related as least in part to visitor activity, ski visits, and enplanements. In this case, annual data for all included variables was available only through 2001. In 2001, the enplanements factor contribution to overall employment was between 9% and 10%. The statistical model is shown in Figure 20.

In this model and all of the models that follow, “Total Employment” includes full- and part-time employment as reported by BEA, and population is resident (not visitor) population in the county jurisdiction in which the airport is located. Telluride is located in San Miguel County, Colorado.

## Table 18: Eagle County Regional Airport—Area Analysis and Employment Forecast Model 1993-2002

| Year | Total Employment | Population | Sales and Use Tax | Skier Days | Enplanements | Employment Model Forecast | Difference (Actual-Forecast) |
|---|---|---|---|---|---|---|---|
| **1993** | 24,201 | 27,315 | 6,603,096 | 5,509,845 | 53,200 | 24,515 | (314) |
| **1994** | 26,652 | 29,476 | 7,110,412 | 5,476,402 | 62,347 | 26,062 | 590 |
| **1995** | 28,626 | 31,595 | 7,297,558 | 5,896,743 | 77,167 | 28,387 | 239 |
| **1996** | 30,675 | 33,415 | 11,381,647 | 6,136,048 | 109,118 | 31,007 | (332) |
| **1997** | 34,033 | 35,879 | 12,975,786 | 5,935,018 | 164,415 | 34,377 | (344) |
| **1998** | 36,315 | 38,434 | 13,731,197 | 5,785,552 | 173,041 | 35,978 | 337 |
| **1999** | 37,599 | 40,443 | 13,834,608 | 5,678,697 | 172,429 | 36,951 | 648 |
| **2000** | 39,008 | 41,981 | 13,897,426 | 6,274,832 | 183,502 | 39,019 | (11) |
| **2001** | 39,262 | 43,647 | 14,197,970 | 5,958,093 | 173,478 | 39,153 | 109 |
| **2002** | 39,052 | 44,970 | 14,575,098 | 6,232,942 | 163,948 | 39,862 | (810) |

Source: http://www.media-coloradoski.com/; http://dola.colorado.gov/cedis/county/cty2.cfm?choice=1; Regional Economic Information Service (REIS), Bureau of Economic Analysis; FAA TAF Forecasts; The SGM Group, Inc.

Note: Eagle County Regional Airport is the second of the case study locations. In this case, the enplanements component contribution to overall employment in the forecast model was approximately 17% to 18%. The Eagle-Vail statistical model is shown in Figure 21. In this case, "Sales and Use Tax" was not included in the regression model for statistical reasons, including an illogical sign. A three-variable solution presented a significantly stronger correlation. Total employment refers to BEA reported full- and part-time employment in Eagle County. Population is resident population in Eagle County.

## Table 19: Aspen Case Study—Area Analysis 1993-2003

| Year | Population | Total Employment | Sales and Use Tax | Skier Days | Enplanements | Average Annual Occupancy Rate | Average Summer Occupancy Rates *(June-Sept)* | Average Winter Occupancy Rates *(Dec-March)* | Number of Pillows | Occupied Annual Pillow Nights |
|---|---|---|---|---|---|---|---|---|---|---|
| **1993** | 13,896 | 18,462 | $11,748,197 | 1,542,094 | 250,981 | 52% | 63% | 63% | N/A | N/A |
| **1994** | 14,339 | 19,225 | $15,224,298 | 1,518,723 | 251,533 | 58% | 64% | 76% | N/A | N/A |
| **1995** | 14,603 | 19,660 | $15,636,045 | 1,433,187 | 204,907 | 58% | 71% | 76% | 9,400 | 1,989,980 |
| **1996** | 14,519 | 20,316 | $15,693,101 | 1,536,309 | 206,672 | 62% | 71% | 75% | 9,487 | 2,146,908 |
| **1997** | 14,920 | 21,092 | $16,454,539 | 1,661,775 | 217,343 | 62% | 68% | 80% | 8,583 | 1,942,333 |
| **1998** | 14,886 | 21,129 | $17,529,685 | 1,510,145 | 251,448 | 62% | 71% | 79% | 8,102 | 1,833,483 |
| **1999** | 15,081 | 21,076 | $15,153,675 | 1,401,351 | 219,909 | 57% | 70% | 70% | 8,185 | 1,702,889 |
| **2000** | 14,765 | 21,721 | $14,493,216 | 1,433,154 | 214,358 | 60% | 69% | 72% | 7,750 | 1,697,250 |
| **2001** | 14,870 | 21,681 | $14,997,597 | 1,351,447 | 363,654 | 53% | 63% | 70% | 7,907 | 1,529,609 |
| **2002** | 14,935 | 21,599 | $14,116,941 | 1,375,607 | 336,589 | 53% | 60% | 67% | 7,838 | 1,516,261 |
| **2003** | N/A | N/A | N/A | 1,390,283 | N/A | 53% | 61% | 68% | 7,838 | 1,516,261 |

Source: http://www.media-coloradoski.com/; http://dola.colorado.gov/cedis/county/cty2.cfm?choice=1; Regional Economic Information Service, Bureau of Economic Analysis, US Department of Commerce; FAA TAF Forecasts; Aspen Chamber Resort Association; The SGM Group, Inc.

Note: Total employment is full- and part-time employment located in Pitkin County as reported by BEA. Population is resident population in Pitkin County.

## Table 20: Aspen/Pitkin County Airport—Employment Forecast Model 1993-2002

| Year | Total Employment | Employment Model Forecast | Difference (Actual-Forecast) |
|---|---|---|---|
| **1993** | 18,462 | 18,766 | (304) |
| **1994** | 19,225 | 19,938 | (713) |
| **1995** | 19,660 | 20,566 | (906) |
| **1996** | 20,316 | 20,109 | 207 |
| **1997** | 21,092 | 20,443 | 649 |
| **1998** | 21,129 | 21,090 | 39 |
| **1999** | 21,076 | 21,401 | (325) |
| **2000** | 21,721 | 20,712 | 1,009 |
| **2001** | 21,681 | 21,563 | 118 |
| **2002** | 21,599 | 21,420 | 179 |

Source: Source: http://www.media-coloradoski.com/; http://dola.colorado.gov/cedis/county/cty2.cfm?choice=1; Regional Economic Information Service, Bureau of Economic Analysis; FAA TAF Forecasts; The SGM Group, Inc.

## Table 21: Jackson Hole Airport—Area Analysis and Employment Forecast Model 1992-2002

| Year | Total Employment | Population | Sales, Use, and Retail Taxes | Yellowstone Visitors | Enplanements | Employment Model Forecast | Difference (Forecast-Actual) |
|---|---|---|---|---|---|---|---|
| **1992** | 15,819 | 12,788 | $30,197,222 | 3,144,405 | 192,283 | 15,419 | (400) |
| **1993** | 16,600 | 13,733 | $33,577,456 | 2,912,193 | 188,459 | 16,375 | (225) |
| **1994** | 18,104 | 14,320 | $42,971,660 | 3,046,145 | 181,080 | 17,553 | (551) |
| **1995** | 18,526 | 14,907 | $46,178,152 | 3,125,285 | 171,068 | 18,153 | (373) |
| **1996** | 18,966 | 15,494 | $48,069,728 | 3,012,171 | 180,321 | 18,892 | (74) |
| **1997** | 19,479 | 16,182 | $49,820,670 | 2,889,513 | 191,023 | 19,717 | 238 |
| **1998** | 20,590 | 16,883 | $56,661,945 | 3,120,830 | 197,607 | 20,962 | 372 |
| **1999** | 21,677 | 17,672 | $61,417,012 | 3,131,381 | 173,328 | 21,651 | (26) |
| **2000** | 22,856 | 18,352 | $67,963,427 | 2,838,233 | 182,052 | 22,846 | (10) |
| **2001** | 23,620 | 18,483 | $70,860,233 | 2,758,526 | 167,397* | 22,990 | (630) |
| **2002** | 23,700 | 18,553 | $69,819,149 | 2,973,677 | 190,521 | 23,289 | (411) |

Source: Regional Economic Information System, Bureau of Economic Analysis; http://eadiv.state.wy.us/s&UTax/s&u.asp; http://www2.nature.nps.gov/stats/; Jackson Hole Airport; The SGM Group, Inc.

Note: The Jackson Hole Airport Model indicates that the employment contribution linked to enplanements is on the order of 12% to 13% of total employment. Visitors to Yellowstone include "Total Recreation Visits" as reported by the National Park Service. Visitation does not include Grand Teton, since visitors to Grand Teton generally visit Yellowstone as well. Using both would result in double counting. Total employment is that located in Teton County as reported by BEA; population is resident in Teton County, Wyoming.

The enplanement numbers from the Jackson Hole Airport for 2001 were incomplete at the time of the analysis. It appeared that the December 2001 numbers were unavailable. As a result, the actual regression model was based on an estimate of the December value. In addition, the FAA data for 2001 were similar to that provided by the airport manager. The result of the analysis did not vary significantly as a function of this anomaly.

Taxes include sales, use, and retail taxes as reported by the state.

## Table 22: Composite Forecast Model—Employment Forecast Model 1993-2002

| Year | Total Employment | Population | Taxes | Skier Days | Enplanements | Park Visitation | Model: Employment Projection | Difference (Actual–Forecast) |
|---|---|---|---|---|---|---|---|---|
| **1993** | 98,386 | 118,773 | $60,974,922 | 8,123,006 | 554,644 | 6,895,942 | 96,383 | 2,003 |
| **1994** | 105,025 | 124,373 | $74,434,532 | 8,357,890 | 558,554 | 7,151,900 | 106,746 | (1,721) |
| **1995** | 109,762 | 129,306 | $79,389,463 | 8,480,668 | 512,915 | 7,227,549 | 109,763 | (1) |
| **1996** | 113,648 | 133,047 | $85,225,493 | 8,844,492 | 559,785 | 7,202,728 | 115,491 | (1,843) |
| **1997** | 119,916 | 137,994 | $90,013,289 | 8,939,658 | 649,449 | 6,690,910 | 118,988 | 928 |
| **1998** | 124,686 | 142,276 | $99,728,647 | 8,637,902 | 702,436 | 6,913,584 | 126,009 | (1,323) |
| **1999** | 128,288 | 146,678 | $102,655,390 | 8,318,844 | 660,588 | 6,779,765 | 125,744 | 2,544 |
| **2000** | 133,153 | 149,896 | $109,502,288 | 9,198,607 | 663,737 | 6,388,298 | 131,850 | 1,303 |
| **2001** | 134,896 | 152,969 | $113,604,068 | 8,865,102 | 795,857 | 6,275,720 | 135,532 | (636) |
| **2002** | 135,532 | 156,255 | $112,636,982 | 9,341,602 | 778,832 | 6,441,851 | 136,599 | (1,067) |

Source: The SGM Group, Inc.; Eagle/Vail; Aspen/Pitkin; Telluride/Montrose; Jackson Hole Airport Manager; NPS; Finance Departments, Colorado and Wyoming; Colorado Ski Country USA; Mammoth Mountain; BEA; Yosemite National Park Manager; and FAA.

Note: The second approach used to estimate the statistical contribution of enplanements to total employment combined comparable data from the case study examples with similar data from Mono and Inyo Counties to derive a composite employment forecast model. This model used four factors that appeared to be statistically significant in generating an estimate of total employment: taxes (particularly those related to visitor activity), skier visits, enplanements, and National Park visitation. Adding population to the mix resulted in illogical signs for regression model coefficients. The resulting application indicates a statistical contribution by enplanements of approximately 9% to 11% to the total full- and part-time employment. Park Visitation in this model includes visitors to Yosemite and Yellowstone National Parks. Skier days include combined totals reported for Eagle-Vail, Aspen, Telluride, and Mammoth Lakes. Population refers to permanent residents. Total Employment is full- and part-time employment on a county level as reported by BEA. Counties included in this model are those referenced for Eagle-Vail (Eagle, Colorado), Aspen (Pitkin, Colorado), Telluride (San Miguel, Montrose, and Ouray Counties Colorado), Jackson Hole (Teton, Wyoming), and Mono/Inyo Counties. Enplanement data for Telluride as includes Montrose Airport.

The resulting enplanements coefficient of 0.01817 is comparable to that resulting from individual case study models, which for Telluride, Aspen/Pitkin, and Eagle/Vail averaged 0.021. The composite forecast model is shown in Figure 24.

## Table 23: Alternative Employment Forecast Models—Summary Output

| Zero Constant Models-- Statistical Coefficients | Alternative 1 | Alternative 2 | Alternative 3 | Alternative 4 | Alternative 5 | Preferred Model |
|---|---|---|---|---|---|---|
| *Enplanement Regression Factors* | | | | | | |
| | | | | | | |
| Eagle County | 0.040415137 | 0.040415137 | 0.040415137 | 0.040415137 | 0.040415137 | 0.040415137 |
| Aspen/Pitkin | 0.002428992 | 0.002428992 | 0.002428992 | 0.002428992 | 0.002428992 | 0.002428992 |
| Telluride | 0.010949552 | 0.010949552 | 0.010949552 | 0.010949552 | 0.010949552 | 0.010949552 |
| Jackson Hole | 0.013834 | 0.013834 | 0.013834 | 0.013834 | 0.013834 | 0.013834 |
| | | | | | | |
| Overall Average: | 0.01690692 | 0.01690692 | 0.01690692 | 0.01690692 | 0.01690692 | 0.01690692 |
| | | | | | | |
| Average: Eagle/Aspen/Telluride | 0.017931227 | 0.017931227 | 0.017931227 | 0.017931227 | 0.017931227 | 0.017931227 |
| Average: Eagle/Aspen | 0.021422065 | 0.021422065 | 0.021422065 | 0.021422065 | 0.021422065 | 0.021422065 |
| | | | | | | |
| **Composite Model** | **0.016471579** | **0.017774161** | **0.023440756** | **0.02456452** | **0.026099537** | **0.018174317** |
| | | | | | | |
| Overall average | 0.01668925 | 0.01734054 | 0.020173838 | 0.02073572 | 0.021503228 | 0.017540619 |
| | | | | | | |
| Employment-Composite | 2,752 | 2,970 | 3,917 | 4,105 | 4,361 | **3,037** |
| | | | | | | |
| | | | | | | |
| | | | | | **Preferred Model:** | **0.018174317** |

Source: The SGM Group, Inc.

Note: This table illustrates outputs of several tested regression models measuring enplanement component coefficients. Glacier Park was not included, since it was determined that the characteristic data available were not comparable to the situation at Mammoth Lakes. The coefficient chosen for future forecasts for the two-county Mono and Inyo impact model was the composite model coefficient: 0.01817. That model appeared to represent the most consistent logical application of the available annual historic data. This model output used data from case study examples as well as from Mono and Inyo Counties, and used available data from 1993 through 2002 (the latest year for which all categories had data).

## Table 24: Target Year Forecasts—Mono and Inyo Counties 2007-2017

| Year | Population | Transient Occupancy Tax Mammoth and Inyo | Yosemite Visitors | Skier Days | MMH Enplanements |
|---|---|---|---|---|---|
| **2007** | 32,500 | $9,449,972 | 3,616,427 | 1,491,074 | **29,300** |
| **2008** | 32,737 | $9,733,810 | 3,652,591 | 1,542,466 | **50,800** |
| **2009** | 32,973 | $10,017,314 | 3,689,117 | 1,593,888 | **72,300** |
| **2010** | 33,209 | $10,300,483 | 3,726,008 | 1,645,340 | **93,800** |
| **2011** | 33,446 | $10,583,313 | 3,763,268 | 1,696,822 | **115,300** |
| **2012** | 33,682 | $10,865,800 | 3,800,901 | 1,748,335 | **136,800** |
| **2013** | 33,919 | $11,147,940 | 3,838,910 | 1,799,880 | **142,860** |
| **2014** | 34,155 | $11,429,731 | 3,877,299 | 1,851,455 | **148,920** |
| **2015** | 34,391 | $11,711,169 | 3,916,072 | 1,903,063 | **154,980** |
| **2016** | 34,628 | $11,992,251 | 3,955,233 | 1,954,702 | **161,040** |
| **2017** | 34,864 | $12,272,972 | 3,994,785 | 2,006,374 | **167,100** |

Source: The SGM Group, Inc.; Enplanements—Ricondo Associates, May 2004.

## Table 25: Population and Employment Forecast—Mono and Inyo Counties 2007-2017

*Model Output*

| Year | Population—No Action Alternative | Population—Build Alternative | Full and Part-Time Employment—No Action Alternative | Full and Part-Time Employment—Build Alternative | Additional Employment | Additional Population |
|---|---|---|---|---|---|---|
| **2000** | 30,798 | 30,798 | 19,393 | 19,393 | - | - |
| **2001** | 30,896 | 30,896 | 19,830 | 19,830 | - | - |
| **2002** | 31,331 | 31,331 | 20,284 | 20,284 | - | - |
| **2003** | 31,554 | 31,554 | 20,869 | 20,869 | - | - |
| **2004** | 31,791 | 31,791 | 21,140 | 21,140 | - | - |
| ***2005*** | 32,027 | 32,027 | 21,574 | 21,574 | - | - |
| ***2006*** | 32,264 | 32,264 | 22,081 | 22,081 | - | - |
| ***2007*** | 32,500 | 33,266 | 22,588 | 23,121 | 533 | 766 |
| ***2008*** | 32,737 | 34,045 | 23,096 | 24,019 | 923 | 1,309 |
| ***2009*** | 32,973 | 34,809 | 23,604 | 24,918 | 1,314 | 1,836 |
| ***2010*** | 33,209 | 35,557 | 24,113 | 25,818 | 1,705 | 2,348 |
| ***2011*** | 33,446 | 36,292 | 24,622 | 26,717 | 2,095 | 2,846 |
| ***2012*** | 33,682 | 37,014 | 25,131 | 27,618 | 2,486 | 3,332 |
| ***2013*** | 33,919 | 37,353 | 25,642 | 28,238 | 2,596 | 3,434 |
| ***2014*** | 34,155 | 37,690 | 26,152 | 28,859 | 2,707 | 3,535 |
| ***2015*** | 34,391 | 38,025 | 26,663 | 29,480 | 2,817 | 3,633 |
| ***2016*** | 34,628 | 38,357 | 27,175 | 30,102 | 2,927 | 3,730 |
| ***2017*** | 34,864 | 38,689 | 27,687 | 30,724 | 3,037 | 3,824 |
| | | | | | | |
| **Annual Rate of Growth: 2005-2017** | 0.71% | 1.59% | 2.10% | 2.99% | | |

Source: Forecast: The SGM Group, Inc.

## Table 26: Development Impact—Mono and Inyo Counties 2007-2017

*Model Output*

| Year | Total Housing Units—No Action Alternative* | Total Housing Units—Build Alternative* | Additional Occupied Housing Units* | Additional Housing Units* | Occupancy Rate | Additional Commercial Development (Sq. ft.)** | Additional Lodging Units** |
|---|---|---|---|---|---|---|---|
| **2000** | 20,799 | 20,799 | - | - | 61.73% | - | - |
| **2001** | 21,050 | 21,050 | - | - | 61.52% | - | - |
| **2002** | 21,273 | 21,273 | - | - | 61.39% | - | - |
| **2003** | 21,460 | 21,460 | - | - | 61.26% | - | - |
| **2004** | 22,006 | 22,006 | - | - | 60.97% | - | - |
| ***2005*** | 22,088 | 22,088 | - | - | 60.89% | - | - |
| ***2006*** | 22,331 | 22,331 | - | - | 60.74% | - | - |
| ***2007*** | 22,575 | 23,113 | 326 | 538 | 60.59% | 43,092 | 36 |
| ***2008*** | 22,818 | 23,739 | 557 | 921 | 60.44% | 74,712 | 63 |
| ***2009*** | 23,061 | 24,357 | 781 | 1,296 | 60.29% | 106,333 | 90 |
| ***2010*** | 23,305 | 24,966 | 999 | 1,661 | 60.14% | 137,953 | 117 |
| ***2011*** | 23,548 | 25,567 | 1,211 | 2,019 | 59.98% | 169,573 | 144 |
| ***2012*** | 23,792 | 26,161 | 1,418 | 2,370 | 59.83% | 201,194 | 170 |
| ***2013*** | 24,035 | 26,484 | 1,461 | 2,449 | 59.68% | 210,106 | 178 |
| ***2014*** | 24,278 | 26,805 | 1,504 | 2,527 | 59.53% | 219,019 | 186 |
| ***2015*** | 24,521 | 27,125 | 1,546 | 2,604 | 59.38% | 227,931 | 193 |
| ***2016*** | 24,765 | 27,444 | 1,587 | 2,680 | 59.23% | 236,844 | 201 |
| ***2017*** | 25,008 | 27,763 | 1,627 | 2,755 | 59.08% | 245,756 | 208 |
| | | | | | | | |
| **Projected Rate of Growth: 2005-2017** | 1.04% | 1.92% | | | | | |

Source: Forecast—The SGM Group, Inc.; existing information—California Department of Finance, Demographic Research Division.
* Total increase in Mono and Inyo Counties.
** Total increase in the Town of Mammoth Lakes.

Note: The tables labeled “Model Output” illustrate the impact model output and represent the potential economic impact of proposed Mammoth Yosemite Airport improvements. These impact forecasts use the composite regression model illustrated in Figure 24. As shown, in 2017 the proposed airport improvement project is expected to generate approximately 3,037 additional full- and part-time employees in Mono and Inyo Counties when compared to the no-action alternative. This total increase is based on the forecasted composite regression model enplanement contribution of 1.8997%. Overall, this additional employment in 2017 (the first full year of activity) represents an 11% employment increase over the no-action alternative. Based on the measured labor-force participation rates for the two counties, the additional resident population in 2017 attributed to airport improvements is expected to reach 3,824.

As a result of the estimated population increase, 2,755 additional housing units in Mono and Inyo Counties are expected in 2017, with 1,627 occupied. The applied average occupancy rate of 59% reflects the importance of the 2$^{nd}$ home market in the Mammoth Lakes area and is based on a forecast of historic occupancy rates.

Using past development activity ratios for the Town of Mammoth Lakes, additional commercial/industrial/retail space in the Town should reach nearly 246.000 square feet by 2017, with an addition of 208 lodging units. The estimate of additional lodging units is based on ratios characteristic of past history. Proposed additions to the market that represent a change in market character, including the new condominium hotels proposed by the private sector, are not represented in these forecasts; however, since the forecasts are derived as a “difference” between the “with” and “without” alternatives, estimates of resulting benefits are consistent with past development history. The increase in commercial/industrial/retail space and lodging units is estimated only for the Town of Mammoth Lakes because comprehensive data on total existing lodging units and commercial space for the two counties is not available.

The forecasted change in employment as a function of proposed improvements to the Mammoth Yosemite Airport provides the basis for derivation of the two-county input-output model. Using that input-output model, change in employment translates into estimated change in value-added, change in total output, and change in taxes for the two-county impact area.

## Table 27: Two-County Employment Impact—Distribution by Economic Sector 2007-2017

*Model Output*

| Economic Sector | % Distribution | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Goods Producing** | 8.61% | 46 | 80 | 113 | 147 | 180 | 214 | 224 | 233 | 243 | 252 | 262 |
| **Trade, Transportation and Utilities** | 11.53% | 61 | 106 | 152 | 197 | 242 | 287 | 299 | 312 | 325 | 338 | 350 |
| **Financial Activities** | 6.25% | 33 | 58 | 82 | 107 | 131 | 155 | 162 | 169 | 176 | 183 | 190 |
| **Professional and Business Services** | 5.16% | 28 | 48 | 68 | 88 | 108 | 128 | 134 | 140 | 145 | 151 | 157 |
| **Educational and Health Services** | 1.36% | 7 | 13 | 18 | 23 | 28 | 34 | 35 | 37 | 38 | 40 | 41 |
| **Arts, Entertainment, and Recreation** | 1.58% | 8 | 15 | 21 | 27 | 33 | 39 | 41 | 43 | 44 | 46 | 48 |
| **Accommodation** | 27.37% | 146 | 253 | 360 | 467 | 574 | 681 | 711 | 741 | 771 | 801 | 831 |
| **Food Services and Drinking Places** | 12.87% | 69 | 119 | 169 | 219 | 270 | 320 | 334 | 348 | 362 | 377 | 391 |
| **Residual-Other Services** | 3.54% | 19 | 33 | 47 | 60 | 74 | 88 | 92 | 96 | 100 | 104 | 108 |
| **Federal Government** | 2.84% | 15 | 26 | 37 | 48 | 60 | 71 | 74 | 77 | 80 | 83 | 86 |
| **State Government** | 2.26% | 12 | 21 | 30 | 38 | 47 | 56 | 59 | 61 | 64 | 66 | 69 |
| **Local Government** | 16.62% | 89 | 153 | 218 | 283 | 348 | 413 | 432 | 450 | 468 | 486 | 505 |
| | | | | | | | | | | | | |
| **Total:** | **100.00%** | **533** | **923** | **1,314** | **1,705** | **2,095** | **2,486** | **2,596** | **2,707** | **2,817** | **2,927** | **3,037** |

Source: The SGM Group, Inc.

## Table 28: Employment Impact—Airport Improvement Project 2017

| | Industry | Direct* | Indirect* | Induced* | Total* |
|---|---|---|---|---|---|
| | | | | | |
| 1 | 11 Ag, Forestry, Fish & Hunting | - | 2 | 2 | 4 |
| 19 | 21 Mining | - | 0 | 0 | 0 |
| 30 | 22 Utilities | - | 11 | 5 | 16 |
| 33 | 23 Construction | - | 34 | 3 | 36 |
| 46 | 31-33 Manufacturing | 150 | 9 | 6 | 165 |
| 390 | 42 Wholesale Trade | - | 10 | 6 | 16 |
| 391 | 48-49 Transportation & Warehousing | 281 | 25 | 7 | 313 |
| 401 | 44-45 Retail trade | - | 15 | 107 | 122 |
| 413 | 51 Information | 40 | 20 | 7 | 67 |
| 425 | 52 Finance & insurance | 125 | 9 | 14 | 148 |
| 431 | 53 Real estate & rental | - | 38 | 23 | 61 |
| 437 | 54 Professional- scientific & tech services | 166 | 108 | 21 | 296 |
| 451 | 55 Management of companies | - | 9 | 3 | 12 |
| 452 | 56 Administrative & waste services | - | 33 | 9 | 42 |
| 461 | 61 Educational services | 24 | 15 | 6 | 45 |
| 464 | 62 Health & social services | 26 | 0 | 66 | 92 |
| 475 | 71 Arts- entertainment & recreation | 35 | 9 | 28 | 72 |
| 479 | 72 Accommodations & food services | 876 | 19 | 76 | 971 |
| 482 | 81 Other services | - | 16 | 41 | 58 |
| 495 | 92 Government (Federal, State, and Local) | 463 | 26 | 12 | 500 |
| | **Total** | **2,186** | **409** | **443** | **3,037** |

*Number of Jobs

Source: The SGM Group, Inc., and IMPLAN

## Table 29: Value Added—Airport Improvement Project 2017

| | Industry | Direct* | Indirect* | Induced* | Total* |
|---|---|---|---|---|---|
| | | | | | |
| 1 | 11 Ag, Forestry, Fish & Hunting | | $1,796 | $3,515 | $5,311 |
| 19 | 21 Mining | | $1,132 | $76 | $1,208 |
| 30 | 22 Utilities | | $690,648 | $347,642 | $1,038,290 |
| 33 | 23 Construction | | $1,222,407 | $105,014 | $1,327,421 |
| 46 | 31-33 Manufacturing | $11,471,679 | $485,510 | $290,800 | $12,247,989 |
| 390 | 42 Wholesale Trade | | $228,116 | $148,698 | $376,814 |
| 391 | 48-49 Transportation & Warehousing | $11,443,852 | $1,015,194 | $242,400 | $12,701,447 |
| 401 | 44-45 Retail trade | | $516,578 | $3,425,545 | $3,942,123 |
| 413 | 51 Information | $1,582,043 | $784,977 | $337,345 | $2,704,365 |
| 425 | 52 Finance & insurance | $8,511,759 | $529,906 | $812,132 | $9,853,797 |
| 431 | 53 Real estate & rental | | $2,954,175 | $1,816,037 | $4,770,212 |
| 437 | 54 Professional- scientific & tech services | $7,742,795 | $4,803,320 | $995,688 | $13,541,801 |
| 451 | 55 Management of companies | | $216,766 | $73,006 | $289,772 |
| 452 | 56 Administrative & waste services | | $1,050,189 | $259,756 | $1,309,945 |
| 461 | 61 Educational services | $191,977 | $125,799 | $91,469 | $409,245 |
| 464 | 62 Health & social services | $460,329 | $111 | $2,662,334 | $3,122,774 |
| 475 | 71 Arts- entertainment & recreation | $721,263 | $74,349 | $434,019 | $1,229,631 |
| 479 | 72 Accommodations & food services | $31,739,076 | $537,495 | $1,634,614 | $33,911,184 |
| 482 | 81 Other services | | $827,408 | $1,422,388 | $2,249,796 |
| 495 | 92 Government (Federal, State, and Local) | $26,900,754 | $1,464,861 | $5,184,753 | $33,550,370 |
| | **Total** | **$100,765,527** | **$17,530,734** | **$20,287,230** | **$138,583,492** |

*2004 Dollars

Source: The SGM Group, Inc., and IMPLAN.

## Table 30: Total Output—Airport Improvement Project 2017

| | Industry | Direct* | Indirect* | Induced* | Total* |
|---|---|---|---|---|---|
| | | | | | |
| 1 | 11 Ag, Forestry, Fish & Hunting | | $62,907 | $88,787 | $151,694 |
| 19 | 21 Mining | | $3,592 | $224 | $3,816 |
| 30 | 22 Utilities | | $1,068,438 | $537,889 | $1,606,326 |
| 33 | 23 Construction | | $2,751,474 | $272,366 | $3,023,840 |
| 46 | 31-33 Manufacturing | $22,453,806 | $1,405,964 | $940,453 | $24,800,224 |
| 390 | 42 Wholesale Trade | | $371,449 | $242,130 | $613,580 |
| 391 | 48-49 Transportation & Warehousing | $24,559,822 | $2,026,318 | $537,780 | $27,123,918 |
| 401 | 44-45 Retail trade | | $827,330 | $5,648,541 | $6,475,871 |
| 413 | 51 Information | $2,783,363 | $2,343,167 | $867,795 | $5,994,325 |
| 425 | 52 Finance & insurance | $12,484,677 | $811,983 | $1,424,290 | $14,720,951 |
| 431 | 53 Real estate & rental | | $4,194,456 | $2,572,289 | $6,766,745 |
| 437 | 54 Professional- scientific & tech services | $10,092,599 | $6,273,473 | $1,347,404 | $17,713,476 |
| 451 | 55 Management of companies | | $477,178 | $160,712 | $637,891 |
| 452 | 56 Administrative & waste services | | $1,895,084 | $432,921 | $2,328,005 |
| 461 | 61 Educational services | $360,108 | $233,449 | $152,346 | $745,903 |
| 464 | 62 Health & social services | $923,093 | $263 | $3,975,967 | $4,899,323 |
| 475 | 71 Arts- entertainment & recreation | $1,174,037 | $211,102 | $752,742 | $2,137,881 |
| 479 | 72 Accommodations & food services | $48,547,008 | $942,149 | $3,290,943 | $52,780,100 |
| 482 | 81 Other services | | $1,537,491 | $2,698,192 | $4,235,683 |
| 495 | 92 Government (Federal, State, and Local) | $52,869,136 | $3,054,088 | $7,085,294 | $63,008,516 |
| | **Total** | **$176,247,648** | **$30,491,354** | **$33,029,063** | **$239,768,065** |
| | | | | | |
| *2004 Dollars | | | | | |

Source: The SGM Group, Inc., and IMPLAN

## Table 31: Employee Compensation—Airport Improvement Project 2017

| | Industry | Direct* | Indirect* | Induced* | Total* |
|---|---|---|---|---|---|
| | | | | | |
| 1 | 11 Ag, Forestry, Fish & Hunting | | $7,024 | $12,690 | $19,714 |
| 19 | 21 Mining | | $771 | $51 | $822 |
| 30 | 22 Utilities | | $143,410 | $72,064 | $215,474 |
| 33 | 23 Construction | | $981,041 | $84,171 | $1,065,212 |
| 46 | 31-33 Manufacturing | $7,737,659 | $300,553 | $167,059 | $8,205,271 |
| 390 | 42 Wholesale Trade | | $123,339 | $80,399 | $203,738 |
| 391 | 48-49 Transportation & Warehousing | $8,540,294 | $755,651 | $173,845 | $9,469,790 |
| 401 | 44-45 Retail trade | | $345,356 | $2,226,017 | $2,571,373 |
| 413 | 51 Information | $911,360 | $505,327 | $190,782 | $1,607,469 |
| 425 | 52 Finance & insurance | $2,563,947 | $188,813 | $282,439 | $3,035,199 |
| 431 | 53 Real estate & rental | | $466,113 | $292,019 | $758,132 |
| 437 | 54 Professional- scientific & tech services | $4,580,327 | $2,914,206 | $590,140 | $8,084,673 |
| 451 | 55 Management of companies | | $191,592 | $64,528 | $256,119 |
| 452 | 56 Administrative & waste services | | $620,135 | $164,565 | $784,700 |
| 461 | 61 Educational services | $117,710 | $79,836 | $77,017 | $274,563 |
| 464 | 62 Health & social services | $368,118 | $90 | $1,816,559 | $2,184,767 |
| 475 | 71 Arts- entertainment & recreation | $298,575 | $47,603 | $212,184 | $558,362 |
| 479 | 72 Accommodation & food services | $15,723,707 | $283,510 | $923,365 | $16,930,582 |
| 482 | 81 Other services | | $311,707 | $608,152 | $919,860 |
| 495 | 92 Government (Federal, State, and Local) | $17,244,128 | $915,392 | $502,315 | $18,661,834 |
| | **Total** | **$58,085,824** | **$9,181,468** | **$8,540,361** | **$75,807,652** |

*2004 Dollars

Source: The SGM Group, Inc., and IMPLAN.

## Table 32: Average Employee Compensation by Sector—2017

| | INDUSTRY | DIRECT* | INDIRECT* | INDUCED* | TOTAL* |
|---|---|---|---|---|---|
| | | | | | |
| 1 | 11 Ag, Forestry, Fish & Hunting | | $4,595 | $5,407 | $5,087 |
| 19 | 21 Mining | | $51,041 | $49,267 | $50,927 |
| 30 | 22 Utilities | | $13,443 | $13,555 | $13,480 |
| 33 | 23 Construction | | $29,234 | $28,661 | $29,188 |
| 46 | 31-33 Manufacturing | $51,726 | $31,846 | $27,483 | $49,697 |
| 390 | 42 Wholesale Trade | | $12,816 | $12,816 | $12,816 |
| 391 | 48-49 Transportation & Warehousing | $30,435 | $29,791 | $26,472 | $30,299 |
| 401 | 44-45 Retail trade | | $23,208 | $20,717 | $21,020 |
| 413 | 51 Information | $22,963 | $25,620 | $25,592 | $24,040 |
| 425 | 52 Finance & insurance | $20,577 | $20,086 | $20,524 | $20,541 |
| 431 | 53 Real estate & rental | | $12,287 | $12,779 | $12,472 |
| 437 | 54 Professional- scientific & tech services | $27,560 | $26,886 | $27,502 | $27,309 |
| 451 | 55 Management of companies | | $20,987 | $20,987 | $20,987 |
| 452 | 56 Administrative & waste services | | $18,521 | $18,451 | $18,507 |
| 461 | 61 Educational services | $4,893 | $5,306 | $12,411 | $6,060 |
| 464 | 62 Health & social services | $14,070 | $23,329 | $27,501 | $23,690 |
| 475 | 71 Arts- entertainment & recreation | $8,446 | $5,228 | $7,677 | $7,745 |
| 479 | 72 Accommodation & food services | $17,939 | $14,571 | $12,223 | $17,427 |
| 482 | 81 Other services | | $19,061 | $14,773 | $15,992 |
| 495 | 92 Government (Federal, State, and Local) | $37,257 | $35,626 | $42,891 | $37,305 |
| | **Total** | **$26,577** | **$22,460** | **$19,287** | **$24,960** |

* 2004 Dollars
Source: IMPLAN and The SGM Group, Inc.

## Table 33: Indirect Business Taxes—Airport Improvement Project 2017

| | Industry | Direct* | Indirect* | Induced* | Total* |
|---|---|---|---|---|---|
| | | | | | |
| 1 | 11 Ag, Forestry, Fish & Hunting | | $928 | $1,379 | $2,308 |
| 19 | 21 Mining | | $193 | $11 | $204 |
| 30 | 22 Utilities | | $119,375 | $60,207 | $179,582 |
| 33 | 23 Construction | | $24,071 | $2,398 | $26,468 |
| 46 | 31-33 Manufacturing | $193,418 | $8,804 | $5,322 | $207,544 |
| 390 | 42 Wholesale Trade | | $65,630 | $42,781 | $108,412 |
| 391 | 48-49 Transportation & Warehousing | $612,896 | $21,090 | $3,611 | $637,597 |
| 401 | 44-45 Retail trade | | $85,071 | $587,425 | $672,497 |
| 413 | 51 Information | $23,198 | $54,424 | $34,085 | $111,707 |
| 425 | 52 Finance & insurance | $193,787 | $15,531 | $24,970 | $234,288 |
| 431 | 53 Real estate & rental | | $443,243 | $281,949 | $725,192 |
| 437 | 54 Professional- scientific & tech services | $58,983 | $44,756 | $12,597 | $116,335 |
| 451 | 55 Management of companies | | $5,790 | $1,950 | $7,740 |
| 452 | 56 Administrative & waste services (AGG) | | $34,135 | $9,629 | $43,765 |
| 461 | 61 Educational services | $3,244 | $1,996 | $555 | $5,795 |
| 464 | 62 Health & social services | $2,940 | $1 | $23,748 | $26,690 |
| 475 | 71 Arts- entertainment & recreation | $62,583 | $4,554 | $34,232 | $101,369 |
| 479 | 72 Accommodation & food services | $3,956,901 | $66,277 | $198,963 | $4,222,142 |
| 482 | 81 Other services | | $48,878 | $83,146 | $132,024 |
| 495 | 92 Government (Federal, State, and Local) | $88,640 | $5,395 | $888,705 | $982,740 |
| | **Total** | **$5,196,589** | **$1,050,144** | **$2,297,664** | **$8,544,398** |
| | | | | | |
| *2004 Dollars | | | | | |

Source: The SGM Group, Inc.; IMPLAN

## Table 34: Taxes—Airport Improvement Project 2017

| | | Employee Compensation | Proprietary Income | Household Expenditures | Enterprises (Corporation) | Indirect Business Taxes | Total |
|---|---|---|---|---|---|---|---|
| **Federal Government Non-Defense** | Corporate Profits Tax | | | | $2,116,337 | | *$2,116,337* |
| | Indirect Bus Tax: Custom Duty | | | | | $196,556 | *$196,556* |
| | Indirect Bus Tax: Excise Taxes | | | | | $632,605 | *$632,605* |
| | Indirect Bus Tax: Fed Non-Taxes | | | | | $223,272 | *$223,272* |
| | Personal Tax: Estate and Gift Tax | | | | | | |
| | Personal Tax: Income Tax | | | $10,749,862 | | | *$10,749,862* |
| | Personal Tax: Non-Taxes (Fines-Fees) | | | $91,818 | | | *$91,818* |
| | Social Ins Tax- Employee Contribution | $4,082,900 | $604,719 | | | | *$4,687,619* |
| | Social Ins Tax- Employer Contribution | $4,228,064 | | | | | *$4,228,064* |
| | *Total* | *$8,310,964* | *$604,719* | *$10,841,680* | *$2,116,337* | *$1,052,433* | *$22,926,133* |
| **State/Local Government Non-Education** | Corporate Profits Tax | | | | $517,222 | | *$517,222* |
| | Dividends | | | | $6,145 | | *$6,145* |
| | Indirect Bus Tax: Motor Vehicle License | | | | | $51,915 | *$51,915* |
| | Indirect Bus Tax: Other Taxes | | | | | $422,604 | *$422,604* |
| | Indirect Bus Tax: Property Tax | | | | | $2,642,342 | *$2,642,342* |
| | Indirect Bus Tax: S/L Non-Taxes | | | | | $469,872 | *$469,872* |
| | Indirect Bus Tax: Sales Tax | | | | | $3,903,239 | *$3,903,239* |
| | Indirect Bus Tax: Severance Tax | | | | | $1,992 | *$1,992* |
| | Personal Tax: Estate and Gift Tax | | | | | | |
| | Personal Tax: Income Tax | | | $3,118,628 | | | *$3,118,628* |
| | Personal Tax: Motor Vehicle License | | | $98,493 | | | *$98,493* |
| | Personal Tax: Non-Taxes (Fines-Fees) | | | $831,761 | | | *$831,761* |
| | Personal Tax: Other Tax (Fish/Hunt) | | | $14,396 | | | *$14,396* |
| | Personal Tax: Property Taxes | | | $42,903 | | | *$42,903* |
| | Social Ins Tax- Employee Contribution | $71,095 | | | | | *$71,095* |
| | Social Ins Tax- Employer Contribution | $255,943 | | | | | *$255,943* |
| | *Total* | *$327,038* | | *$4,106,181* | *$523,367* | *$7,491,965* | *$12,448,551* |
| **Total (2004 Dollars)** | | ***$8,638,002*** | ***$604,719*** | ***$14,947,861*** | ***$2,639,704*** | ***$8,544,398*** | ***$35,374,684*** |

Source: The SGM Group, Inc., and IMPLAN.

## Table 35: Housing Development Impact Summary—2017

| Jurisdiction | | 2000 | 2001 | 2002 | 2003 | 2004 | % Distribution 2004 | Impact Allocation-2017-All Units | Total Units | Occupied Units | Total Occupied Units |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Bishop | | | | | | | | | 234 | | 139 |
| | Single Detached | 843 | 848 | 847 | 845 | 843 | 3.83% | 106 | | 62 | |
| | Single Attached | 76 | 76 | 78 | 78 | 78 | 0.35% | 10 | | 6 | |
| | 2-4 Unit | 262 | 262 | 262 | 262 | 262 | 1.19% | 33 | | 19 | |
| | 5 Plus | 323 | 323 | 323 | 323 | 323 | 1.47% | 40 | | 24 | |
| | Mobile Homes | 363 | 363 | 366 | 367 | 367 | 1.67% | 46 | | 27 | |
| Unincorporated Inyo | | | | | | | | | 911 | | 538 |
| | Single Detached | 4,602 | 4,617 | 4,626 | 4,644 | 4,653 | 21.14% | 582 | | 344 | |
| | Single Attached | 134 | 134 | 134 | 134 | 134 | 0.61% | 17 | | 10 | |
| | 2-4 Unit | 145 | 145 | 145 | 145 | 145 | 0.66% | 18 | | 11 | |
| | 5 Plus | 145 | 145 | 145 | 145 | 145 | 0.66% | 18 | | 11 | |
| | Mobile Homes | 2,149 | 2,149 | 2,171 | 2,171 | 2,197 | 9.98% | 275 | | 162 | |
| Mammoth Lakes | | | | | | | | | 1,087 | | 642 |
| | Single Detached | 2,123 | 2,171 | 2,204 | 2,204 | 2,241 | 10.18% | 281 | | 166 | |
| | Single Attached | 965 | 965 | 965 | 1,003 | 1,003 | 4.56% | 126 | | 74 | |
| | 2-4 Unit | 1,540 | 1,600 | 1,668 | 1,712 | 1,758 | 7.99% | 220 | | 130 | |
| | 5 Plus | 3,139 | 3,221 | 3,282 | 3,306 | 3,488 | 15.85% | 437 | | 258 | |
| | Mobile Homes | 193 | 193 | 193 | 193 | 193 | 0.88% | 24 | | 14 | |
| Unincorporated Mono | | | | | | | | | 523 | | 309 |
| | Single Detached | 2,474 | 2,485 | 2,500 | 2,512 | 2,760 | 12.54% | 345 | | 204 | |
| | Single Attached | 210 | 225 | 225 | 256 | 256 | 1.16% | 32 | | 19 | |
| | 2-4 Unit | 296 | 300 | 304 | 307 | 307 | 1.40% | 38 | | 23 | |
| | 5 Plus | 74 | 74 | 74 | 74 | 74 | 0.34% | 9 | | 5 | |
| | Mobile Homes | 743 | 754 | 761 | 779 | 779 | 3.54% | 98 | | 58 | |
| **Total Units** | | **20,799** | **21,050** | **21,273** | **21,460** | **22,006** | | | **2,755** | | |
| **Total Occupied** | | **12,840** | **12,950** | **13,059** | **13,146** | **13,417** | | | | | 1,627 |
| **% Vacant** | | **38.27%** | **38.48%** | **38.61%** | **38.74%** | **39.03%** | | | | | **40.92%** |

Source: The SGM Group, Inc.; California Department of Finance, Demographic Research Division

## Table 36: Population and Housing Impacts—2017

| COUNTY/CITY | TOTAL POPULATION-2004 | Persons Per Household-2004 | Occupied Housing Units-2017 | Population Impact-2017 | Persons per Occupied Housing Unit-2017 |
|---|---|---|---|---|---|
| ***INYO COUNTY*** | | | | | |
| BISHOP | 3,632 | 2.10 | 139 | 291 | 2.10 |
| | | | | | |
| BALANCE OF COUNTY | 14,883 | 2.41 | 538 | 1,294 | 2.41 |
| INCORPORATED | 3,632 | 2.10 | 139 | 291 | 2.10 |
| | | | | | |
| COUNTY TOTAL | 18,515 | 2.34 | 676 | 1,585 | 2.34 |
| | | | | | |
| ***MONO COUNTY*** | | | | | |
| MAMMOTH LAKES | 7,472 | 2.36 | 642 | 1,518 | 2.36 |
| | | | | | |
| BALANCE OF COUNTY | 6,048 | 2.33 | 309 | 721 | 2.33 |
| INCORPORATED | 7,472 | 2.36 | 642 | 1,518 | 2.36 |
| | | | | | |
| COUNTY TOTAL | 13,520 | 2.35 | 951 | 2,239 | 2.35 |
| | | | | | |
| ***TWO COUNTIES*** | | | | | |
| BISHOP + MAMMOTH LAKES | 11,104 | 2.27 | 781 | 1,809 | 2.32 |
| | | | | | |
| BALANCE OF COUNTIES | 20,931 | 2.38 | 847 | 2,015 | 2.38 |
| INCORPORATED | 11,104 | 2.27 | 781 | 1,809 | 2.32 |
| | | | | | |
| **2-COUNTY TOTAL** | **32,035** | **2.34** | 1,627 | 3,824 | 2.35 |

Source: http://www.dof.ca.gov/HTML/DEMOGRAP/repndat.htm#estimates; The SGM Group, Inc.

## Table 37: Existing Commercial Development Patterns—2004

| JURISDICTION | Sq. Feet | Total | BEA Employment 2004 | Average Sq. Ft. per Employee | |
|---|---|---|---|---|---|
| ***Inyo County (Includes City of Bishop)*** | | **3,206,000** | **11,125** | **288.17** | **Inyo County** |
| | | | | | |
| Unincorporated Mono County | | | | | |
| o June Lake Area | 104,500 | | | | |
| o Crowley Lake Area | 16,500 | | | | |
| o Long Valley Area | 702,500 | | | | |
| Subtotal Unincorporated Mono County--Known Development | 823,500 | | | | |
| o Town of Mammoth Lakes | 1,183,000 | | | | |
| o Estimated Additional Square Feet on other areas of Mono County | 923,600 | | | | |
| ***Estimated total for Mono County*** | | **2,930,100** | **10,015** | **292.58** | **Mono County** |
| **Total-Two County Area** | | **6,136,100** | **21,140** | **290.26** | **Average--two counties** |

Source: Town of Mammoth Lakes, Community Development Department, County of Inyo Office of Assessor, City of Bishop - Planning Office, Long Valley Fire Protection District Development Impact Fee Calculation and Nexus Report, June Lake Fire Protection District Development Fee Calculation and Nexus Report, March 2003; and The SGM Group, Inc.; State of California, Employment Development Department, Labor Market Information Division, 3/23/04; http://www.calmis.ca.gov/htmlfile/sublist.htm; U.S. Department of Commerce, BEA.

## Table 38: Employment by Sub Area—2004

| *Area* | *Labor Force* | | *Employment* | |
|---|---|---|---|---|
| *Sep-2004* | | | | |
| *Inyo County* | *7,290* | | *6,910* | |
| | | | | |
| Big Pine CDP | | 410 | | 410 |
| City of Bishop | | 1,490 | | 1,430 |
| Dixon Lane-Meadow Creek-CDP | | 920 | | 870 |
| Lone Pine CDP | | 680 | | 640 |
| West Bishop CDP | | 1,210 | | 1,180 |
| Other Unincorporated | | 2,580 | | 2,380 |
| | | | | |
| Total Unincorporated | | 5,800 | | 5,480 |
| City of Bishop | | 1,490 | | 1,430 |
| | | | | |
| *Mono County* | *7,400* | | *7,010* | |
| | | | | |
| Mammoth Lakes Town | | 4,140 | | 3,850 |
| Unincorporated | | 3,260 | | 3,160 |
| | | | | |
| **Total—Mono and Inyo Counties** | **14,690** | | **13,920** | |

Source: State of California, Employment Development Department, Labor Market Information Division, 3/23/04; http://www.calmis.ca.gov/htmlfile/sublist.htm; The SGM Group, Inc.

## Table 39: Forecast Commercial Development Patterns—2017

| JURISDICTION | LMI Employment 2004 | % Distribution | Existing Commercial Development 2004 | Impact Commercial Square Feet 2017 | Impact Employment Distribution 2017 |
|---|---|---|---|---|---|
| Mammoth Lakes | 3,850 | 27.66% | 1,183,000 | 245,756 | 840 |
| Unincorporated Mono County | 3,160 | 22.70% | 1,747,100 | 201,712 | 689 |
| Bishop | 1,430 | 10.27% | 663,470 | 89,904 | 312 |
| Unincorporated Inyo County | 5,480 | 39.37% | 2,542,530 | 344,528 | 1,196 |
| **Total:** | **13,920** | **100.00%** | **6,136,100** | **881,901** | **3,037** |

Source: The SGM Group, Inc.; California Employment Development Department, Labor Market Information Division, March 2004.

## Table 40: Fiscal Impact—Town of Mammoth Lakes—2017

| LAND USE | BUILDOUT UNIT COUNT | | ALLOCATED REVENUES | ALLOCATED EXPENDITURES | NET FISCAL IMPACT |
|---|---|---|---|---|---|
| Single Family Dwellings | 2,862 Dwelling Units | | 2,045,323 | 5,211,701 | (3,166,378) |
| **Apartments** | | | | | |
| Affordable Apartments | 808 Dwelling Units | | 656,186 | 2,080,331 | (1,424,145) |
| Market Rate Apartments | 1,228 Dwelling Units | | 991,330 | 3,161,048 | (2,169,718) |
| Multi-Family Condominiums | | | | | |
| Traditional Condominiums | 7,472 Dwelling Units | | 10,105,575 | 16,769,531 | (6,663,957) |
| Timeshares | | | | | |
| Traditional | 0 Dwelling Units | | 0 | 0 | 0 |
| High-End | 0 Dwelling Units | | 0 | 0 | 0 |
| Private Residence Club | 0 Dwelling Units | | 0 | 0 | 0 |
| Mobile Homes | 145 Dwelling Units | | 112,531 | 373,327 | (260,796) |
| **Full Service Lodging** | | | | | |
| Traditional Lodging | | | | | |
| Resort | 2,936 Units | | 10,635,190 | 7,433,833 | 3,201,356 |
| Commercial | 1,759 Units | | 3,403,632 | 4,270,199 | (866,567) |
| USFS | 330 Units | | 603,354 | 801,069 | (197,714) |
| Airport | 0 Units | | 0 | 0 | 0 |
| Timeshares | | | | | |
| Traditional | 0 Units | | 0 | 0 | 0 |
| High-End | 0 Units | | 0 | 0 | 0 |
| Private Residence Club | 0 Units | | 0 | 0 | 0 |
| Limited Service Lodging | 0 Units | | 0 | 0 | 0 |
| **Commercial/Office Uses** | | | | | |
| Retail | 1,158,605 Square Feet | | 2,832,460 | 3,915,646 | (1,083,186) |
| Office | 433,151 Square Feet | | 351,021 | 1,463,887 | (1,112,866) |
| Industrial Uses | 424,000 Square Feet | | 65,998 | 1,432,959 | (1,366,961) |
| **TOTALS** | | | | | |
| **MMH Project Impact-2017** | | | | | |
| Additional Housing Units | 1,087 | Units | | | |
| Additional Lodging Units | 208 | Units | | | |
| Additional Commercial Space | 245,756 | Square Feet | | | |
| Additional Employment | 840 | Jobs | | | |
| ***Town of Mammoth Lakes: Fiscal Impact—Airport Improvement Program 2017*** | | | | | |
| **Change in Revenues** | | | $2,954,264 | | |
| **Change in Expenses** | | | | $1,815,932 | |
| **Net Change** | | | | | **$1,138,332** |
| **Ratio—Revenues/Expenses** | | | | | 1.63 |

Source: Town of Mammoth Lakes; The SGM Group, Inc.

## Table 41: Mono County Budget Allocation 2003-2004

| Mono County Budget Allocation FY 2003-2004 Actual Budget | | | % to Population | % to Employment |
|---|---|---|---|---|
| | | | | |
| Revenues | $27,884,438 | | | |
| | | | | |
| Taxes | $12,692,347 | | 80% | 20% |
| Intergovernmental Revenues | $7,117,936 | | 66% | 34% |
| Charges for Services | $2,298,609 | | 40% | 60% |
| Prior Year Fund Balance | $4,100,000 | | 66% | 34% |
| Fines Forfeit and Penalties | $467,347 | | 66% | 34% |
| Licenses and Permits | $439,356 | | 5% | 95% |
| Use Of Money and Property | $155,670 | | 0% | 100% |
| Misc. | $142,519 | | 66% | 34% |
| Other Fin. Sources | $470,654 | | 66% | 34% |
| | | $27,884,438 | | |
| Road Fund | $3,696,287 | | 66% | 34% |
| Other Funds | $3,820,913 | | 100% | 0% |
| | | $7,517,200 | | |
| | | | | |
| General Fund Expenditures | $22,826,969 | | | |
| | | | | |
| General Government | $7,335,263 | | 66% | 34% |
| Public Protection | $8,051,369 | | 66% | 34% |
| Public Ways and Facilities | $448,703 | | 66% | 34% |
| Health & Sanitation | $4,201,737 | | 66% | 34% |
| Public Assistance | $2,260,996 | | 100% | |
| Education | $28,665 | | 66% | 34% |
| Recreation & Cultural | $500,236 | | 100% | |
| | | $22,826,969 | | |
| Road Fund | $3,807,176 | | 66% | 34% |
| Other Funds | $4,421,395 | | 100% | 0% |
| | | | | |
| | | | | |
| Budget Balance | | $5,057,469 | | |
| TOTAL | | | | |

Source: County of Mono, 2004-2005 Final Budget- Actual 2003/2004 Revenues and Mono County Budget by Function Expenditures and Transfers- Expenditures 2003/2004 Actual and a special report prepared by Mono County Budget Office for The SGM Group, Inc.; Employment for Mono County Unincorporated is from LMI Subarea data, http://www.calmis.ca.gov/htmlfile/sublist.htm and The SGM Group, Inc.

## Table 42: Mono County Per Capita Revenues and Expenditures—FY 2003-2004

| Mono County Budget Allocation FY 2003-2004 Actual Budget | Resident Distribution | Employee Distribution | Residential Average | Employment Average | Residential | Employment |
|---|---|---|---|---|---|---|
| Revenues | | | 6,048 | 3,160 | | |
| | | | | | | |
| Taxes | $10,153,878 | $2,538,469 | $1,678.88 | $803.31 | | |
| Intergovernmental Revenues | $4,675,204 | $2,442,732 | $773.02 | $773.02 | | |
| Charges for Services | $919,444 | $1,379,165 | $152.02 | $436.44 | | |
| Prior Year Fund Balance | $2,692,963 | $1,407,037 | $445.26 | $445.26 | | |
| Fines Forfeit and Penalties | $306,963 | $160,384 | $50.75 | $50.75 | | |
| Licenses and Permits | $21,968 | $417,388 | $3.63 | $132.08 | | |
| Use Of Money and Property | $0 | $155,670 | $0.00 | $49.26 | | |
| Misc. | $93,609 | $48,910 | $15.48 | $15.48 | | |
| Other Fin. Sources | $309,135 | $161,519 | $51.11 | $51.11 | | |
| | | | | | $3,170.17 | $2,756.73 |
| Road Fund | $2,427,796 | $1,268,491 | $401.42 | $401.42 | | |
| Other Funds | $3,820,913 | $0 | $631.76 | $0.00 | | |
| | | | | | | |
| General Fund Expenditures | | | | | | |
| | | | | | | |
| General Government | $4,817,948 | $2,517,314 | $796.62 | $796.62 | | |
| Public Protection | $5,288,302 | $2,763,068 | $874.39 | $874.39 | | |
| Public Ways and Facilities | $294,717 | $153,986 | $48.73 | $48.73 | | |
| Health & Sanitation | $2,759,786 | $1,441,951 | $456.31 | $456.31 | | |
| Public Assistance | $2,260,996 | $0 | $373.84 | $0.00 | | |
| Education | $18,828 | $9,837 | $3.11 | $3.11 | | |
| Recreation & Cultural | $500,236 | $0 | $82.71 | $0.00 | | |
| | | | | | $2,635.72 | $2,179.16 |
| Road Fund | $2,500,630 | $1,306,546 | $413.46 | $413.46 | | |
| Other Funds | $4,421,395 | $0 | $731.05 | $0.00 | | |

Source: County of Mono, 2004-2005 Final Budget- Actual 2003/2004 Revenues and Mono County Budget by Function Expenditures and Transfers- Expenditures 2003/2004 Actual and a special report prepared by Mono County Budget Office for The SGM Group, Inc.; Employment for Mono County Unincorporated is from LMI Subarea data, http://www.calmis.ca.gov/htmlfile/sublist.htm and The SGM Group, Inc.

## Table 43: Mono County Fiscal Impact Summary 2017

| Mono County Budget Allocation FY 2003-2004 Actual Budget | Additional Population | Additional Employment | Total Impact Revenues | Total Impact Expenditures | Net Change | Ratio |
|---|---|---|---|---|---|---|
| Population and Employment Increment | 950 | 908 | | | | |
| | | | | | | |
| Taxes | $1,595,178 | $729,716 | | | | |
| Intergovernmental Revenues | $734,476 | $702,195 | | | | |
| Charges for Services | $144,445 | $396,459 | | | | |
| Prior Year Fund Balance | $423,065 | $404,471 | | | | |
| Fines Forfeit and Penalties | $48,224 | $46,105 | | | | |
| Licenses and Permits | $3,451 | $119,984 | | | | |
| Use Of Money and Property | $0 | $44,749 | | | | |
| Misc. | $14,706 | $14,060 | | | | |
| Other Fin. Sources | $48,565 | $46,431 | | | | |
| | | | $5,516,281 | | | |
| Road Fund | $381,408 | $364,644 | | | | |
| Other Funds | $600,267 | $0 | | | | |
| | | | $1,346,319 | | | |
| | | | | | | |
| General Fund Expenditures | | | | | | |
| | | | | | | |
| General Government | $756,901 | $723,635 | | | | |
| Public Protection | $830,794 | $794,280 | | | | |
| Public Ways and Facilities | $46,300 | $44,265 | | | | |
| Health & Sanitation | $433,563 | $414,508 | | | | |
| Public Assistance | $355,203 | $0 | | | | |
| Education | $2,958 | $2,828 | | | | |
| Recreation & Cultural | $78,587 | $0 | | $4,483,823 | | |
| | | | | | $1,032,458 | 1.23 |
| | | | | | | |
| | | | | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| Road Fund | $392,850 | $375,584 | | | | |
| Other Funds | $694,603 | $0 | | | | |
| | | | | $1,463,036 | | |
| | | | | | ($116,718) | 0.92 |
| Budget Balance | | | | | | |
| TOTAL | | | $6,862,600 | | | |
| | | | | | | |
| | | | | $5,946,859 | | |
| | | | | | $915,740 | 1.15 |

Source: County of Mono, 2004-2005 Final Budget - Actual 2003/2004 Revenues and Mono County Budget by Function Expenditures and Transfers - Expenditures 2003/2004 Actual and a special report prepared by Mono County Budget Office for The SGM Group, Inc.; Employment for Mono County Unincorporated is from LMI Subarea data, http://www.calmis.ca.gov/htmlfile/sublist.htm and The SGM Group, Inc.

## Table 44: City of Bishop Budget Allocation 2003-2004

| City of Bishop Final Budget FY 2003-2004 | | | % to Population | % to Employment |
|---|---|---|---|---|
| | | | | |
| Beginning Cash Balance July 1, 2003 | $5,368,429 | | | |
| Final Cash Balance June 30, 2004 | $4,210,034 | | | |
| | | ($1,158,395) | | |
| Revenues | | | | |
| Taxes | $3,496,000 | | 60% | 40% |
| Licenses and permits | $107,800 | | 100% | |
| Use of Money and Prop | $116,500 | | 72% | 28% |
| Receipts from other Agencies | $246,837 | | 72% | 28% |
| Charges for Current Services | $81,600 | | 100% | |
| Misc. | $66,000 | | 72% | 28% |
| Total General Fund Revenues | *$4,114,737* | | | |
| | | | | |
| Total Sewer Fund Revenues | $329,500 | | 72% | 28% |
| Revenues - Gas Tax Fund | $73,800 | | 72% | 28% |
| Revenues - Water Fund | $366,928 | | 72% | 28% |
| Revenues - Local Transportation Fund | $0 | | | |
| Revenues - Bond and Trust Fund | $0 | | | |
| Revenues - Traffic Safety Fund | $10,000 | | 72% | 28% |
| Revenues - TUT Measure A | $550,000 | | 72% | 28% |
| Revenues- Cert of Part (COP) | $0 | | | |
| Revenues-Sunrise Motor Home Park Fund | $86,500 | | 100% | |
| Revenues - DARE | $0 | | | |
| Revenues - Canine Fund | $0 | | | |
| Revenues - K-Mart Fund | $0 | | | |
| Revenues - CLEEPS | $18,000 | | 72% | 28% |
| Revenues - COPS | $100,000 | | 72% | 28% |
| Revenues - STIP Projects | $730,000 | | 72% | 28% |
| | | | | |
| Total Revenues - All Funds | | $6,379,465 | | |
| | | | | |
| Expenditures | | | | |
| | | | | |
| General Fund | $4,919,308 | | 55% | 45% |
| Sewer Fund | $543,610 | | 72% | 28% |
| Gas Tax Fund | $83,200 | | 72% | 28% |
| Water Fund | $636,600 | | 72% | 28% |
| Local Transportation | $25,247 | | 72% | 28% |
| Bond and Trust Fund | $0 | | | |
| Traffic Safety Fund | $10,975 | | 72% | 28% |
| TUT Measure A | $501,750 | | 72% | 28% |
| Sunrise Mobile Home Park | $98,962 | | 100% | |
| DARE Program | $1,214 | | 100% | |
| Canine Program | $0 | | | |

| | | | | |
|---|---|---|---|---|
| Cert of Part (COP) | $5,444 | | 72% | 28% |
| K-Mart | $0 | | | |
| CLEEPS Program | $63,350 | | 72% | 28% |
| COPS/CIT Option Public Safety | $171,200 | | 72% | 28% |
| STIP Projects | $477,000 | | 72% | 28% |
| | | | | |
| Total Expenditures | | $7,537,860 | | |
| | | | | |
| Budget Balance | | | | |
| TOTAL | | ($1,158,395) | | |

Source: City of Bishop, Final Budget Fiscal Year 2003-2004 and The SGM Group, Inc.

## Table 45: City of Bishop Per Capita Revenues and Expenditures—FY 2003-2004

| City of Bishop Final Budget FY 2003-2004 | Resident Distribution | Employee Distribution | Residential Average | Employment Average | Residential | Employment |
|---|---|---|---|---|---|---|
| Population and Employment Increment | | | 3,632 | 1,430 | | |
| | | | | | | |
| *Revenues* | | | | | | |
| Taxes | $2,097,600 | $1,398,400 | $577.53 | $977.90 | | |
| Licenses and permits | $107,800 | $0 | $29.68 | $0.00 | | |
| Use of Money and Prop | $83,589 | $32,911 | $23.01 | $23.01 | | |
| Receipts from other Agencies | $177,106 | $69,731 | $48.76 | $48.76 | | |
| Charges for Current Services | $81,600 | $0 | $22.47 | $0.00 | | |
| Misc. | $47,355 | $18,645 | $13.04 | $13.04 | | |
| Total General Fund Revenues | | | | | | |
| | | | | | | |
| Total Sewer Fund Revenues | $236,417 | $93,083 | $65.09 | $65.09 | | |
| Revenues - Gas Tax Fund | $52,952 | $20,848 | $14.58 | $14.58 | | |
| Revenues - Water Fund | $263,272 | $103,656 | $72.49 | $72.49 | | |
| Revenues - Local Transportation Fund | $0 | $0 | $0.00 | $0.00 | | |
| Revenues - Bond and Trust Fund | $0 | $0 | $0.00 | $0.00 | | |
| Revenues - Traffic Safety Fund | $7,175 | $2,825 | $1.98 | $1.98 | | |
| Revenues - TUT Measure A | $394,627 | $155,373 | $108.65 | $108.65 | | |
| Revenues- Cert of Part (COP) | $0 | $0 | $0.00 | $0.00 | | |
| Revenues-Sunrise Motor Home Park Fund | $86,500 | $0 | $23.82 | $0.00 | | |
| Revenues - DARE | $0 | $0 | $0.00 | $0.00 | | |
| Revenues - Canine Fund | $0 | $0 | $0.00 | $0.00 | | |
| Revenues - K-Mart Fund | $0 | $0 | $0.00 | $0.00 | | |
| Revenues - CLEEPS | $12,915 | $5,085 | $3.56 | $3.56 | | |
| Revenues - COPS | $71,750 | $28,250 | $19.76 | $19.76 | | |
| Revenues - STIP Projects | $523,777 | $206,223 | $144.21 | $144.21 | | |
| **Total Revenues - All Funds** | | | | | **$1,168.62** | **$1,493.03** |

| *Expenditures* | | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| General Fund | $2,705,619 | $2,213,689 | $744.94 | $1,548.03 | | |
| Sewer Fund | $390,042 | $153,568 | $107.39 | $107.39 | | |
| Gas Tax Fund | $59,696 | $23,504 | $16.44 | $16.44 | | |
| Water Fund | $456,762 | $179,838 | $125.76 | $125.76 | | |
| Local Transportation | $18,115 | $7,132 | $4.99 | $4.99 | | |
| Bond and Trust Fund | $0 | $0 | $0.00 | $0.00 | | |
| Traffic Safety Fund | $7,875 | $3,100 | $2.17 | $2.17 | | |
| TUT Measure A | $360,007 | $141,743 | $99.12 | $99.12 | | |
| Sunrise Mobile Home Park | $98,962 | $0 | $27.25 | $0.00 | | |
| DARE Program | $1,214 | $0 | $0.33 | $0.00 | | |
| Canine Program | $0 | $0 | $0.00 | $0.00 | | |
| Cert of Part (COP) | $3,906 | $1,538 | $1.08 | $1.08 | | |
| K-Mart | $0 | $0 | $0.00 | $0.00 | | |
| CLEEPS Program | $45,454 | $17,896 | $12.51 | $12.51 | | |
| COPS/CIT Option Public Safety | $122,837 | $48,363 | $33.82 | $33.82 | | |
| STIP Projects | $342,249 | $134,751 | $94.23 | $94.23 | | |
| | | | | | | |
| **Total Expenditures** | | | | | **$1,270.03** | **$2,045.54** |

Source: City of Bishop, Final Budget Fiscal Year 2003-2004 and The SGM Group, Inc.

## Table 46: City of Bishop Fiscal Impact Summary—2017

| City of Bishop Final Budget FY 2003-2004 | Additional Population | Additional Employment | Total Impact Revenues | Total Impact Expenditures | Net Change | Ratio |
|---|---|---|---|---|---|---|
| Population and Employment Increment | 384 | 411 | | | | |
| | | | | | | |
| *Revenues* | | | | | | |
| Taxes | $221,732 | $401,988 | | | | |
| Licenses and permits | $11,395 | $0 | | | | |
| Use of Money and Prop | $8,836 | $9,461 | | | | |
| Receipts from other Agencies | $18,721 | $20,045 | | | | |
| Charges for Current Services | $8,626 | $0 | | | | |
| Misc. | $5,006 | $5,360 | | | | |
| Total General Fund Revenues | | | | | | |
| | | | | | | |
| Total Sewer Fund Revenues | $24,991 | $26,758 | | | | |
| Revenues - Gas Tax Fund | $5,597 | $5,993 | | | | |
| Revenues - Water Fund | $27,830 | $29,797 | | | | |
| Revenues - Local Transportation Fund | $0 | $0 | | | | |
| Revenues - Bond and Trust Fund | $0 | $0 | | | | |
| Revenues - Traffic Safety Fund | $758 | $812 | | | | |
| Revenues - TUT Measure A | $41,715 | $44,664 | | | | |
| Revenues- Cert of Part (COP) | $0 | $0 | | | | |
| Revenues-Sunrise Motor Home Park Fund | $9,144 | $0 | | | | |
| Revenues - DARE | $0 | $0 | | | | |
| Revenues - Canine Fund | $0 | $0 | | | | |
| Revenues - K-Mart Fund | $0 | $0 | | | | |
| Revenues - CLEEPS | $1,365 | $1,462 | | | | |
| Revenues - COPS | $7,585 | $8,121 | | | | |
| Revenues - STIP Projects | $55,367 | $59,281 | | | | |
| **Total Revenues - All Funds** | | | **$1,062,410** | | | |
| | | | | | | |

| *Expenditures* | | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| General Fund | $286,004 | $636,354 | | | | |
| Sewer Fund | $41,230 | $44,145 | | | | |
| Gas Tax Fund | $6,310 | $6,756 | | | | |
| Water Fund | $48,283 | $51,697 | | | | |
| Local Transportation | $1,915 | $2,050 | | | | |
| Bond and Trust Fund | $0 | $0 | | | | |
| Traffic Safety Fund | $832 | $891 | | | | |
| TUT Measure A | $38,055 | $40,746 | | | | |
| Sunrise Mobile Home Park | $10,461 | $0 | | | | |
| DARE Program | $128 | $0 | | | | |
| Canine Program | $0 | $0 | | | | |
| Cert of Part (COP) | $413 | $442 | | | | |
| K-Mart | $0 | $0 | | | | |
| CLEEPS Program | $4,805 | $5,144 | | | | |
| COPS/CIT Option Public Safety | $12,985 | $13,903 | | | | |
| STIP Projects | $36,178 | $38,736 | | | | |
| | | | | | | |
| **Total Expenditures** | | | | **$1,328,465** | | |
| | | | | | **($266,055)** | **0.80** |

Source: City of Bishop, Final Budget Fiscal Year 2003-2004 and The SGM Group, Inc.

## Table 47: Inyo County Budget Allocation 2003-2004

| Inyo County Budget Allocation FY 2003-2004 Actual Budget | | | % to Population | % to Employment |
|---|---|---|---|---|
| Revenues | $64,739,672 | | | |
| | | | | |
| Taxes - Property | $8,479,200 | | 67% | 33% |
| Taxes - Other | $4,242,204 | | 33% | 67% |
| Licenses and permits | $302,500 | | 10% | 90% |
| Fines and Forfeitures | $1,331,100 | | 73% | 27% |
| Rev Use of Money and Prop | $860,926 | | 0% | 100% |
| Aid from other Government Agencies | $35,270,458 | | 20% | 80% |
| Charges for Current Services | $9,065,695 | | 0% | 100% |
| Other Revenue | $5,187,589 | | 0% | 100% |
| | | $64,739,672 | | |
| | | | | |
| Expenditures | $68,893,580 | | | |
| | | | | |
| General Government | $14,497,262 | | 73% | 27% |
| Public Protection | $20,971,169 | | 73% | 27% |
| Public Ways and Facilities | $12,006,365 | | 20% | 80% |
| Health & Sanitation | $10,339,801 | | 73% | 27% |
| Public Assistance | $7,780,064 | | 100% | 0% |
| Education | $778,727 | | 73% | 27% |
| Recreation & Cultural | $2,270,192 | | 73% | 27% |
| Reserves | $250,000 | | 73% | 27% |
| | | $68,893,580 | | |
| | | | | |
| Budget Balance | | ($4,153,908) | | |

Source: County of Inyo, 2003-2004 Board Approved Budget Schedule 5, Schedule 7 and Schedule 8A and The SGM Group, Inc.

## Table 48: Inyo County Per Capita Revenues and Expenditures—FY 2003-2004

| Inyo County Budget Allocation FY 2003-2004 Actual Budget | Resident Distribution | Employee Distribution | Residential Average | Employment Average | Residential | Employment |
|---|---|---|---|---|---|---|
| Population and Employment Increment | | | 14,883 | 5,480 | | |
| | | | | | | |
| Taxes - Property | $5,652,800 | $2,826,400 | $379.82 | $515.77 | | |
| Taxes - Other | $1,414,068 | $2,828,136 | $95.01 | $516.08 | | |
| Licenses and permits | $30,250 | $272,250 | $2.03 | $49.68 | | |
| Fines and Forfeitures | $972,880 | $358,220 | $65.37 | $65.37 | | |
| Rev Use of Money and Prop | $0 | $860,926 | $0.00 | $157.10 | | |
| Aid from other Government Agencies | $7,054,092 | $28,216,366 | $473.97 | $5,148.97 | | |
| Charges for Current Services | $0 | $9,065,695 | $0.00 | $1,654.32 | | |
| Other Revenue | $0 | $5,187,589 | $0.00 | $946.64 | | |
| | | | | | $1,016.20 | $9,053.94 |
| | | | | | | |
| Expenditures | | | | | | |
| | | | | | | |
| General Government | $10,595,823 | $3,901,439 | $711.94 | $711.94 | | |
| Public Protection | $15,327,501 | $5,643,668 | $1,029.87 | $1,029.87 | | |
| Public Ways and Facilities | $2,401,273 | $9,605,092 | $161.34 | $1,752.75 | | |
| Health & Sanitation | $7,557,200 | $2,782,601 | $507.77 | $507.77 | | |
| Public Assistance | $7,780,064 | $0 | $522.75 | $0.00 | | |
| Education | $569,159 | $209,568 | $38.24 | $38.24 | | |
| Recreation & Cultural | $1,659,248 | $610,944 | $111.49 | $111.49 | | |
| Reserves | $182,721 | $67,279 | $12.28 | $12.28 | | |
| | | | | | $3,095.68 | $4,164.34 |

Source: County of Inyo, 2003-2004 Board Approved Budget Schedule 5, Schedule 7 and Schedule 8A and The SGM Group, Inc.

## Table 49: Inyo County Fiscal Impact Summary 2017

| Inyo County Budget Allocation FY 2003-2004 Actual Budget | Additional Population | Additional Employment | Total Impact Revenues | Total Impact Expenditures | Net Change | Ratio |
|---|---|---|---|---|---|---|
| Population and Employment Increment | 1,705 | 1,575 | | | | |
| | | | | | | |
| Taxes - Property | $647,592 | $812,486 | | | | |
| Taxes - Other | $161,997 | $812,985 | | | | |
| Licenses and permits | $3,465 | $78,262 | | | | |
| Fines and Forfeitures | $111,454 | $102,975 | | | | |
| Rev Use of Money and Prop | $0 | $247,484 | | | | |
| Aid from other Government Agencies | $808,126 | $8,111,165 | | | | |
| Charges for Current Services | $0 | $2,606,053 | | | | |
| Other Revenue | $0 | $1,491,241 | | | | |
| | | | | | | |
| | | | $15,995,286 | | | |
| | | | | | | |
| Expenditures | | | | | | |
| | | | | | | |
| General Government | $1,213,871 | $1,121,520 | | | | |
| Public Protection | $1,755,939 | $1,622,346 | | | | |
| Public Ways and Facilities | $275,093 | $2,761,110 | | | | |
| Health & Sanitation | $865,763 | $799,895 | | | | |
| Public Assistance | $891,294 | $0 | | | | |
| Education | $65,204 | $60,243 | | | | |
| Recreation & Cultural | $190,086 | $175,624 | | | | |
| Reserves | $20,933 | $19,340 | | | | |
| | | | | $11,838,260 | | |
| | | | | | $4,157,026 | 1.35 |

Source: County of Inyo, 2003-2004 Board Approved Budget Schedule 5, Schedule 7 and Schedule 8A and The SGM Group, Inc.

## Table 50: Construction Cost Estimates Mammoth Yosemite Airport

| Project Element | # | Construction Cost | Engineering and Administrative | Total Project Cost | FAA Participation | Sponsor Participation |
|---|---|---|---|---|---|---|
| Supplemental Environmental Studies | 1 | $0 | $2,210,526 | $2,210,526 | $2,100,000 | $110,526 |
| Runway 9-27 Extension | 2 | $1,767,800 | $530,200 | $2,298,000 | $2,183,100 | $114,900 |
| Widen Runway | 3 | $3,504,900 | $1,052,100 | $4,557,000 | $4,329,150 | $227,850 |
| Strengthen Runway 9-27 | 4 | $3,392,570 | $1,017,430 | $4,410,000 | $4,189,500 | $220,500 |
| Relocate runway 9-27 | 5 | $427,000 | $128,000 | $555,000 | $527,250 | $27,750 |
| Taxiway Extension | 6 | $1,315,075 | $394,925 | $1,710,000 | $1,624,500 | $85,500 |
| Widen Taxiways | 7 | $1,807,600 | $542,400 | $2,350,000 | $2,232,500 | $117,500 |
| Strength Taxiways | 8 | $904,400 | $271,600 | $1,176,000 | $1,117,200 | $58,800 |
| Center Taxiway | 9 | $480,300 | $144,700 | $625,000 | $593,750 | $31,250 |
| Runway 27 Holding Apron | 10 | $679,150 | $203,850 | $883,000 | $838,850 | $44,150 |
| Terminal Apron | 11 | $4,080,850 | $1,224,150 | $5,305,000 | $5,039,750 | $265,250 |
| Access Road | 12 | $801,500 | $241,500 | $1,043,000 | $990,850 | $52,150 |
| Auto Parking Lot Phase I | 13 | $506,350 | $151,650 | $658,000 | $625,100 | $32,900 |
| Security Fencing | 14 | $550,000 | $165,000 | $715,000 | $679,250 | $35,750 |
| Navigational Aids/Runway Lighting | 15 | $1,560,000 | $0 | $1,560,000 | $1,482,000 | $78,000 |
| Snow Removal Equipment | 16 | $1,200,000 | $0 | $1,200,000 | $1,140,000 | $60,000 |
| Terminal Building | 17 | $9,035,000 | $0 | $9,035,000 | $0 | $9,035,000 |
| Security System | 18 | $474,000 | $118,500 | $592,500 | $562,875 | $29,625 |
| Auto Parking Lot Phase II | 19 | $306,600 | $91,400 | $398,000 | $378,100 | $19,900 |
| ***Total Project Costs*** | | **$32,793,095** | **$8,487,931** | **$41,281,026** | **$30,633,725** | **$10,647,301** |

Source: Airport Capital Improvement Program (ACIP), Mammoth Yosemite Airport, April 2004; The SGM Group, Inc.

## Table 51: Summary Economic Impacts of Construction—Mono and Inyo Counties

| Impact Category | *Direct* | *Indirect* | *Induced* | Total Impact |
|---|---|---|---|---|
| *Employment* | | | | |
| Number of Jobs (Full- and Part-Time) | 516 | 104 | 127 | **746** |
| | | | | |
| *Value Measures (2004 Dollars)* | | | | |
| Total Output | $41,281,026 | $8,305,054 | $9,465,613 | **$59,051,692** |
| Value Added | $19,296,295 | $4,816,638 | $5,814,073 | **$29,927,005** |
| Employee Compensation | $14,119,889 | $2,395,498 | $2,447,311 | **$18,962,698** |
| Labor Income | $18,815,005 | $2,961,232 | $2,996,295 | **$24,772,532** |
| Indirect Business Taxes | $363,936 | $290,167 | $658,527 | **$1,312,630** |
| Total Taxes | - | - | - | **$8,208,247** |

Source: IMPLAN, and The SGM Group, Inc.

## Table 52: Construction Employment Impact—Mono and Inyo Counties

| | Industry | Direct | Indirect | Induced | Total |
|---|---|---|---|---|---|
| 1 | 11 Ag, Forestry, Fish & Hunting | - | 0.2 | 0.7 | 0.9 |
| 19 | 21 Mining | - | 0.0 | 0.0 | 0.0 |
| 30 | 22 Utilities | - | 0.9 | 1.5 | 2.4 |
| 33 | 23 Construction | 349.6 | 1.3 | 0.8 | 351.7 |
| 46 | 31-33 Manufacturing | - | 2.3 | 1.7 | 4.1 |
| 390 | 42 Wholesale Trade | - | 2.3 | 1.8 | 4.1 |
| 391 | 48-49 Transportation & Warehousing | - | 8.1 | 1.9 | 10.0 |
| 401 | 44-45 Retail trade | - | 14.7 | 30.8 | 45.5 |
| 413 | 51 Information | - | 2.0 | 2.1 | 4.1 |
| 425 | 52 Finance & insurance | - | 1.9 | 3.9 | 5.8 |
| 431 | 53 Real estate & rental | - | 9.4 | 6.5 | 15.9 |
| 437 | 54 Professional- scientific & tech svcs | 166.0 | 36.3 | 6.1 | 208.4 |
| 451 | 55 Management of companies | - | 1.2 | 0.9 | 2.1 |
| 452 | 56 Administrative & waste services | - | 5.6 | 2.6 | 8.2 |
| 461 | 61 Educational svcs | - | 0.9 | 1.8 | 2.6 |
| 464 | 62 Health & social services | - | 0.0 | 18.9 | 18.9 |
| 475 | 71 Arts- entertainment & recreation | - | 1.2 | 7.9 | 9.1 |
| 479 | 72 Accommodation & food services | - | 3.9 | 21.7 | 25.5 |
| 482 | 81 Other services | - | 9.4 | 11.8 | 21.2 |
| 495 | 92 Government | - | 2.1 | 3.4 | 5.4 |
| | **Total Jobs (Full- and Part-Time)** | **515.6** | **103.6** | **126.9** | **746.0** |

Source: IMPLAN and The SGM Group, Inc.

## Table 53: Construction Total Output—Mono and Inyo Counties

| | Industry | Direct* | Indirect* | Induced* | Total* |
|---|---|---|---|---|---|
| 1 | 11 Ag, Forestry, Fish & Hunting | $0 | $7,396 | $25,438 | $32,834 |
| 19 | 21 Mining | $0 | $2,305 | $64 | $2,369 |
| 30 | 22 Utilities | $0 | $91,566 | $154,002 | $245,567 |
| 33 | 23 Construction | $32,793,112 | $111,010 | $78,057 | $32,982,179 |
| 46 | 31-33 Manufacturing | $0 | $625,423 | $269,434 | $894,856 |
| 390 | 42 Wholesale Trade | $0 | $88,923 | $69,369 | $158,293 |
| 391 | 48-49 Transportation & Warehousing | $0 | $698,002 | $154,118 | $852,120 |
| 401 | 44-45 Retail trade | $0 | $817,086 | $1,618,525 | $2,435,611 |
| 413 | 51 Information | $0 | $229,759 | $248,647 | $478,406 |
| 425 | 52 Finance & insurance | $0 | $167,408 | $408,125 | $575,533 |
| 431 | 53 Real estate & rental | $0 | $1,308,355 | $736,294 | $2,044,648 |
| 437 | 54 Professional- scientific & tech svcs | $8,487,914 | $2,036,646 | $386,059 | $10,910,619 |
| 451 | 55 Management of companies | $0 | $63,560 | $46,053 | $109,614 |
| 452 | 56 Administrative & waste services | $0 | $243,991 | $124,056 | $368,047 |
| 461 | 61 Educational svcs | $0 | $13,990 | $43,703 | $57,692 |
| 464 | 62 Health & social services | $0 | $82 | $1,139,250 | $1,139,331 |
| 475 | 71 Arts- entertainment & recreation | $0 | $31,418 | $215,814 | $247,231 |
| 479 | 72 Accommodation & food services | $0 | $189,468 | $943,344 | $1,132,812 |
| 482 | 81 Other services | $0 | $1,342,893 | $773,528 | $2,116,421 |
| 495 | 92 Government | $0 | $235,775 | $2,031,733 | $2,267,508 |
| | **Total** | **$41,281,026** | **$8,305,054** | **$9,465,613** | **$59,051,692** |

* 2004 Dollars
Source: IMPLAN and The SGM Group, Inc.

## Table 54: Construction Value Added—Mono and Inyo Counties

| | Industry | Direct* | Indirect* | Induced* | Total* |
|---|---|---|---|---|---|
| 1 | 11 Ag, Forestry, Fish & Hunting | $0 | $1,152 | $1,007 | $2,159 |
| 19 | 21 Mining | $0 | $1,346 | $22 | $1,368 |
| 30 | 22 Utilities | $0 | $59,155 | $99,532 | $158,687 |
| 33 | 23 Construction | $12,965,643 | $45,577 | $30,094 | $13,041,314 |
| 46 | 31-33 Manufacturing | $0 | $89,541 | $83,322 | $172,864 |
| 390 | 42 Wholesale Trade | $0 | $54,610 | $42,601 | $97,211 |
| 391 | 48-49 Transportation & Warehousing | $0 | $282,470 | $69,468 | $351,938 |
| 401 | 44-45 Retail trade | $0 | $510,182 | $981,551 | $1,491,734 |
| 413 | 51 Information | $0 | $89,957 | $96,647 | $186,604 |
| 425 | 52 Finance & insurance | $0 | $103,030 | $232,656 | $335,686 |
| 431 | 53 Real estate & rental | $0 | $910,836 | $519,834 | $1,430,670 |
| 437 | 54 Professional- scientific & tech svcs | $6,330,652 | $1,527,347 | $285,277 | $8,143,276 |
| 451 | 55 Management of companies | $0 | $28,873 | $20,920 | $49,794 |
| 452 | 56 Administrative & waste services | $0 | $148,323 | $74,436 | $222,759 |
| 461 | 61 Educational svcs | $0 | $7,619 | $26,241 | $33,860 |
| 464 | 62 Health & social services | $0 | $24 | $762,848 | $762,872 |
| 475 | 71 Arts- entertainment & recreation | $0 | $13,919 | $124,435 | $138,355 |
| 479 | 72 Accommodation & food services | $0 | $110,541 | $468,559 | $579,099 |
| 482 | 81 Other services | $0 | $708,826 | $407,781 | $1,116,607 |
| 495 | 92 Government | $0 | $123,308 | $1,486,841 | $1,610,149 |
| | **Total** | **$19,296,295** | **$4,816,638** | **$5,814,073** | **$29,927,005** |

* 2004 Dollars
Source: IMPLAN and The SGM Group, Inc.

## Table 55: Construction Employee Compensation—Mono and Inyo Counties

| | Industry | Direct* | Indirect* | Induced* | Total* |
|---|---|---|---|---|---|
| 1 | 11 Ag, Forestry, Fish & Hunting | $0 | $702 | $3,635 | $4,338 |
| 19 | 21 Mining | $0 | $876 | $15 | $891 |
| 30 | 22 Utilities | $0 | $12,207 | $20,633 | $32,840 |
| 33 | 23 Construction | $10,168,315 | $36,760 | $24,121 | $10,229,195 |
| 46 | 31-33 Manufacturing | $0 | $73,893 | $47,868 | $121,761 |
| 390 | 42 Wholesale Trade | $0 | $29,527 | $23,034 | $52,561 |
| 391 | 48-49 Transportation & Warehousing | $0 | $184,924 | $49,822 | $234,746 |
| 401 | 44-45 Retail trade | $0 | $341,079 | $637,841 | $978,920 |
| 413 | 51 Information | $0 | $50,543 | $54,663 | $105,207 |
| 425 | 52 Finance & insurance | $0 | $37,365 | $80,921 | $118,287 |
| 431 | 53 Real estate & rental | $0 | $199,485 | $83,635 | $283,120 |
| 437 | 54 Professional- scientific & tech svcs | $3,951,574 | $916,772 | $169,085 | $5,037,430 |
| 451 | 55 Management of companies | $0 | $25,520 | $18,491 | $44,011 |
| 452 | 56 Administrative & waste services | $0 | $93,676 | $47,159 | $140,835 |
| 461 | 61 Educational svcs | $0 | $4,995 | $22,097 | $27,092 |
| 464 | 62 Health & social services | $0 | $17 | $520,506 | $520,523 |
| 475 | 71 Arts- entertainment & recreation | $0 | $8,686 | $60,832 | $69,517 |
| 479 | 72 Accommodation & food services | $0 | $57,810 | $264,676 | $322,486 |
| 482 | 81 Other services | $0 | $233,818 | $174,354 | $408,172 |
| 495 | 92 Government | $0 | $86,843 | $143,922 | $230,766 |
| | **Total** | **$14,119,889** | **$2,395,498** | **$2,447,311** | **$18,962,698** |

* 2004 Dollars
Source: IMPLAN and The SGM Group, Inc.

## Table 56: Construction Labor Income—Mono and Inyo Counties

| | Industry | Direct* | Indirect* | Induced* | Total* |
|---|---|---|---|---|---|
| 1 | 11 Ag, Forestry, Fish & Hunting | $0 | -$901 | -$2,239 | -$3,140 |
| 19 | 21 Mining | $0 | $921 | $15 | $935 |
| 30 | 22 Utilities | $0 | $21,816 | $36,857 | $58,673 |
| 33 | 23 Construction | $13,767,308 | $49,982 | $32,755 | $13,850,045 |
| 46 | 31-33 Manufacturing | $0 | $84,567 | $51,427 | $135,995 |
| 390 | 42 Wholesale Trade | $0 | $31,191 | $24,332 | $55,523 |
| 391 | 48-49 Transportation & Warehousing | $0 | $199,746 | $52,857 | $252,603 |
| 401 | 44-45 Retail trade | $0 | $389,274 | $739,783 | $1,129,057 |
| 413 | 51 Information | $0 | $60,073 | $64,968 | $125,042 |
| 425 | 52 Finance & insurance | $0 | $39,229 | $85,512 | $124,741 |
| 431 | 53 Real estate & rental | $0 | $247,188 | $116,484 | $363,672 |
| 437 | 54 Professional- scientific & tech svcs | $5,047,697 | $1,169,004 | $214,597 | $6,431,298 |
| 451 | 55 Management of companies | $0 | $26,454 | $19,168 | $45,622 |
| 452 | 56 Administrative & waste services | $0 | $112,096 | $56,031 | $168,126 |
| 461 | 61 Educational svcs | $0 | $5,291 | $23,519 | $28,809 |
| 464 | 62 Health & social services | $0 | $20 | $639,488 | $639,508 |
| 475 | 71 Arts- entertainment & recreation | $0 | $12,091 | $85,768 | $97,858 |
| 479 | 72 Accommodation & food services | $0 | $80,769 | $389,730 | $470,499 |
| 482 | 81 Other services | $0 | $345,578 | $221,322 | $566,900 |
| 495 | 92 Government | $0 | $86,843 | $143,922 | $230,766 |
| | **Total** | **$18,815,005** | **$2,961,232** | **$2,996,295** | **$24,772,532** |

* 2004 Dollars
Source: IMPLAN and The SGM Group, Inc.

## Table 57: Construction Indirect Business Taxes—Mono and Inyo Counties

| | Industry | Direct* | Indirect* | Induced* | Total* |
|---|---|---|---|---|---|
| 1 | 11 Ag, Forestry, Fish & Hunting | $0 | $236 | $395 | $631 |
| 19 | 21 Mining | $0 | $68 | $3 | $71 |
| 30 | 22 Utilities | $0 | $10,298 | $17,238 | $27,536 |
| 33 | 23 Construction | $308,780 | $1,126 | $687 | $310,592 |
| 46 | 31-33 Manufacturing | $0 | $2,994 | $1,525 | $4,519 |
| 390 | 42 Wholesale Trade | $0 | $15,712 | $12,257 | $27,968 |
| 391 | 48-49 Transportation & Warehousing | $0 | $5,334 | $1,035 | $6,369 |
| 401 | 44-45 Retail trade | $0 | $84,018 | $168,320 | $252,338 |
| 413 | 51 Information | $0 | $9,231 | $9,763 | $18,994 |
| 425 | 52 Finance & insurance | $0 | $3,157 | $7,156 | $10,313 |
| 431 | 53 Real estate & rental | $0 | $76,938 | $80,683 | $157,621 |
| 437 | 54 Professional- scientific & tech svcs | $55,156 | $13,714 | $3,610 | $72,480 |
| 451 | 55 Management of companies | $0 | $771 | $559 | $1,330 |
| 452 | 56 Administrative & waste services | $0 | $4,162 | $2,759 | $6,921 |
| 461 | 61 Educational svcs | $0 | $113 | $159 | $272 |
| 464 | 62 Health & social services | $0 | $0 | $6,805 | $6,805 |
| 475 | 71 Arts- entertainment & recreation | $0 | $834 | $9,815 | $10,649 |
| 479 | 72 Accommodation & food services | $0 | $13,662 | $57,032 | $70,694 |
| 482 | 81 Other services | $0 | $47,427 | $23,835 | $71,262 |
| 495 | 92 Government | $0 | $371 | $254,892 | $255,263 |
| | **Total** | **$363,936** | **$290,167** | **$658,527** | **$1,312,630** |

* 2004 Dollars
Source: IMPLAN and The SGM Group, Inc.

## Table 58: Construction Total Taxes—Mono and Inyo Counties

| | | Employee Compensation | Proprietary Income | Household Expenditure | Enterprise (Corporation) | Indirect Business Taxes | Total |
|---|---|---|---|---|---|---|---|
| **Federal Government NonDefense** | Corporate Profits Tax | | | | $192,634 | | $192,634 |
| | Indirect Bus Tax: Custom Duty | | | | | $30,196 | $30,196 |
| | Indirect Bus Tax: Excise Taxes | | | | | $97,184 | $97,184 |
| | Indirect Bus Tax: Fed NonTaxes | | | | | $34,300 | $34,300 |
| | Personal Tax: Estate and Gift Tax | | | | | | |
| | Personal Tax: Income Tax | | | $3,035,392 | | | $3,035,392 |
| | Personal Tax: NonTaxes (Fines- Fees | | | $25,931 | | | $25,931 |
| | Social Ins Tax- Employee Contribution | $1,017,279 | $282,442 | | | | $1,299,721 |
| | Social Ins Tax- Employer Contribution | $1,053,448 | | | | | $1,053,448 |
| | *Total* | *$2,070,727* | *$282,442* | *$3,061,323* | *$192,634* | *$161,680* | *$5,768,806* |
| **State/Local Govt NonEducation** | Corporate Profits Tax | | | | $47,079 | | $47,079 |
| | Dividends | | | | $559 | | $559 |
| | Indirect Bus Tax: Motor Vehicle Lic | | | | | $7,975 | $7,975 |
| | Indirect Bus Tax: Other Taxes | | | | | $64,922 | $64,922 |
| | Indirect Bus Tax: Property Tax | | | | | $405,929 | $405,929 |
| | Indirect Bus Tax: S/L NonTaxes | | | | | $72,184 | $72,184 |
| | Indirect Bus Tax: Sales Tax | | | | | $599,634 | $599,634 |
| | Indirect Bus Tax: Severance Tax | | | | | $306 | $306 |
| | Personal Tax: Estate and Gift Tax | | | | | | |
| | Personal Tax: Income Tax | | | $880,539 | | | $880,539 |
| | Personal Tax: Motor Vehicle License | | | $27,817 | | | $27,817 |
| | Personal Tax: NonTaxes (Fines- Fees | | | $234,845 | | | $234,845 |
| | Personal Tax: Other Tax (Fish/Hunt) | | | $4,067 | | | $4,067 |
| | Personal Tax: Property Taxes | | | $12,101 | | | $12,101 |
| | Social Ins Tax- Employee Contribution | $17,714 | | | | | $17,714 |
| | Social Ins Tax- Employer Contribution | $63,770 | | | | | $63,770 |
| | *Total* | *$81,483* | | *$1,159,369* | *$47,638* | *$1,150,950* | *$2,439,441* |
| | **Total** | **$2,152,210** | **$282,442** | **$4,220,692** | **$240,272** | **$1,312,630** | **$8,208,247** |

* 2004 Dollars
Source: IMPLAN and The SGM Group, Inc.

## Table 59: Summary Economic Impacts of Construction

*Seven-County Region versus Two-County Study Area*

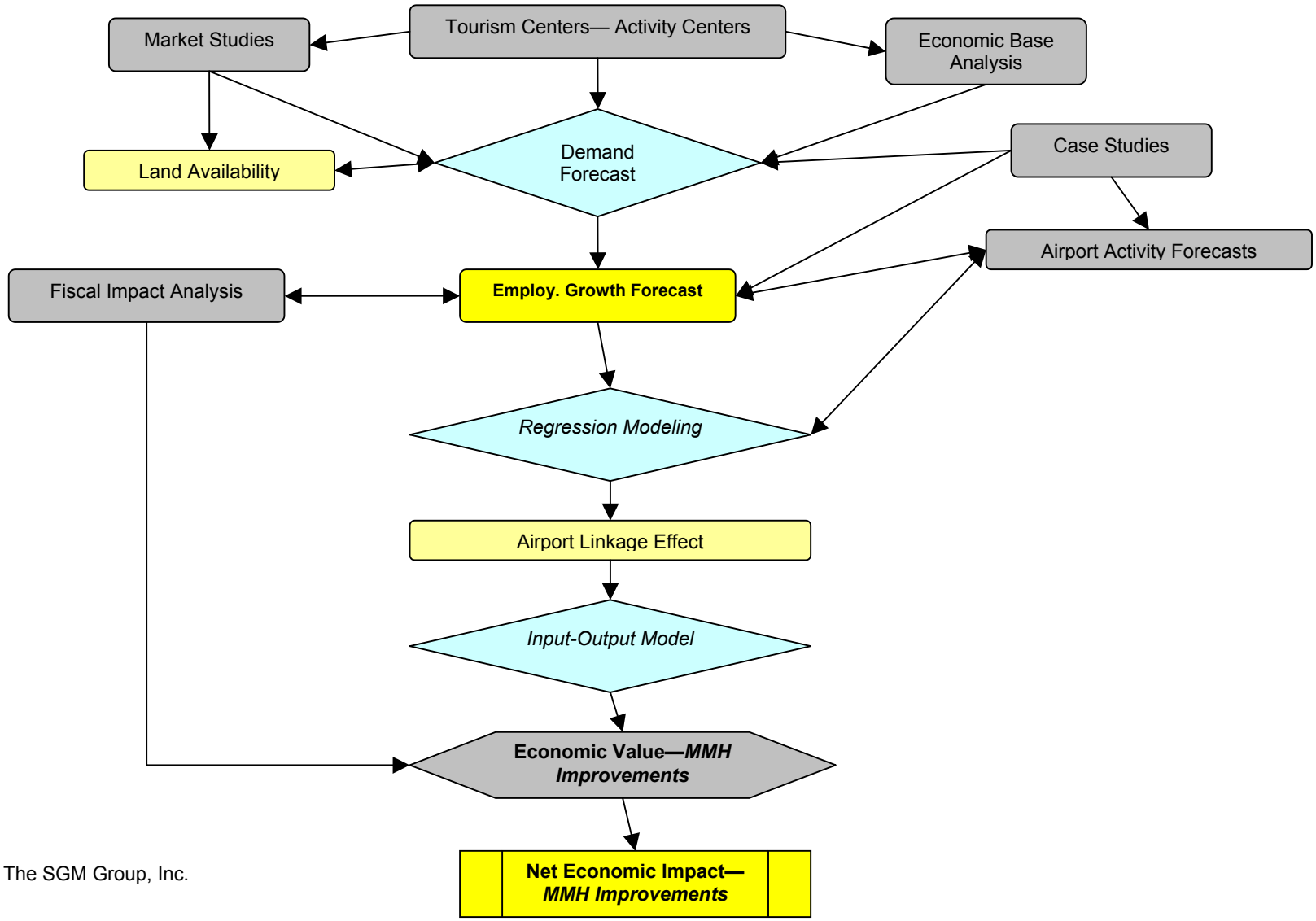
| Impact Category | Mono & Inyo Counties | Seven Counties | *Leakage* | *% Capture in Mono & Inyo Counties* |
|---|---|---|---|---|
| *Employment* | | | | |
| Number of Jobs (Full- or Part-Time) | 746 | 743 | | |
| *Value Measures (2004 Dollars)* | | | | |
| Total Output | $59,051,692 | $80,880,448 | **$21,828,756** | 73.01% |
| Value Added | $29,927,005 | $44,052,147 | **$14,125,142** | 67.94% |
| Employee Compensation | $18,962,698 | $27,560,968 | **$8,598,270** | 68.80% |
| Labor Income | $24,772,532 | $34,966,833 | **$10,194,300** | 70.85% |
| Indirect Business Taxes | $1,312,630 | $2,512,497 | **$1,199,868** | 52.24% |
| Total Taxes | $8,208,247 | $12,136,880 | **$3,928,634** | 67.63% |

Source: IMPLAN and The SGM Group, Inc.

*Note*: The seven-county region includes Los Angeles County, Tulare, Kings, San Bernadino, and Kern in addition to Mono and Inyo Counties.

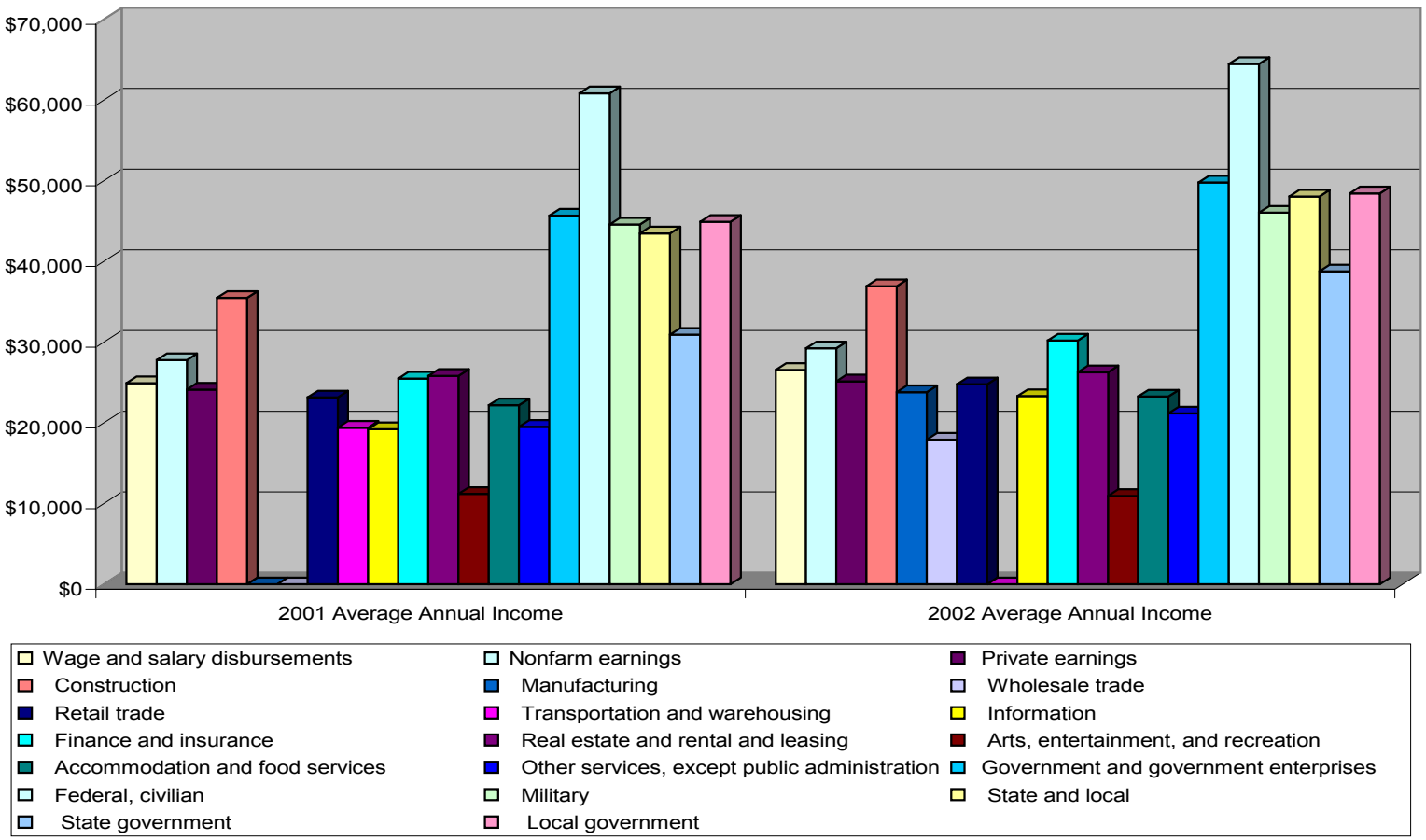
**Figure 1: Location Map--Mammoth Yosemite Airport**

**Figure 2: Economic Impact Analysis Methodology**




Source: The SGM Group, Inc.

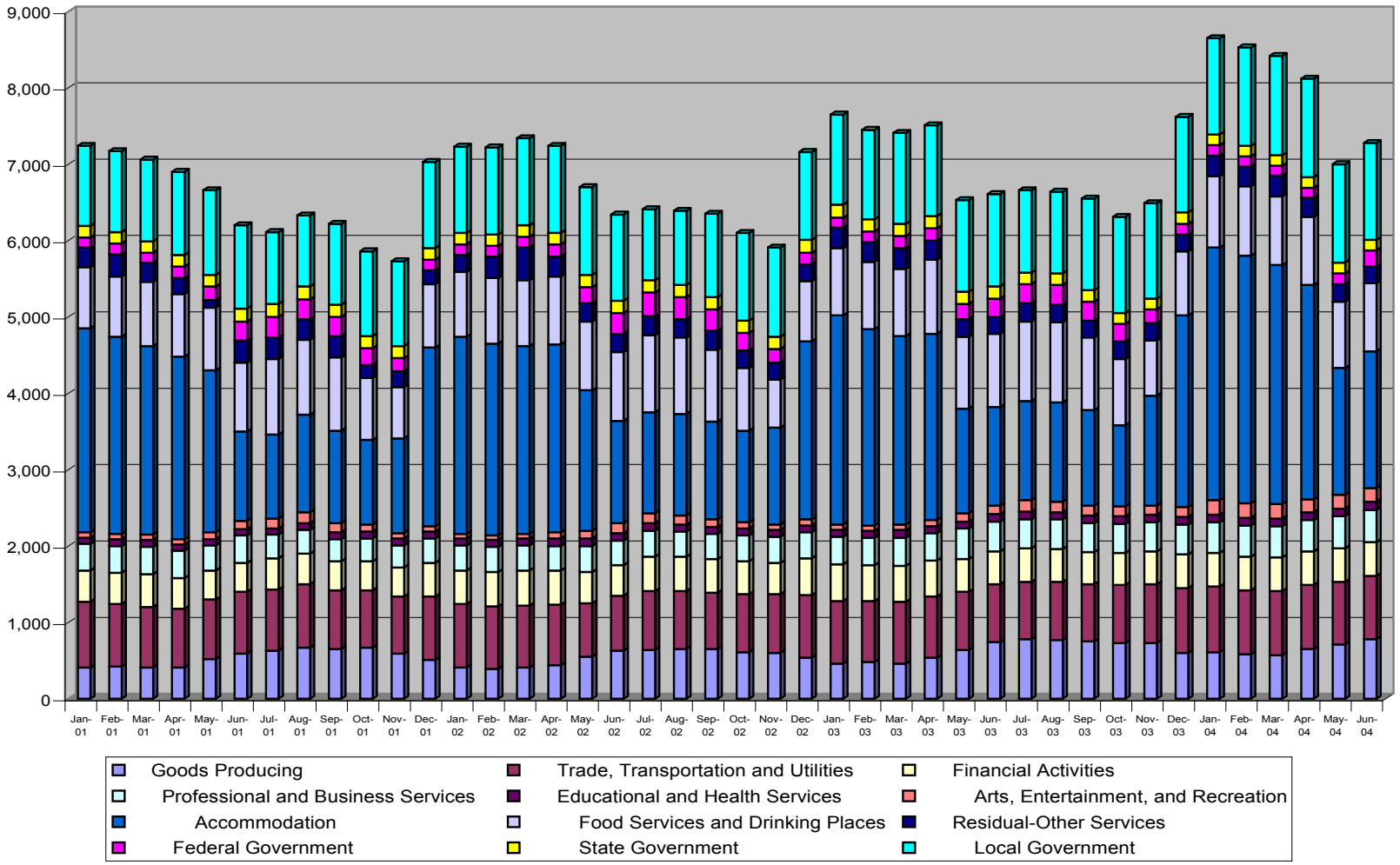
## Figure 3: Average Annual Wages--Mono County 2001-2002




Source: Regional Economic Information System, Bureau of Economic Analysis, May 2004; The SGM Group, Inc.

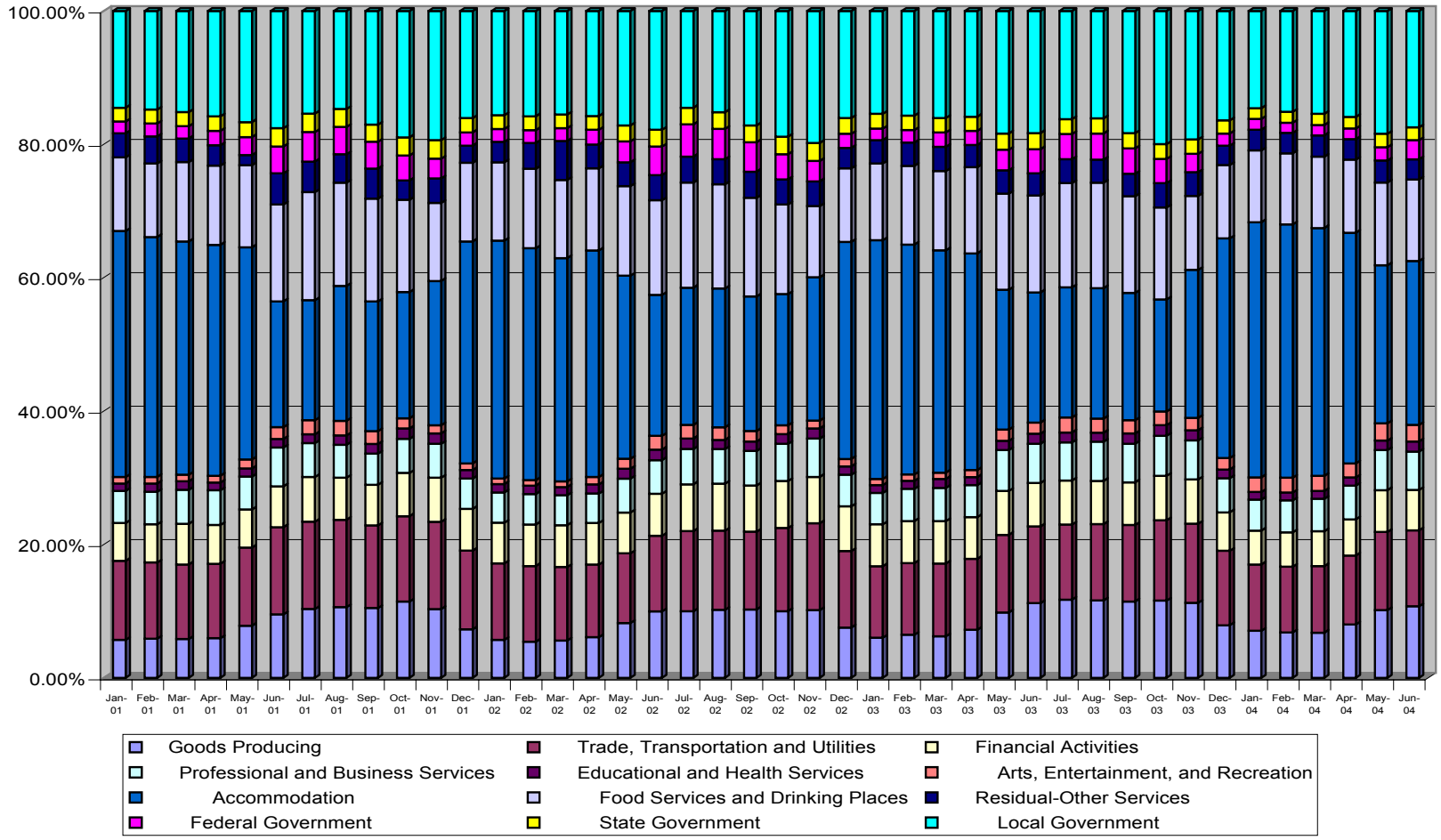
Note: The calculation of average annual wages by economic sector is used to help measure the potential affect on affordable housing requirements in the region. Although only data for Mono County is shown, similar data exists for Inyo County. In general, average wages are relatively low when compared with the required financial support necessary for acquisition of new housing in the Mammoth Lakes area. As indicated, additional employment concentrated within the accommodations and services sector has the potential to exacerbate an otherwise occurring affordable housing shortage in the two-county study region. The only economic sector with an average annual wage (2002 dollars) over $60,000 is the federal government sector. Most sectors are well under $40,000 per year (2002 dollars).

## Figure 4: Mono County Monthly Employment by Sector 2001-2004



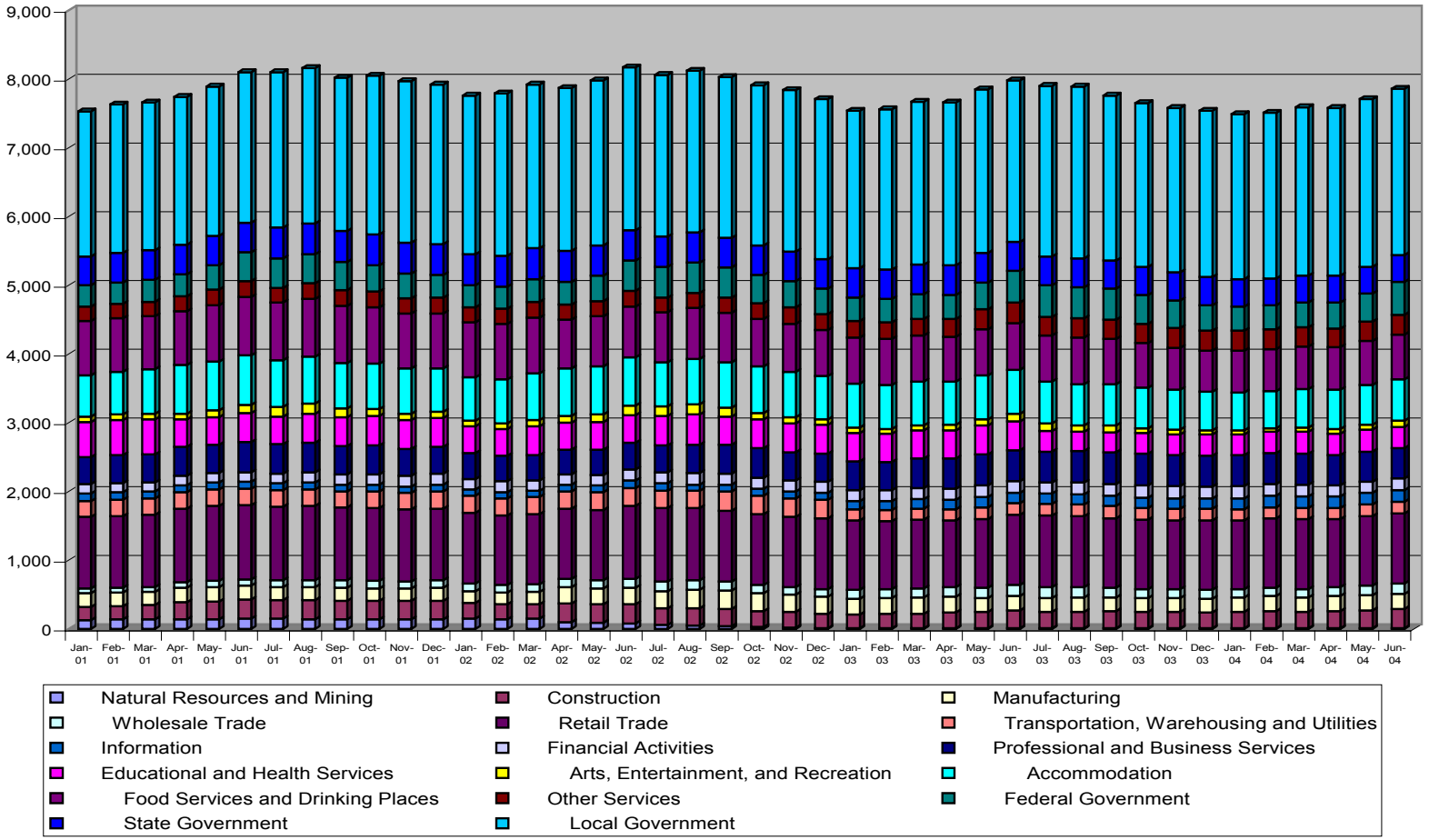

Source: California Employment Development Department Labor Market Information; The SGM Group, Inc.

## Figure 5: Mono County Monthly Employment Percentage Distribution by Sector 2000-2004



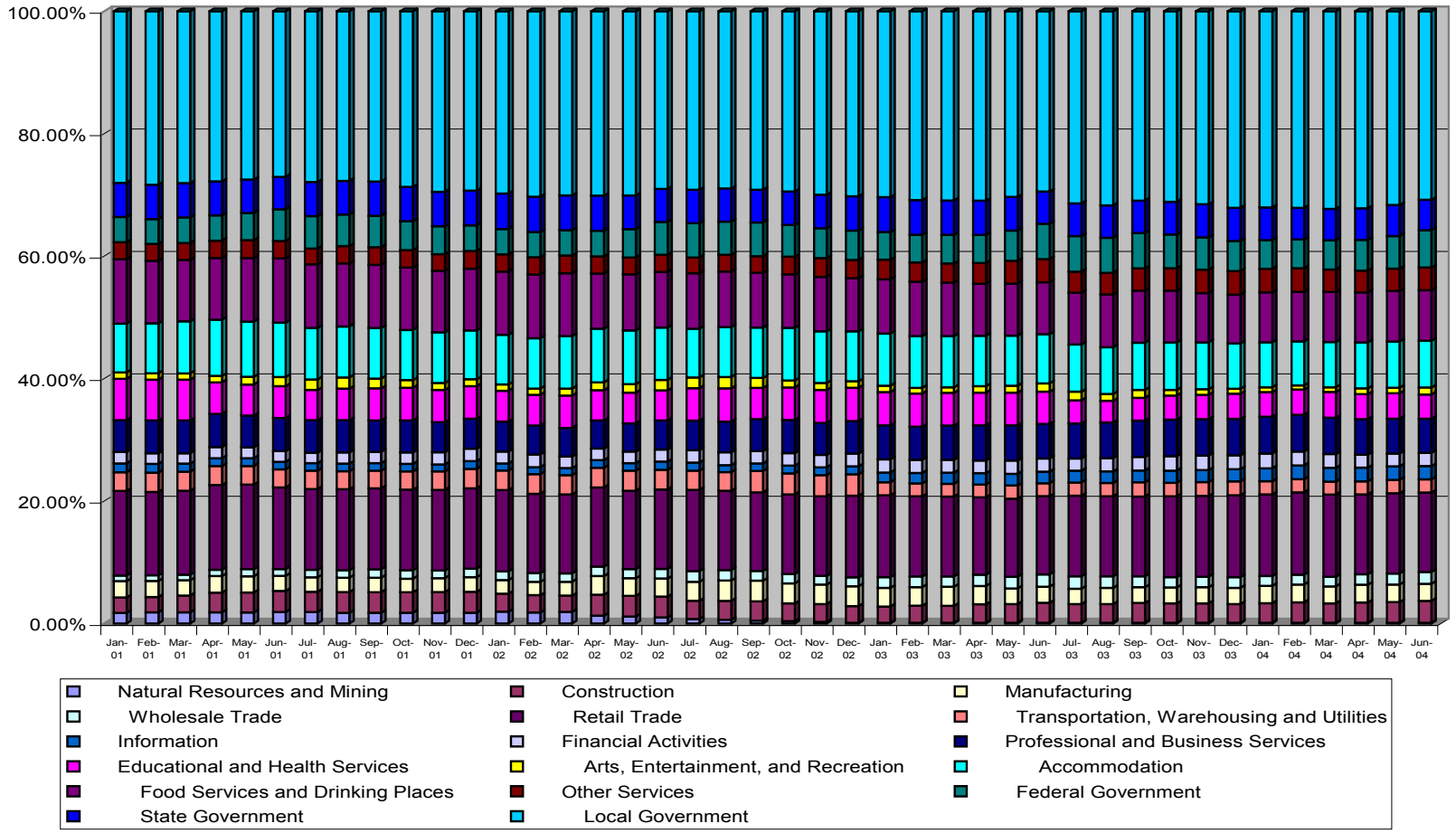

Source: California Employment Development Department Labor Market Information; The SGM Group, Inc.

## Figure 6: Inyo County Monthly Employment by Sector 2001-2004



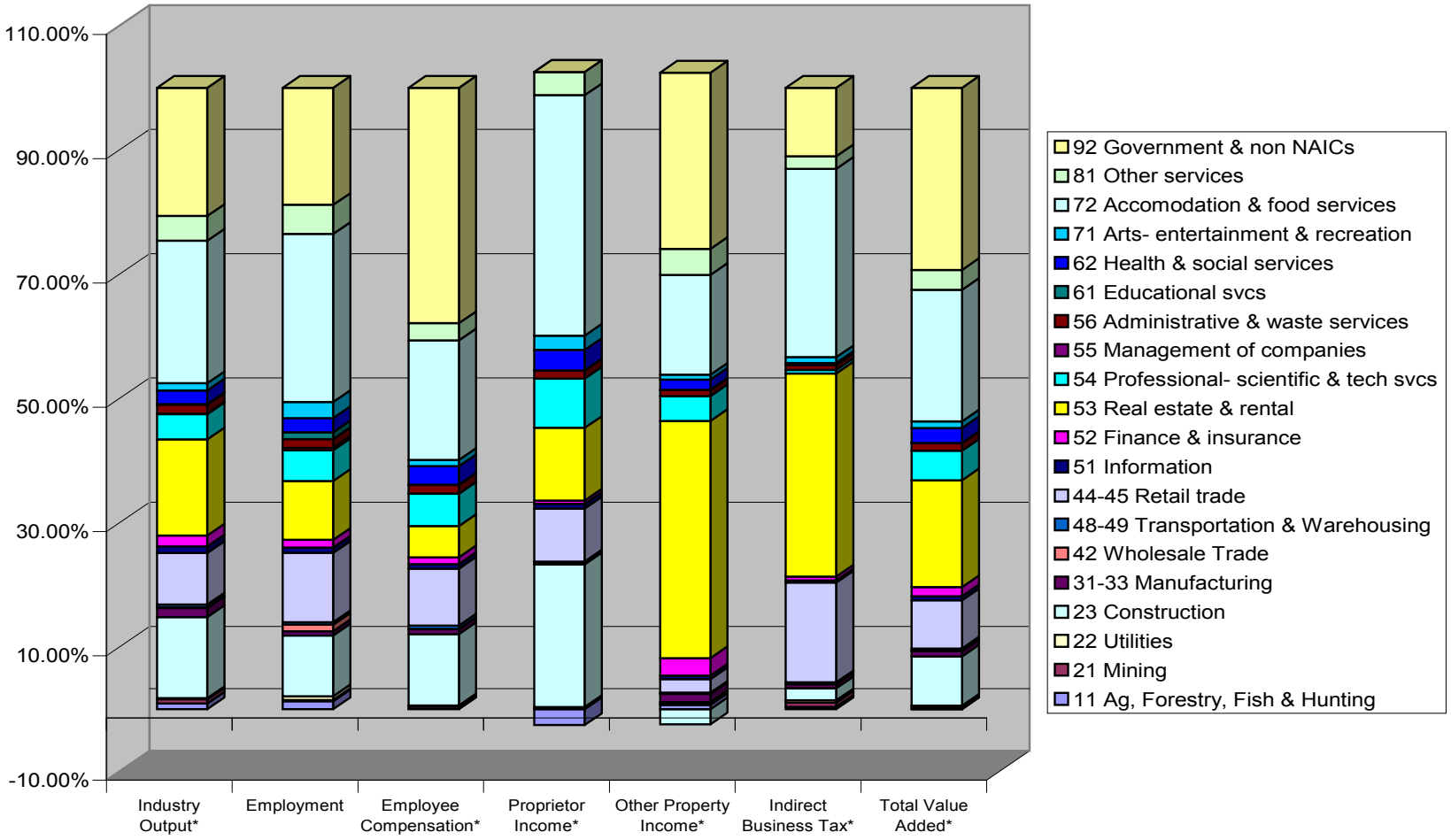

Source: California Employment Development Department Labor Market Information; The SGM Group, Inc.

## Figure 7: Inyo County Monthly Employment Percentage Distribution by Sector 2001-2004



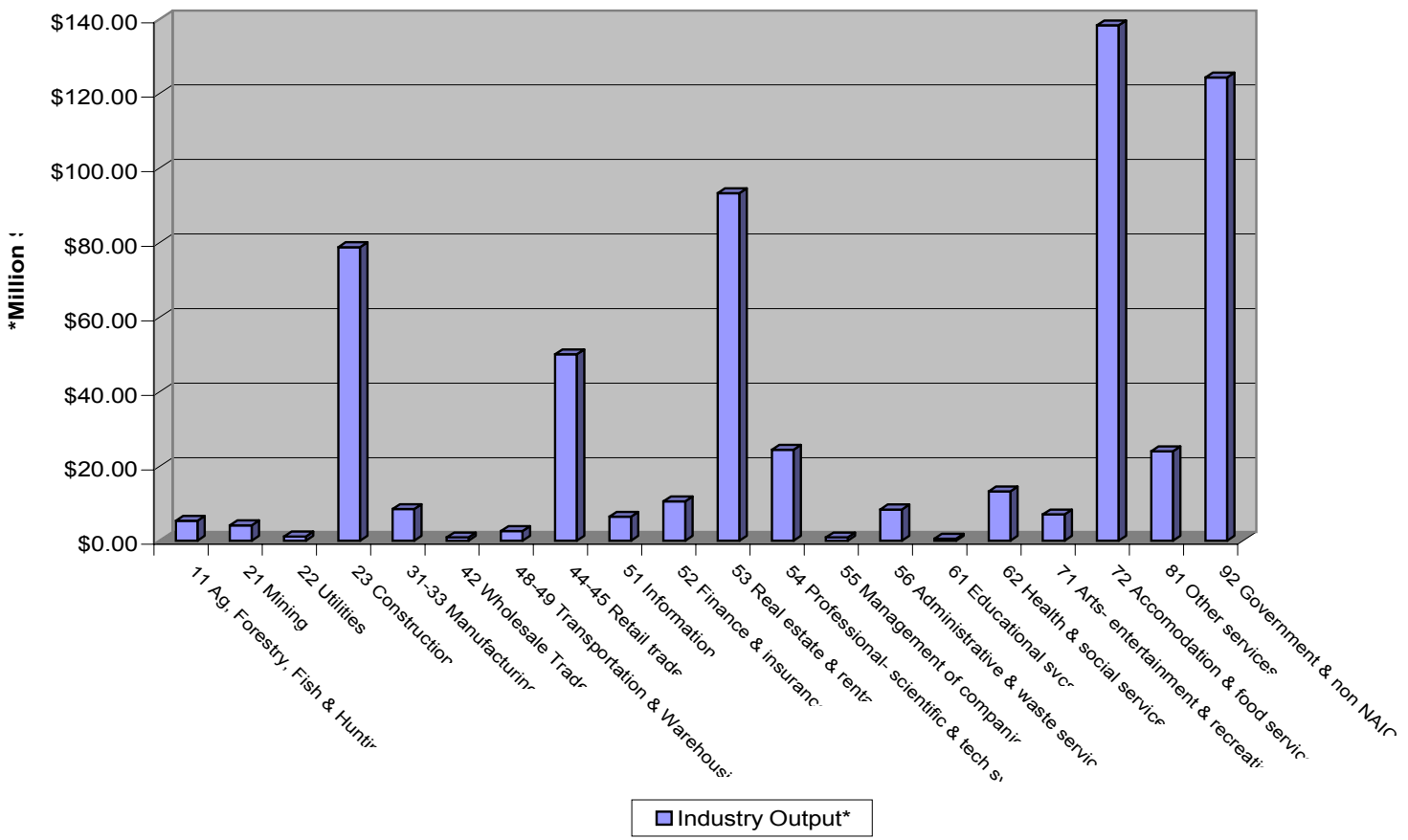

Source: California Employment Development Department Labor Market Information; The SGM Group, Inc.

**Figure 8: Percentage Distribution by Economic Sector—Mono County 2001**



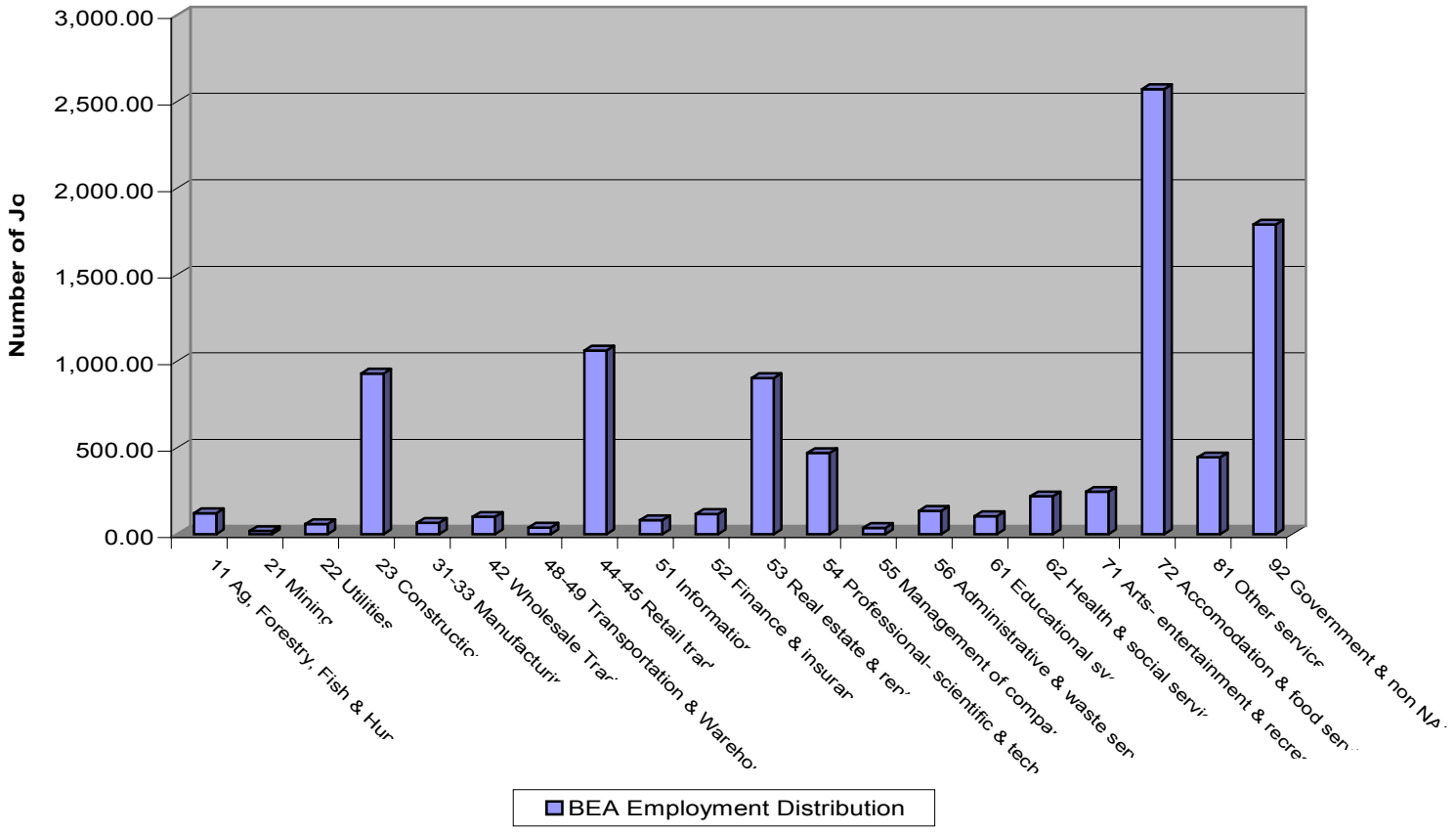

Source: The SGM Group, Inc.

**Figure 9: Industry Output by Economic Sector—Mono County 2001**



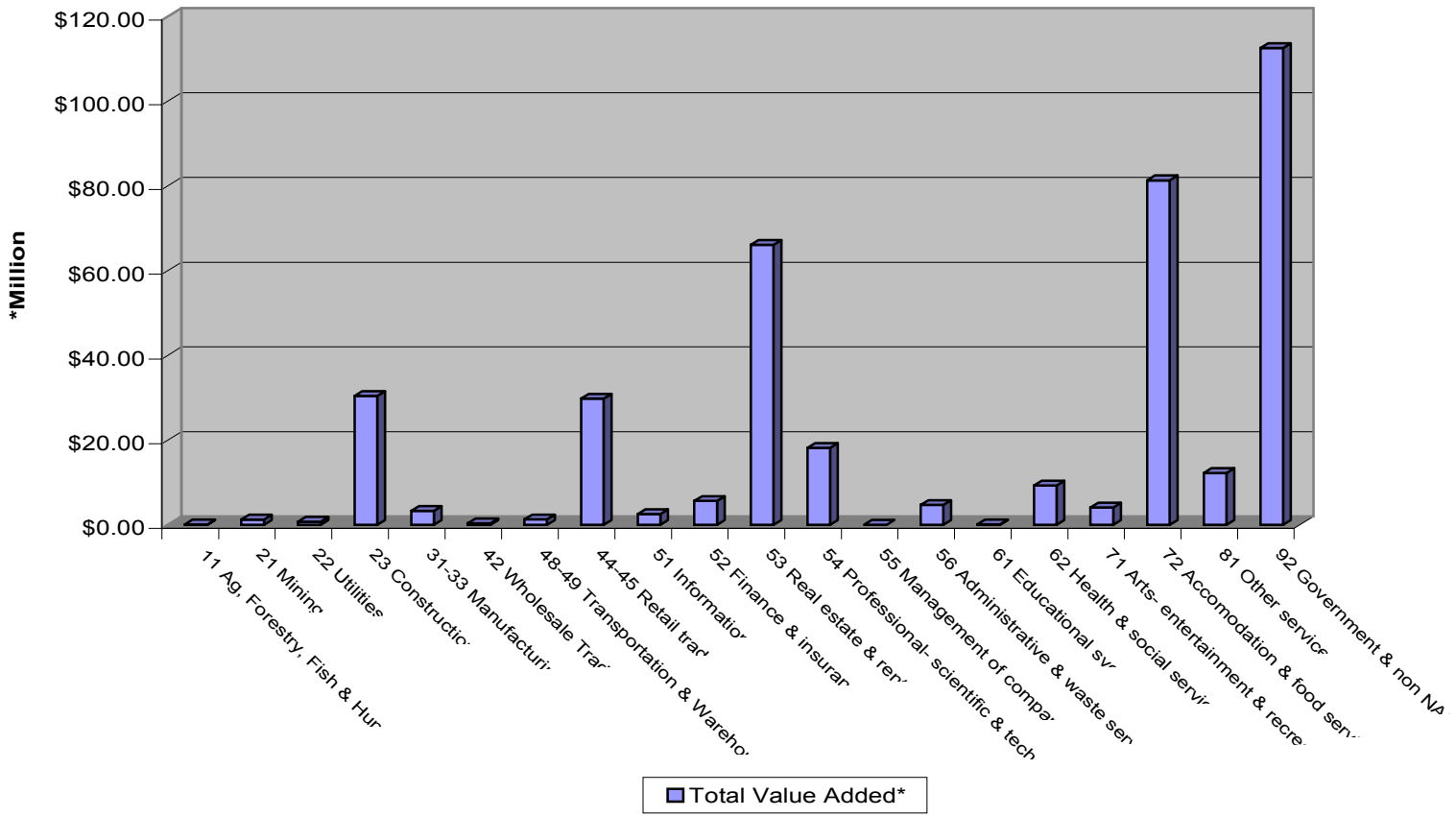

Source: IMPLAN and The SGM Group, Inc.

**Figure 10: Employment Distribution by Economic Sector—Mono County 2001**



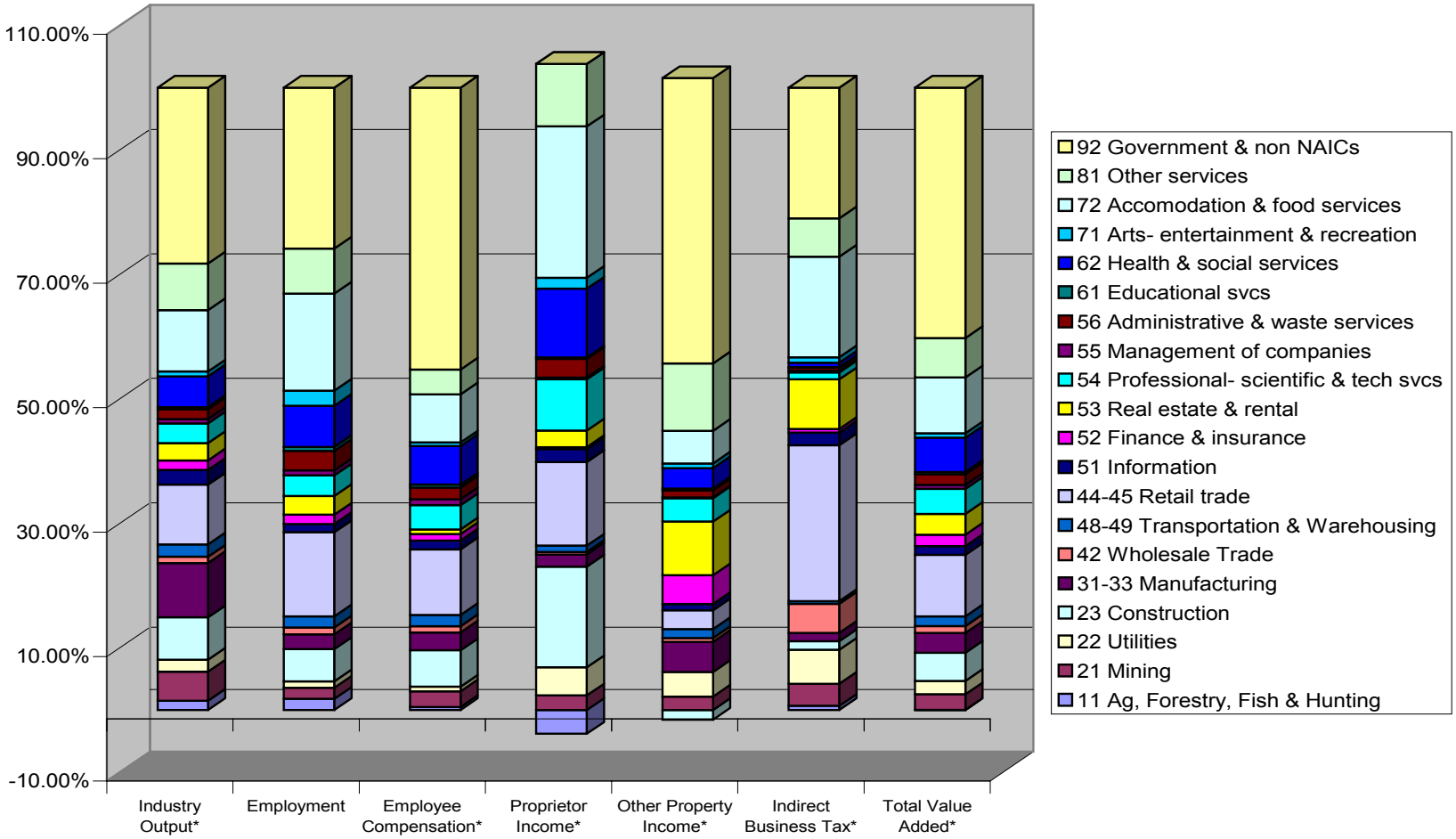

Source: BEA, IMPLAN and The SGM Group, Inc.

**Figure 11: Total Value Added by Economic Sector—Mono County 2001**



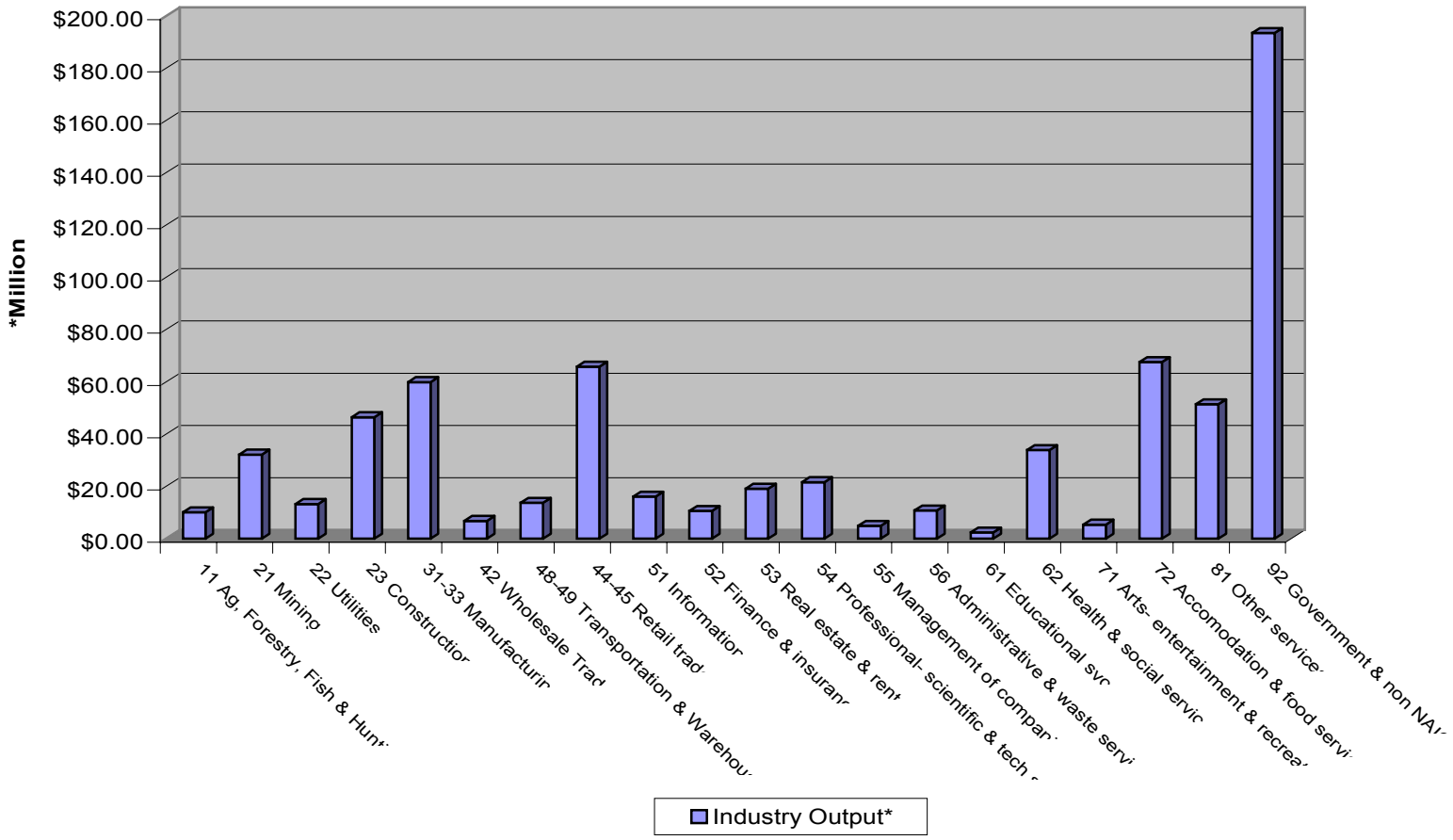

Source: IMPLAN and The SGM Group, Inc.

**Figure 12: Percentage Distribution by Economic Sector—Inyo County 2001**



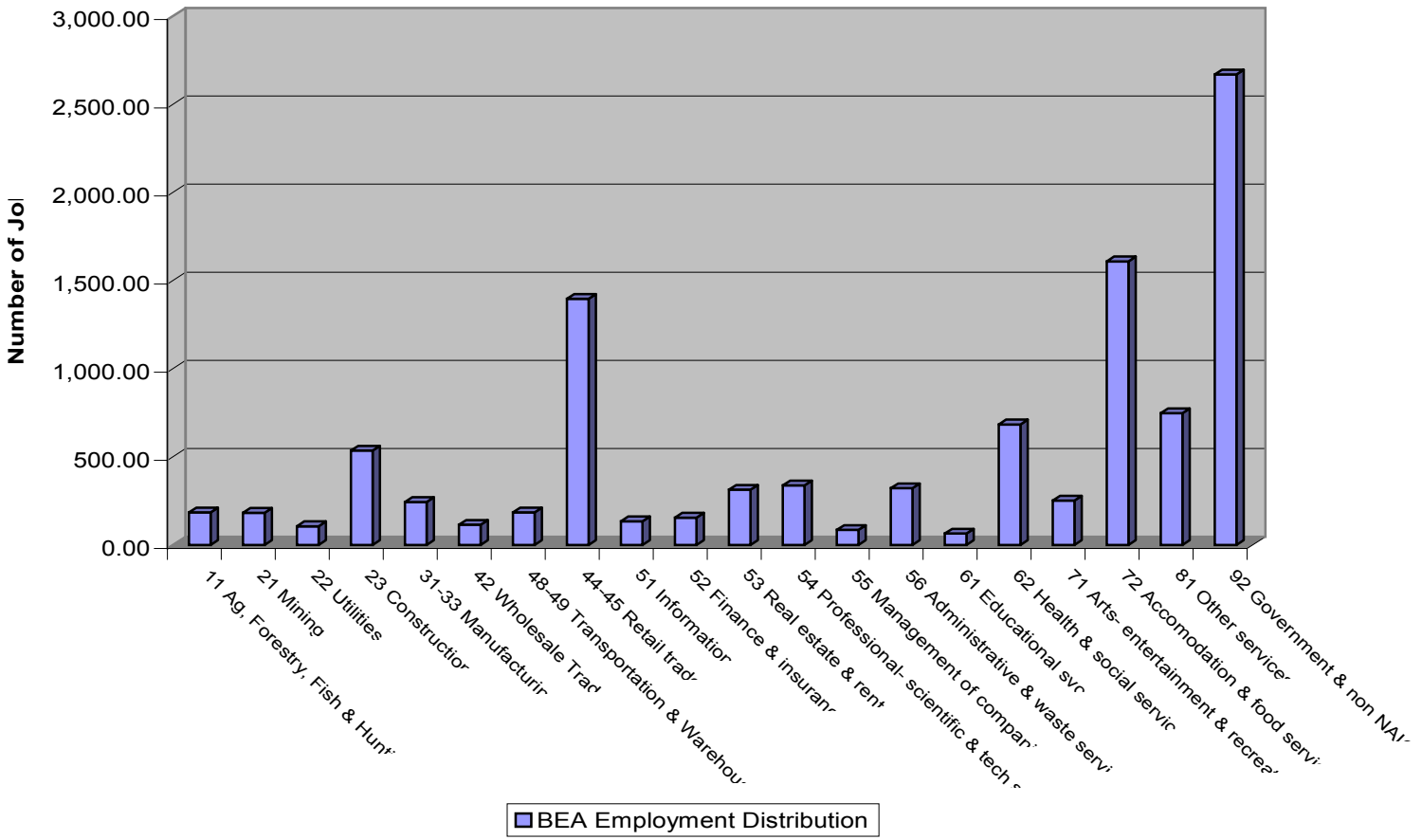

Source: The SGM Group, Inc.

**Figure 13: Industry Output by Economic Sector—Inyo County 2001**



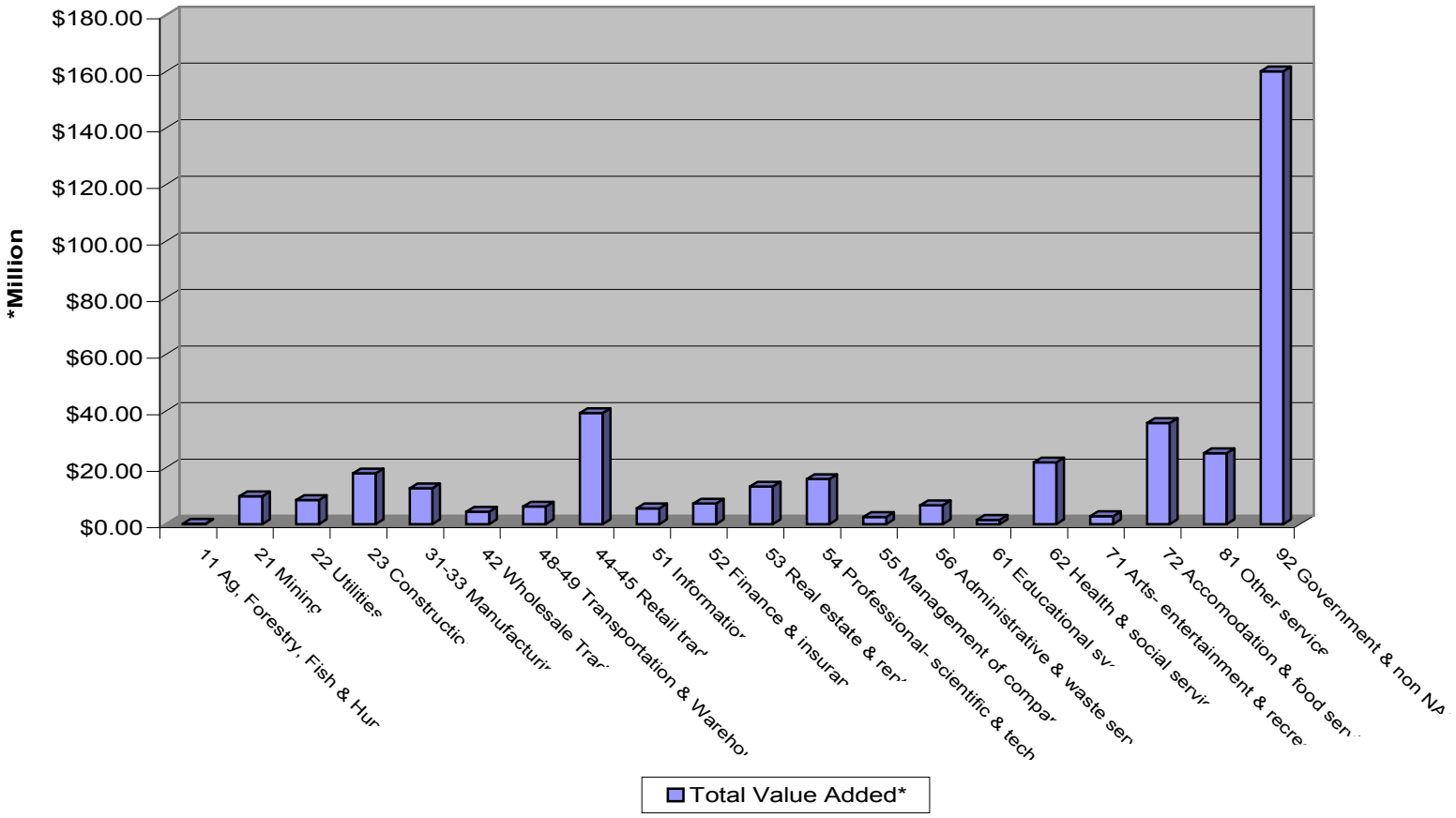

Source: IMPLAN and The SGM Group, Inc.

**Figure 14: Employment Distribution by Economic Sector—Inyo County 2001**



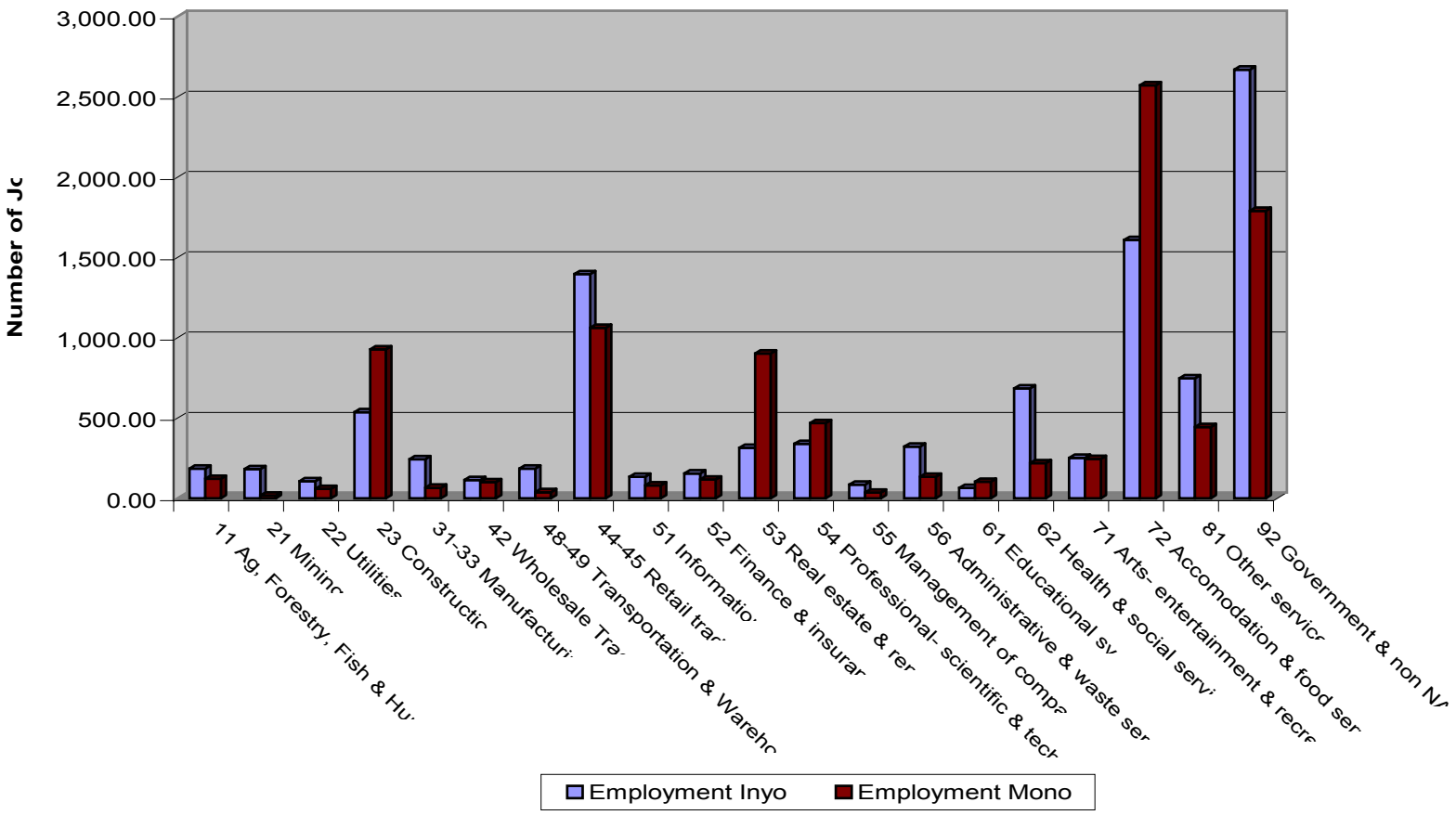

Source: BEA, IMPLAN and The SGM Group, Inc.

**Figure 15: Total Value Added by Economic Sector—Inyo County 2001**



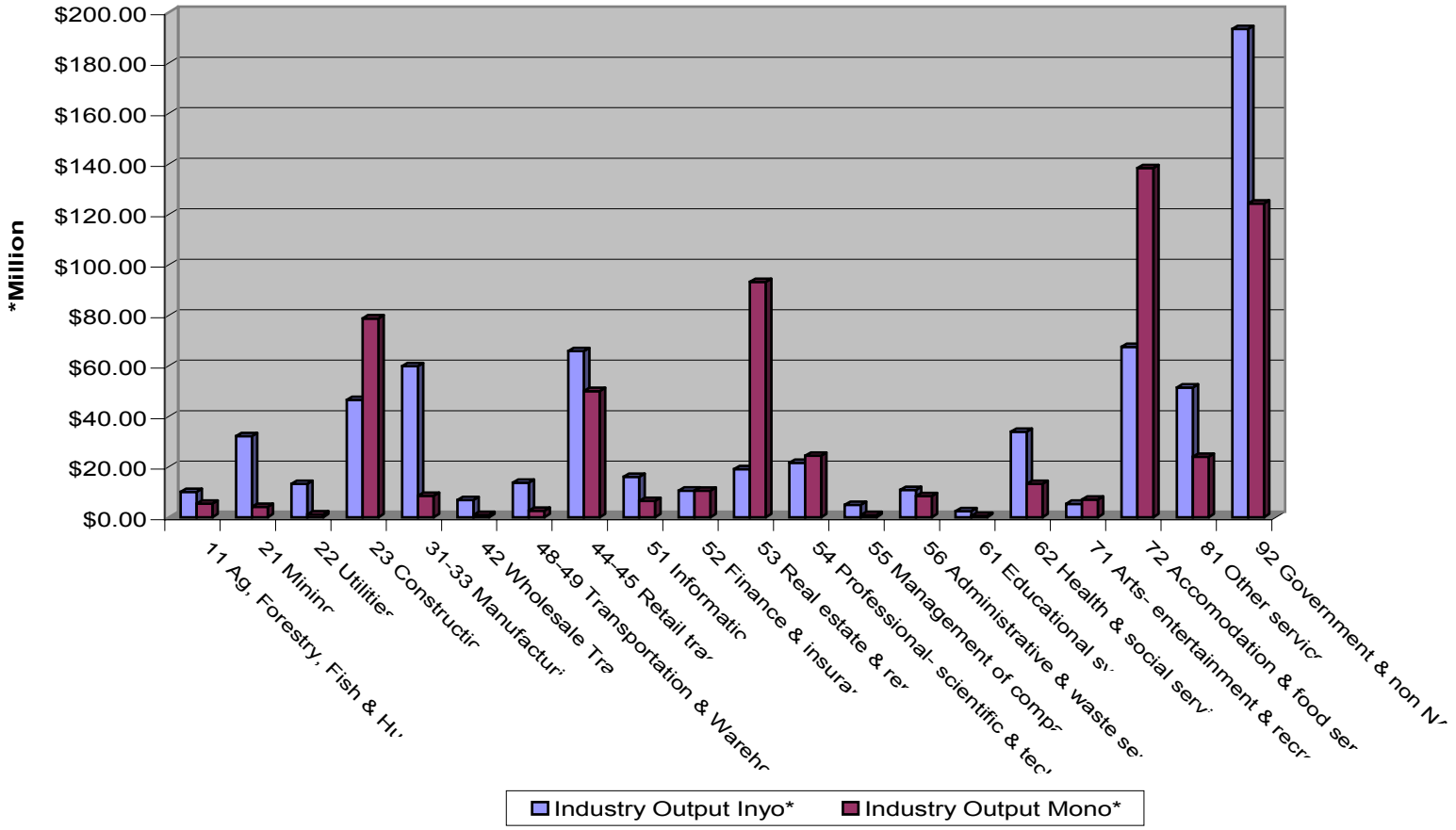

Source: IMPLAN and The SGM Group, Inc.

**Figure 16: Comparative Employment Distribution by Economic Sector—Mono and Inyo Counties 2001**



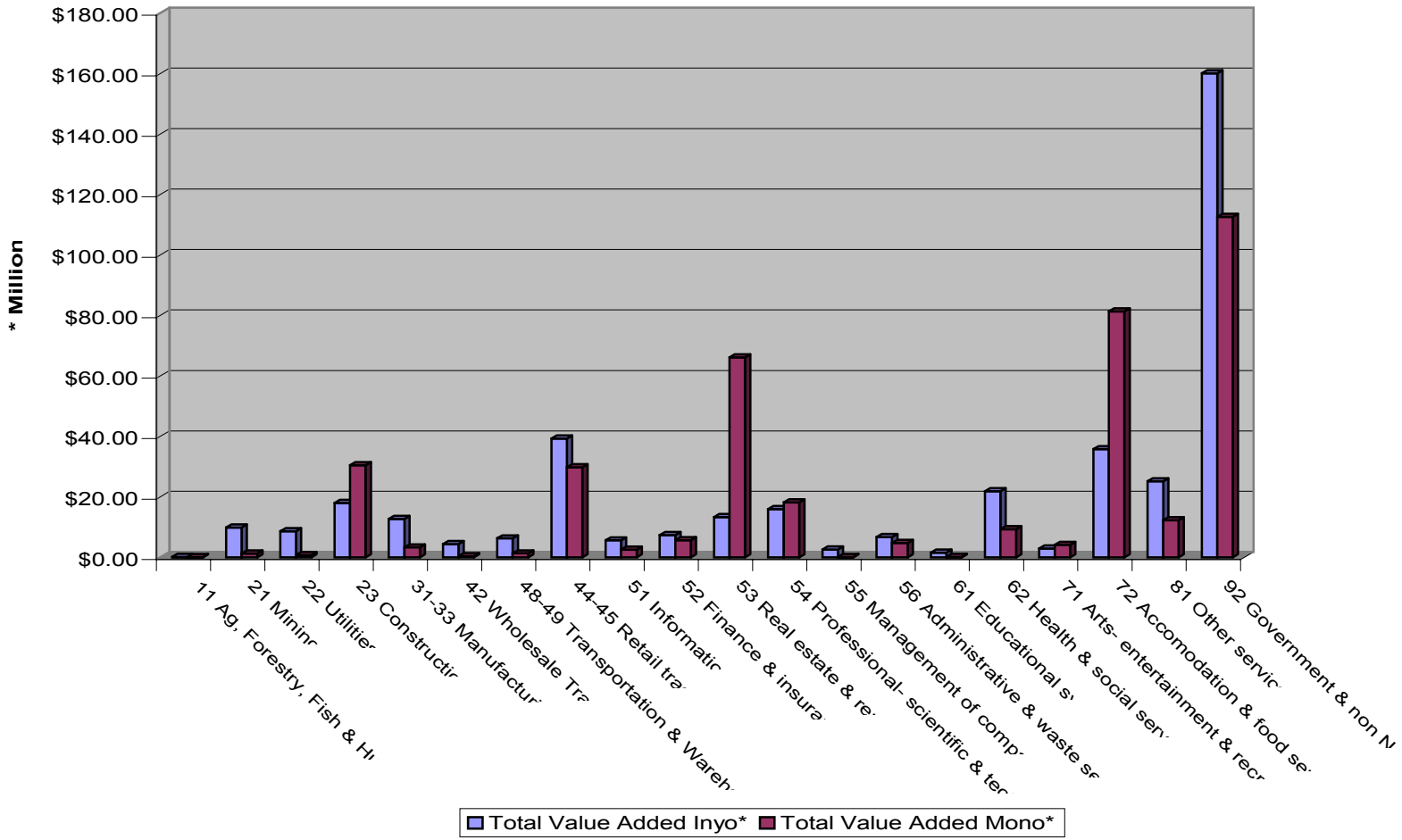

Source: The SGM Group, Inc.

**Figure 17: Comparative Industry Output by Economic Sector—Mono and Inyo Counties 2001**



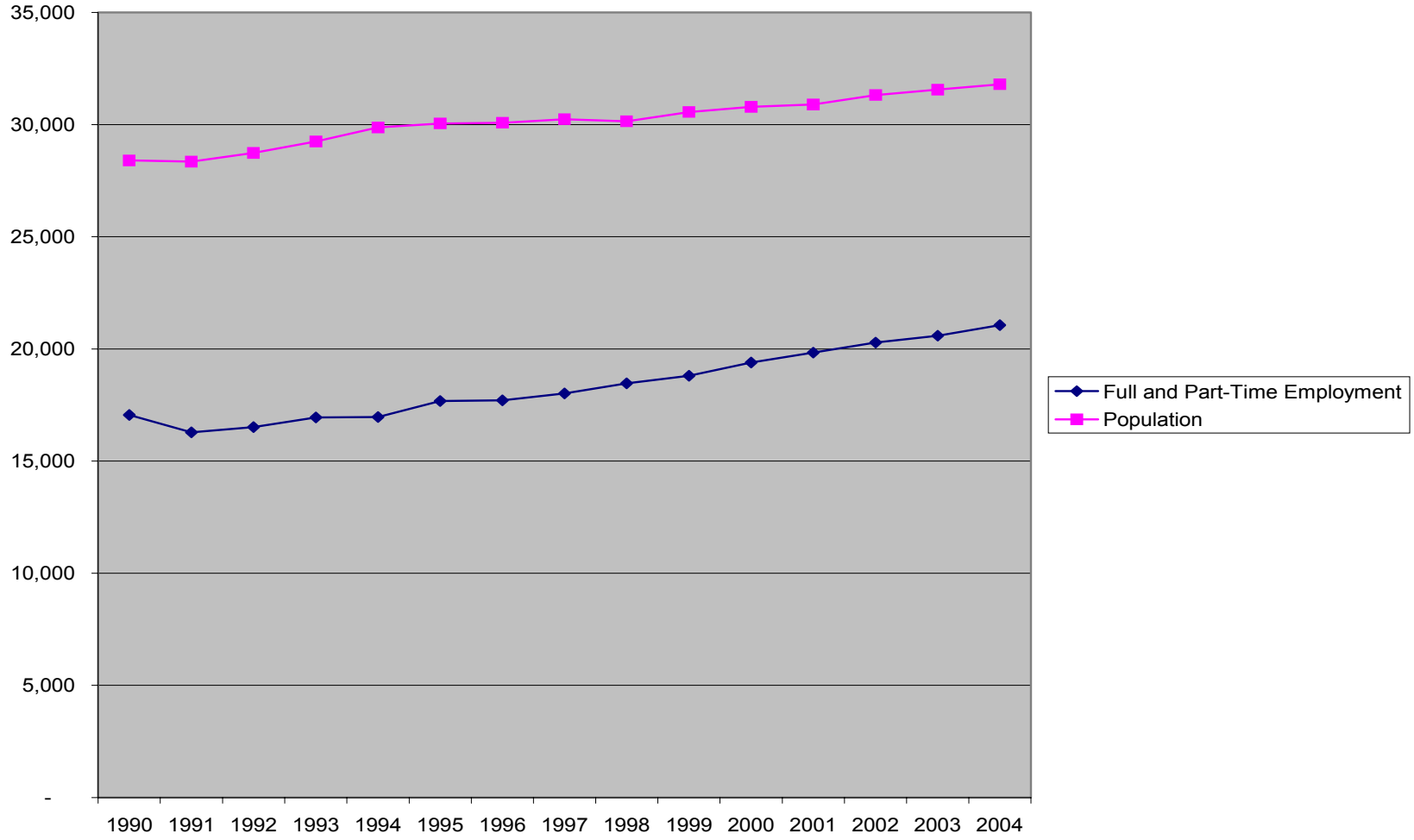

Source: The SGM Group, Inc.

**Figure 18: Comparative Value Added by Economic Sector—Mono and Inyo Counties 2001**




Source: The SGM Group, Inc.

**Figure 19: Population and Employment Growth--Mono and Inyo Counties1990-2004**




Source: Bureau of Economic Analysis, US Department of Commerce (1990-2002); The SGM Group, Inc., (2003-2004).

## Figure 20: Telluride/Montrose Regional Airports Model

SUMMARY OUTPUT-Three County with Montrose and Telluride FAA Enplanements

| *Regression Statistics* | |
|---|---|
| Multiple R | 0.935198641 |
| R Square | 0.874596498 |
| Adjusted R Square | 0.666128664 |
| Standard Error | 1158.730103 |
| Observations | 9 |

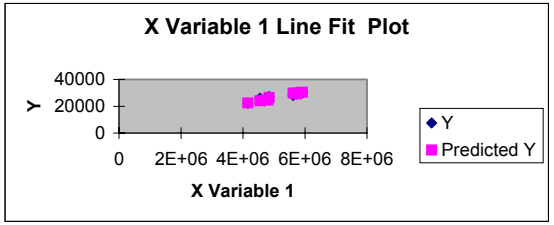
ANOVA

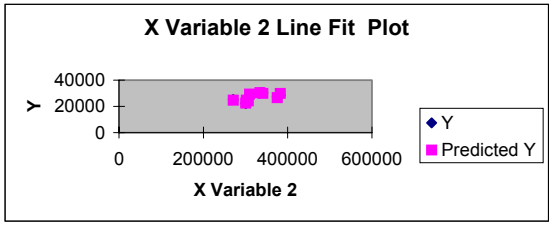
| | *df* | *SS* | *MS* | *F* | *ignificance F* |
|---|---|---|---|---|---|
| Regression | 3 | 56184161 | 18728054 | 13.94852 | 0.007287 |
| Residual | 6 | 8055933 | 1342655 | | |
| Total | 9 | 64240094 | | | |

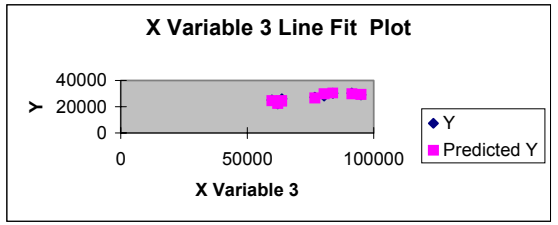
| | *Coefficients* | *tandard Erro* | *t Stat* | *P-value* | *Lower 95%* | *Upper 95%* | *Lower 95.0%* | *Upper 95.0%* |
|---|---|---|---|---|---|---|---|---|
| Intercept | 0 | #N/A | #N/A | #N/A | #N/A | #N/A | #N/A | #N/A |
| Three-County Sales and Use Tax | 0.004027536 | 0.001083 | 3.719927 | 0.009853 | 0.001378 | 0.006677 | 0.001378281 | 0.006676791 |
| Skier Days | 0.016955607 | 0.010062 | 1.6851 | 0.142949 | -0.007665 | 0.041577 | -0.00766543 | 0.04157664 |
| Enplanements | 0.010949552 | 0.060481 | 0.18104 | 0.862296 | -0.137043 | 0.158942 | -0.13704281 | 0.158941914 |

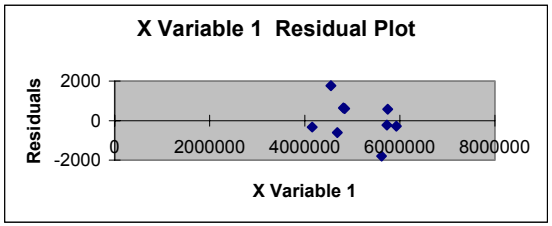
RESIDUAL OUTPUT

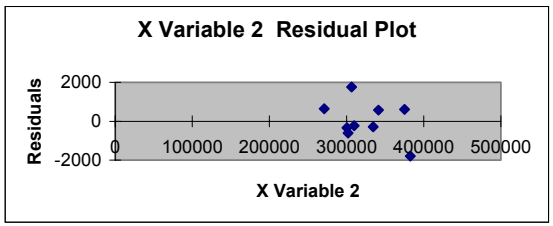
| *Observation* | *Predicted Y* | *Residuals* | *tdard Residuals* |
|---|---|---|---|
| 1 | 22504.8709 | -329.8709 | -0.348664 |
| 2 | 24689.55638 | -608.5564 | -0.643227 |
| 3 | 24629.37567 | 639.6243 | 0.676065 |
| 4 | 24214.33731 | 1764.663 | 1.865198 |
| 5 | 26690.33445 | 605.6655 | 0.640171 |
| 6 | 29983.77489 | -1795.775 | -1.898083 |
| 7 | 29364.46535 | -230.4654 | -0.243595 |
| 8 | 30460.88323 | -285.8832 | -0.30217 |
| 9 | 29931.03703 | 571.963 | 0.604549 |

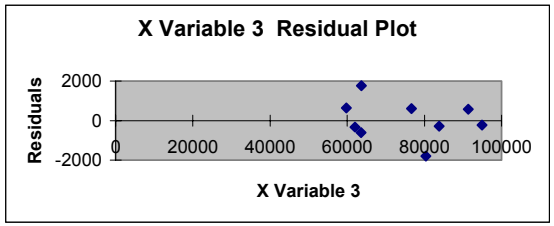



Source: The SGM Group, Inc.

## Figure 21: Eagle County Regional Airport Model

SUMMARY OUTPUT--Eagle-Vail

| *Regression Statistics* | |
|---|---|
| Multiple R | 0.996594811 |
| R Square | 0.993201218 |
| Adjusted R Square | 0.848401566 |
| Standard Error | 525.6251184 |
| Observations | 10 |

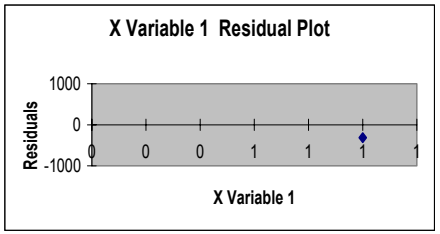
ANOVA

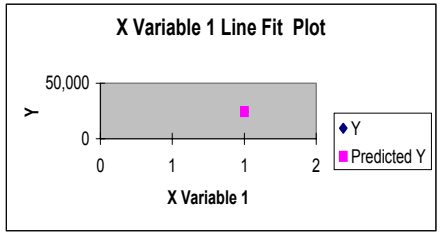
| | *df* | *SS* | *MS* | *F* | *Significance F* |
|---|---|---|---|---|---|
| Regression | 3 | 282524667.7 | 94174889 | 340.8654 | 4.33226E-07 |
| Residual | 7 | 1933972.356 | 276281.8 | | |
| Total | 10 | 284458640.1 | | | |

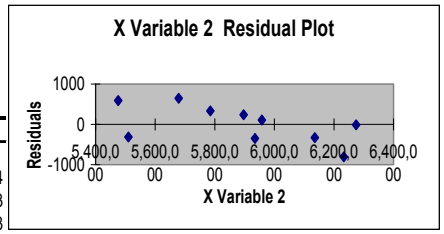
| | *Coefficients* | *Standard Error* | *t Stat* | *P-value* | *Lower 95%* | *Upper 95%* | *Lower 95.0%* | *Upper 95.0%* |
|---|---|---|---|---|---|---|---|---|
| Intercept | 0 | #N/A | #N/A | #N/A | #N/A | #N/A | #N/A | #N/A |
| Population | 0.563964416 | 0.074698432 | 7.549883 | 0.000132 | 0.387330817 | 0.740598014 | 0.387330817 | 0.740598014 |
| Skier Days | 0.001263301 | 0.000317418 | 3.979933 | 0.005324 | 0.000512728 | 0.002013873 | 0.000512728 | 0.002013873 |
| Enplanements | 0.040415137 | 0.007952722 | 5.081925 | 0.001428 | 0.021609952 | 0.059220323 | 0.021609952 | 0.059220323 |

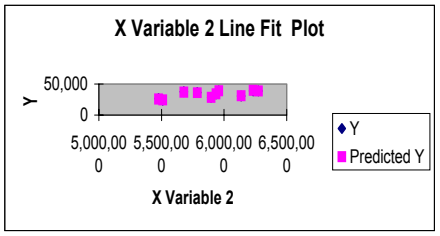
RESIDUAL OUTPUT

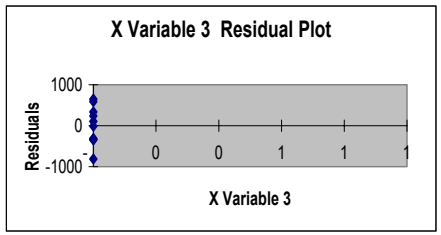
| *Observation* | *Predicted Y* | *Residuals* | *ıdard Residuals* |
|---|---|---|---|
| 1 | 24515.36368 | -314.3636775 | -0.714837 |
| 2 | 26061.51948 | 590.480519 | 1.342704 |
| 3 | 28386.52944 | 239.4705582 | 0.544536 |
| 4 | 31006.56288 | -331.5628801 | -0.753947 |
| 5 | 34377.04574 | -344.0457434 | -0.782332 |
| 6 | 35977.77532 | 337.2246826 | 0.766821 |
| 7 | 36951.05578 | 647.9442188 | 1.473372 |
| 8 | 39019.04756 | -11.04755759 | -0.025121 |
| 9 | 39153.35437 | 108.645625 | 0.247051 |
| 10 | 39861.53994 | -809.539936 | -1.840828 |

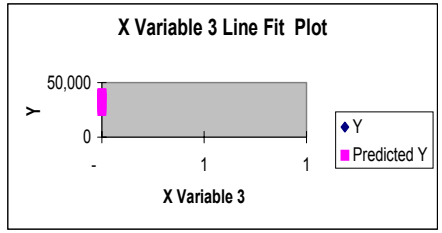



Source: The SGM Group, Inc.

## Figure 22: Aspen/Pitkin County Airport Model

SUMMARY OUTPUT--Aspen/Pitkin Airport

| *Regression Statistics* | |
|---|---|
| Multiple R | 0.858177727 |
| R Square | 0.736469011 |
| Adjusted R Square | 0.438036849 |
| Standard Error | 713.7097088 |
| Observations | 10 |

ANOVA

| | *df* | *SS* | *MS* | *F* | *ignificance F* |
|---|---|---|---|---|---|
| Regression | 4 | 8541167.61 | 2135291.902 | 4.19193 | 0.073983 |
| Residual | 6 | 3056289.29 | 509381.5484 | | |
| Total | 10 | 11597456.9 | | | |

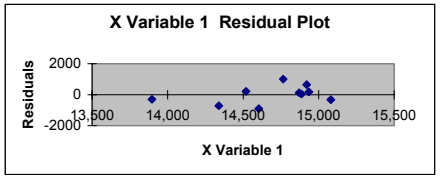
| | *Coefficients* | *Standard Error* | *t Stat* | *P-value* | *Lower 95%* | *Upper 95%* | *ower 95.0%* | *pper 95.0%* |
|---|---|---|---|---|---|---|---|---|
| Intercept | 0 | #N/A | #N/A | #N/A | #N/A | #N/A | #N/A | #N/A |
| Population | 1.570904153 | 0.369218175 | 4.254677202 | 0.005353 | 0.667459 | 2.474349 | 0.667459 | 2.474349 |
| Sales and Use Tax | 0.000114673 | 0.00019055 | 0.601800227 | 0.569333 | -0.000352 | 0.000581 | -0.000352 | 0.000581 |
| Ski Visits | -0.003255091 | 0.002386358 | -1.364041481 | 0.221505 | -0.009094 | 0.002584 | -0.009094 | 0.002584 |
| Enplanements | 0.002428992 | 0.005176518 | 0.469232735 | 0.655469 | -0.010238 | 0.015095 | -0.010238 | 0.015095 |

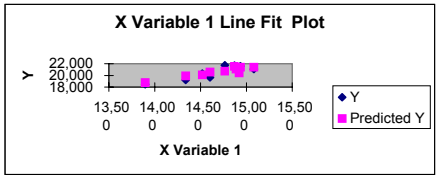
RESIDUAL OUTPUT

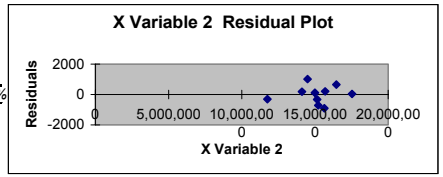
| *Observation* | *Predicted Y* | *Residuals* | *Standard Residuals* |
|---|---|---|---|
| 1 | 18766.46259 | -304.4625918 | -0.550727433 |
| 2 | 19938.4045 | -713.4044962 | -1.290442365 |
| 3 | 20565.51287 | -905.512867 | -1.637937764 |
| 4 | 20108.71539 | 207.2846068 | 0.374946948 |
| 5 | 20443.48106 | 648.5189415 | 1.173074071 |
| 6 | 21089.77101 | 39.22898566 | 0.070959386 |
| 7 | 21401.15892 | -325.1589197 | -0.588164004 |
| 8 | 20712.01123 | 1008.988769 | 1.825110243 |
| 9 | 21563.39762 | 117.602384 | 0.212725178 |
| 10 | 21420.13504 | 178.864961 | 0.323540046 |

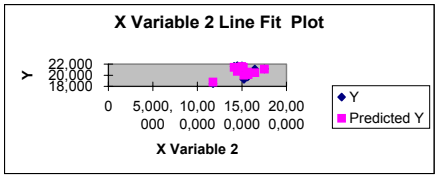
PROBABILITY OUTPUT

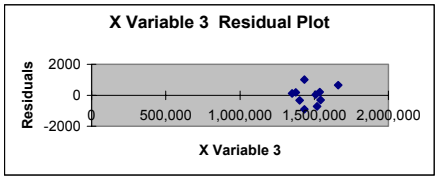
| *Percentile* | *Y* |
|---|---|
| 5 | 18462 |
| 15 | 19225 |
| 25 | 19660 |
| 35 | 20316 |
| 45 | 21076 |
| 55 | 21092 |
| 65 | 21129 |
| 75 | 21599 |
| 85 | 21681 |
| 95 | 21721 |

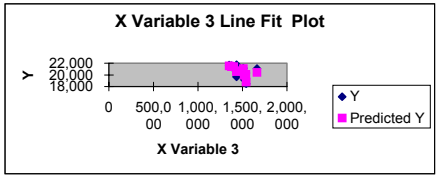


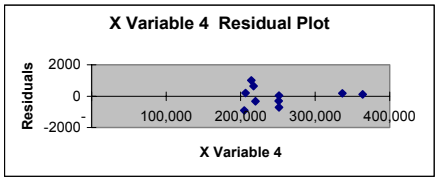



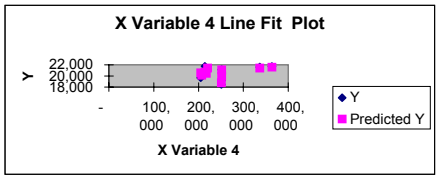



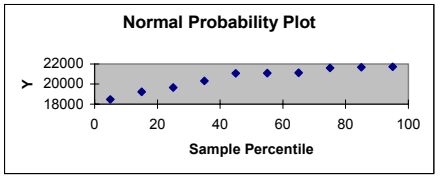




Source: The SGM Group, Inc.

## Figure 23: Jackson Hole Airport Model

SUMMARY OUTPUT--Jackson Hole Airport Model

| *Regression Statistics* | |
|---|---|
| Multiple R | 0.992725603 |
| R Square | 0.985504123 |
| Adjusted R Square | 0.836434462 |
| Standard Error | 392.1487667 |
| Observations | 11 |

ANOVA

| | *df* | *SS* | *MS* | *F* | *ignificance F* |
|---|---|---|---|---|---|
| Regression | 4 | 73183589.6 | 18295897.4 | 118.9739852 | 7.65E-06 |
| Residual | 7 | 1076464.587 | 153780.6552 | | |
| Total | 11 | 74260054.18 | | | |

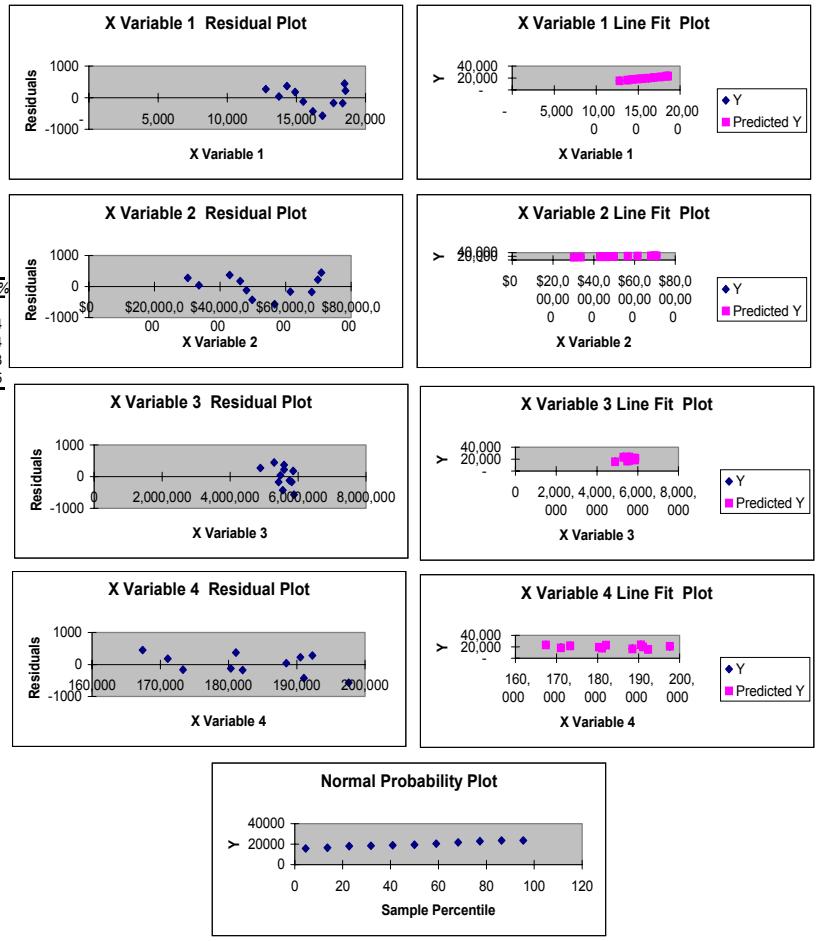
| | *Coefficients* | *Standard Error* | *t Stat* | *P-value* | *Lower 95%* | *Upper 95%* | *ower 95.0%* | *Ipper 95.0%* |
|---|---|---|---|---|---|---|---|---|
| Intercept | 0 | #N/A | #N/A | #N/A | #N/A | #N/A | #N/A | #N/A |
| Population | 0.775306846 | 0.436364494 | 1.776741366 | 0.118859734 | -0.25653 | 1.807144 | -0.25653 | 1.807144 |
| Taxes | 8.67564E-05 | 6.47613E-05 | 1.339632619 | 0.222221252 | -6.64E-05 | 0.00024 | -6.64E-05 | 0.00024 |
| Visitors | 7.13312E-05 | 0.000419385 | 0.170085405 | 0.869754343 | -0.00092 | 0.001063 | -0.00092 | 0.001063 |
| Enplanements | 0.013834 | 0.014785146 | 0.935668806 | 0.380590879 | -0.021127 | 0.048795 | -0.021127 | 0.048795 |

RESIDUAL OUTPUT

| *Observation* | *Predicted Y* | *Residuals* | *Standard Residuals* |
|---|---|---|---|
| 1 | 15543.20965 | 275.7903476 | 0.881608018 |
| 2 | 16558.44702 | 41.55297943 | 0.132830754 |
| 3 | 17734.03647 | 369.9635335 | 1.18264769 |
| 4 | 18348.03984 | 177.9601583 | 0.568878149 |
| 5 | 19087.36155 | -121.361549 | -0.387951629 |
| 6 | 19906.65338 | -427.6533751 | -1.367062508 |
| 7 | 21158.26261 | -568.2626068 | -1.816542438 |
| 8 | 21841.89397 | -164.8939682 | -0.527109979 |
| 9 | 23030.44598 | -174.4459793 | -0.557644513 |
| 10 | 23170.94459 | 449.0554065 | 1.435477529 |
| 11 | 23475.66948 | 224.3305221 | 0.717108444 |

PROBABILITY OUTPUT

| *Percentile* | *Y* |
|---|---|
| 4.545455 | 15819 |
| 13.63636 | 16600 |
| 22.72727 | 18104 |
| 31.81818 | 18526 |
| 40.90909 | 18966 |
| 50 | 19479 |
| 59.09091 | 20590 |
| 68.18182 | 21677 |
| 77.27273 | 22856 |
| 86.36364 | 23620 |
| 95.45455 | 23700 |




Source: The SGM Group, Inc.

# Figure 24: Composite Forecast Model

SUMMARY OUTPUT Composite Model with Telluride 3-County and Jackson Hole

| *Regression Statistics* | |
|---|---|
| Multiple R | 0.992709723 |
| R Square | 0.985472595 |
| Adjusted R Square | 0.811542226 |
| Standard Error | 1944.907663 |
| Observations | 10 |

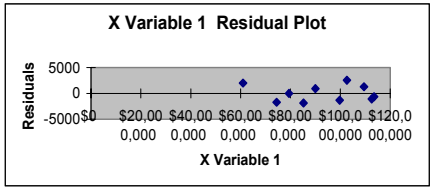
ANOVA

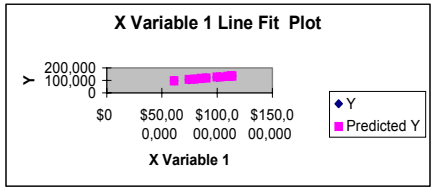
| | *df* | *SS* | *MS* | *F* | *ignificance F* |
|---|---|---|---|---|---|
| Regression | 4 | 1539592293 | 384898073.2 | 101.7531265 | 5.63E-05 |
| Residual | 6 | 22695994.9 | 3782665.816 | | |
| Total | 10 | 1562288888 | | | |

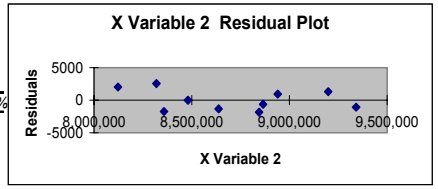
| | *Coefficients* | *Standard Error* | *t Stat* | *P-value* | *Lower 95%* | *Upper 95%* | *ower 95.0%* | *pper 95.0%* |
|---|---|---|---|---|---|---|---|---|
| Intercept | 0 | #N/A | #N/A | #N/A | #N/A | #N/A | #N/A | #N/A |
| Taxes | 0.000651886 | 8.26901E-05 | 7.883491523 | 0.000220701 | 0.00045 | 0.000854 | 0.00045 | 0.000854 |
| Skier Days | 0.003153321 | 0.001931247 | 1.632789902 | 0.153632824 | -0.001572 | 0.007879 | -0.001572 | 0.007879 |
| Enplanements | 0.018174317 | 0.013375233 | 1.358803774 | 0.223067386 | -0.014554 | 0.050902 | -0.014554 | 0.050902 |
| Park Visitation | 0.003036453 | 0.001645834 | 1.844932985 | 0.114592055 | -0.000991 | 0.007064 | -0.000991 | 0.007064 |

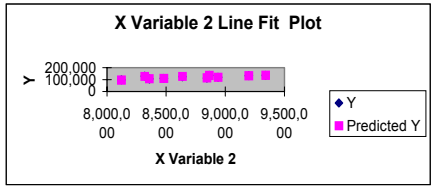
RESIDUAL OUTPUT

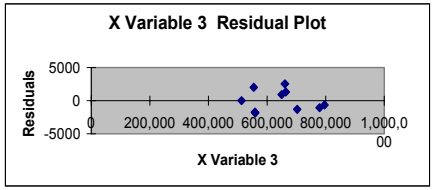
| *Observation* | *Predicted Y* | *Residuals* | *Standard Residuals* |
|---|---|---|---|
| 1 | 96382.64534 | 2003.354665 | 1.329790509 |
| 2 | 106745.7125 | -1720.712505 | -1.142177768 |
| 3 | 109763.1702 | -1.170247404 | -0.000776789 |
| 4 | 115491.3149 | -1843.314902 | -1.223559016 |
| 5 | 118987.9739 | 928.0261251 | 0.616006918 |
| 6 | 126008.8923 | -1322.892263 | -0.878111903 |
| 7 | 125743.8099 | 2544.190085 | 1.688787257 |
| 8 | 131849.9446 | 1303.055434 | 0.864944575 |
| 9 | 135531.5435 | -635.5434539 | -0.421862223 |
| 10 | 136598.7023 | -1066.702253 | -0.708057618 |

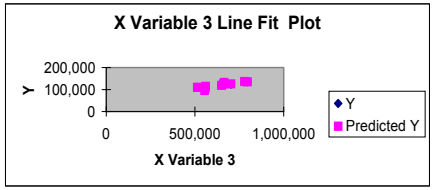


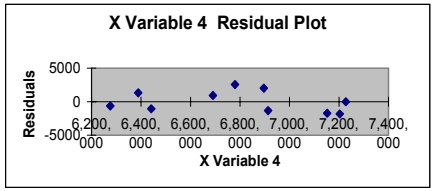



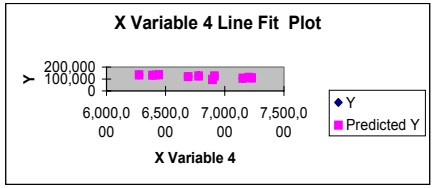




Source: The SGM Group, Inc.

# Figure 25: Mammoth Yosemite Airport Model

**SUMMARY OUTPUT--Mono and Inyo County Employment Forecast Model**

| *Regression Statistics* | |
|---|---|
| Multiple R | 0.970552558 |
| R Square | 0.941972267 |
| Adjusted R Square | 0.802465334 |
| Standard Error | 333.2967924 |
| Observations | 11 |

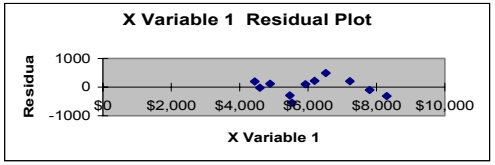
ANOVA

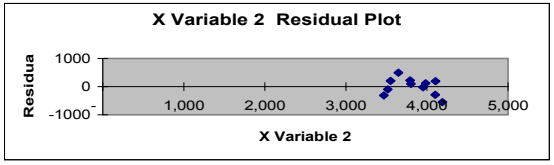
| | *df* | *SS* | *MS* | *F* | *Significance F* |
|---|---|---|---|---|---|
| Regression | 3 | 14426293.62 | 4808764.541 | 43.28837114 | 6.90273E-05 |
| Residual | 8 | 888694.0145 | 111086.7518 | | |
| Total | 11 | 15314987.64 | | | |

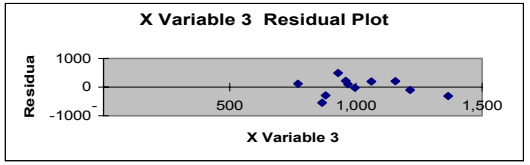
| | *Coefficients* | *Standard Error* | *t Stat* | *P-value* | *Lower 95%* | *Upper 95%* | *Lower 95.0%* | *Upper 95.0%* |
|---|---|---|---|---|---|---|---|---|
| Intercept | 0 | #N/A | #N/A | #N/A | #N/A | #N/A | #N/A | #N/A |
| TOT/1,000 | 1.328092865 | 0.123734211 | 10.73343305 | 4.99213E-06 | 1.042761079 | 1.613424651 | 1.042761079 | 1.613424651 |
| Yosemite Visitor/1,000 | 2.432304774 | 0.124566445 | 19.52616347 | 4.91826E-08 | 2.14505385 | 2.719555697 | 2.14505385 | 2.719555697 |
| Ski Visits/1,000 | 0.832640545 | 0.899018789 | 0.926165899 | 0.381450388 | -1.240501841 | 2.905782932 | -1.240501841 | 2.905782932 |

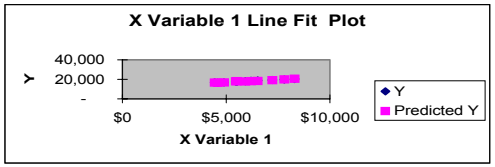
RESIDUAL OUTPUT

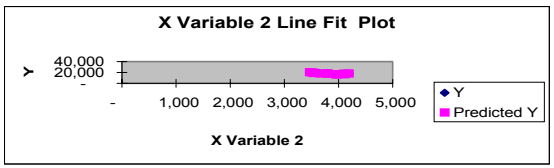
| *Observation* | *Predicted Y* | *Residuals* | *Standard Residuals* |
|---|---|---|---|
| 1 | 16540.98578 | -24.98578025 | -0.087904909 |
| 2 | 16827.88935 | 120.1106501 | 0.422572988 |
| 3 | 16768.21929 | 194.7807096 | 0.685277005 |
| 4 | 17969.22333 | -288.2233324 | -1.014026606 |
| 5 | 18260.87692 | -548.8769212 | -1.931057409 |
| 6 | 17917.78003 | 98.21996914 | 0.345557249 |
| 7 | 18244.74684 | 219.2531635 | 0.771375931 |
| 8 | 18308.3132 | 493.6867982 | 1.736887657 |
| 9 | 19187.89247 | 205.1075342 | 0.721608813 |
| 10 | 19927.78659 | -97.78658581 | -0.344032521 |
| 11 | 20597.50915 | -313.5091458 | -1.102987091 |



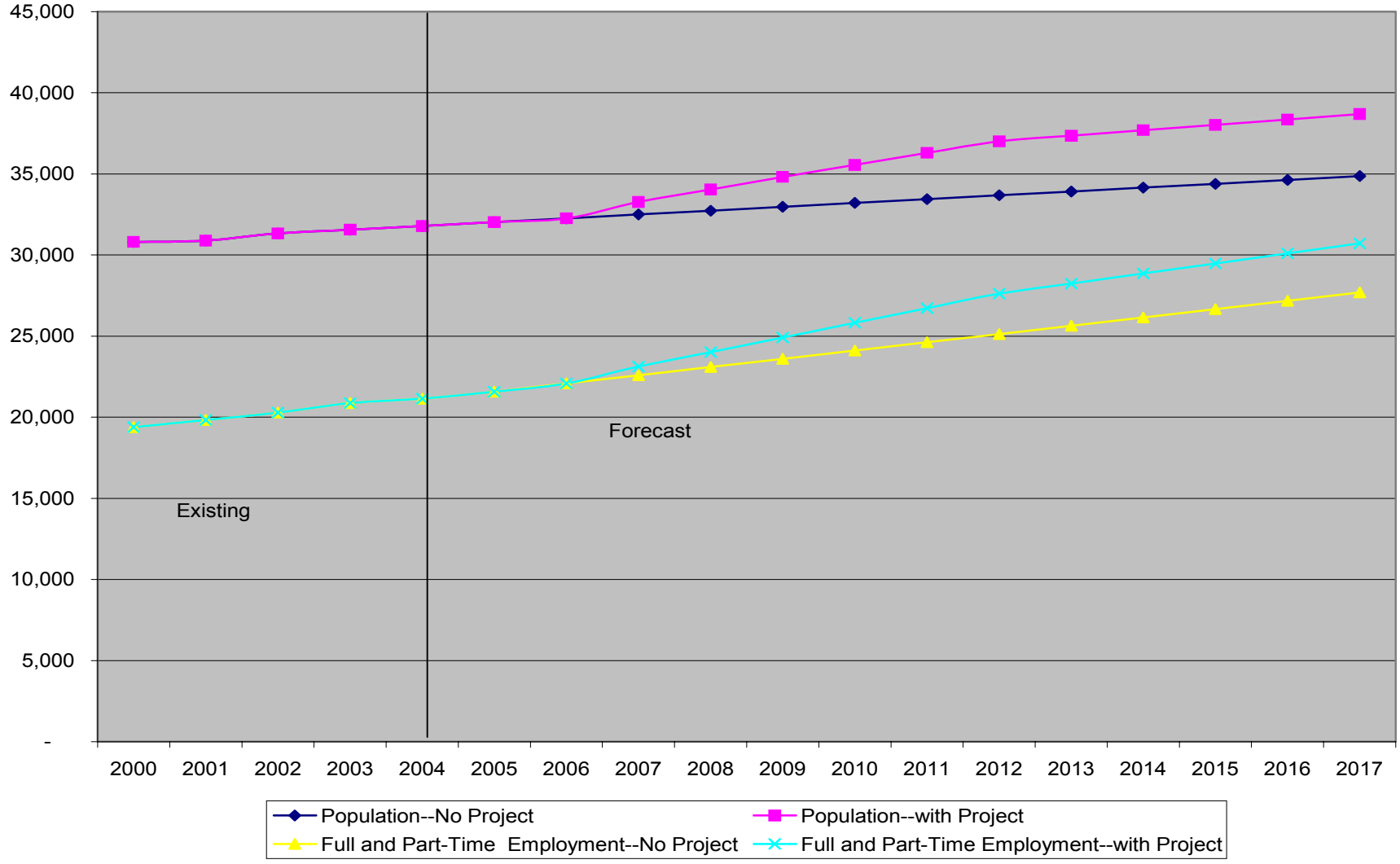





Source: The SGM Group, Inc.

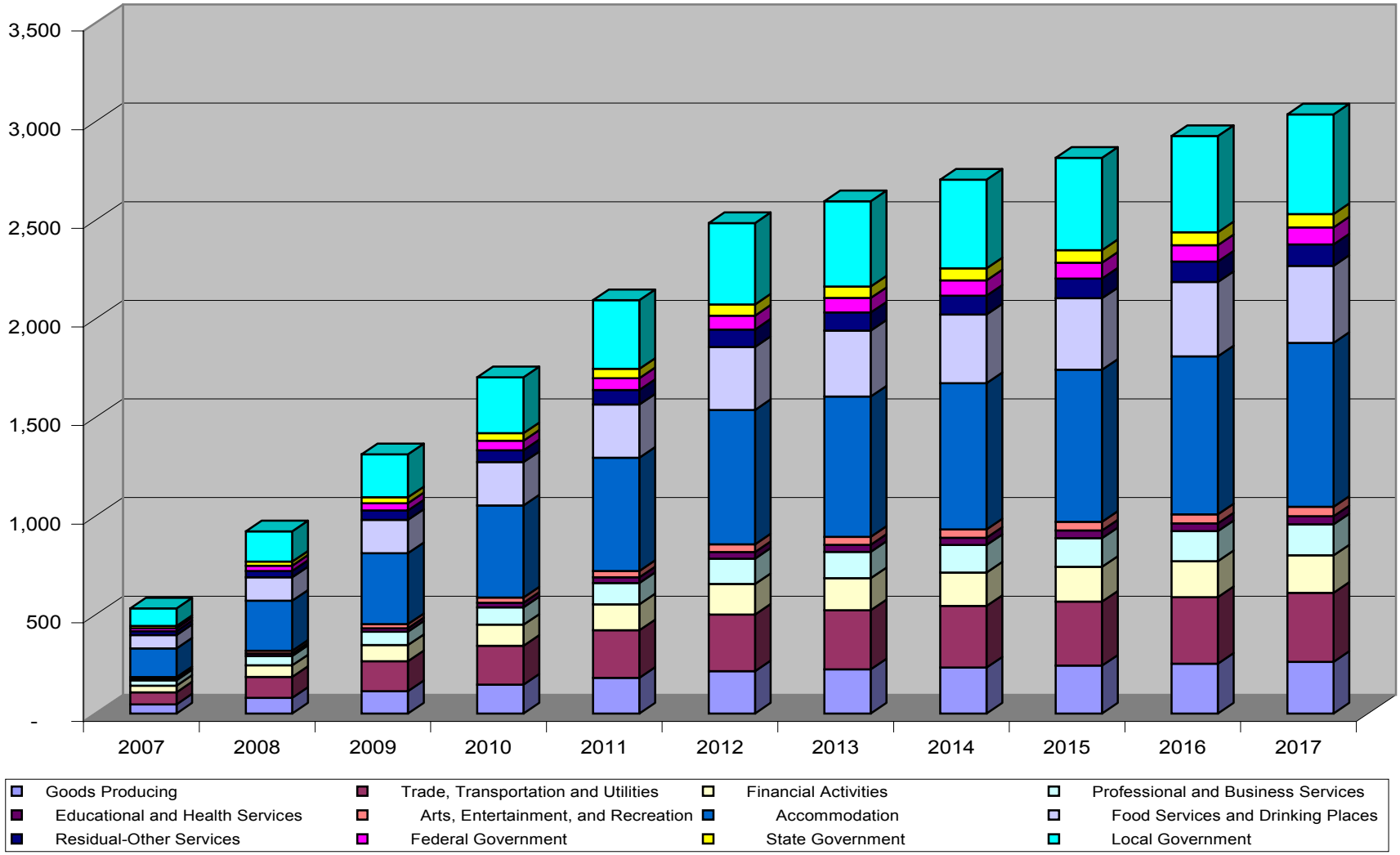
**Figure 26: Population and Employment Forecast—Mono and Inyo Counties 2005-2017**




Source: The SGM Group, Inc.

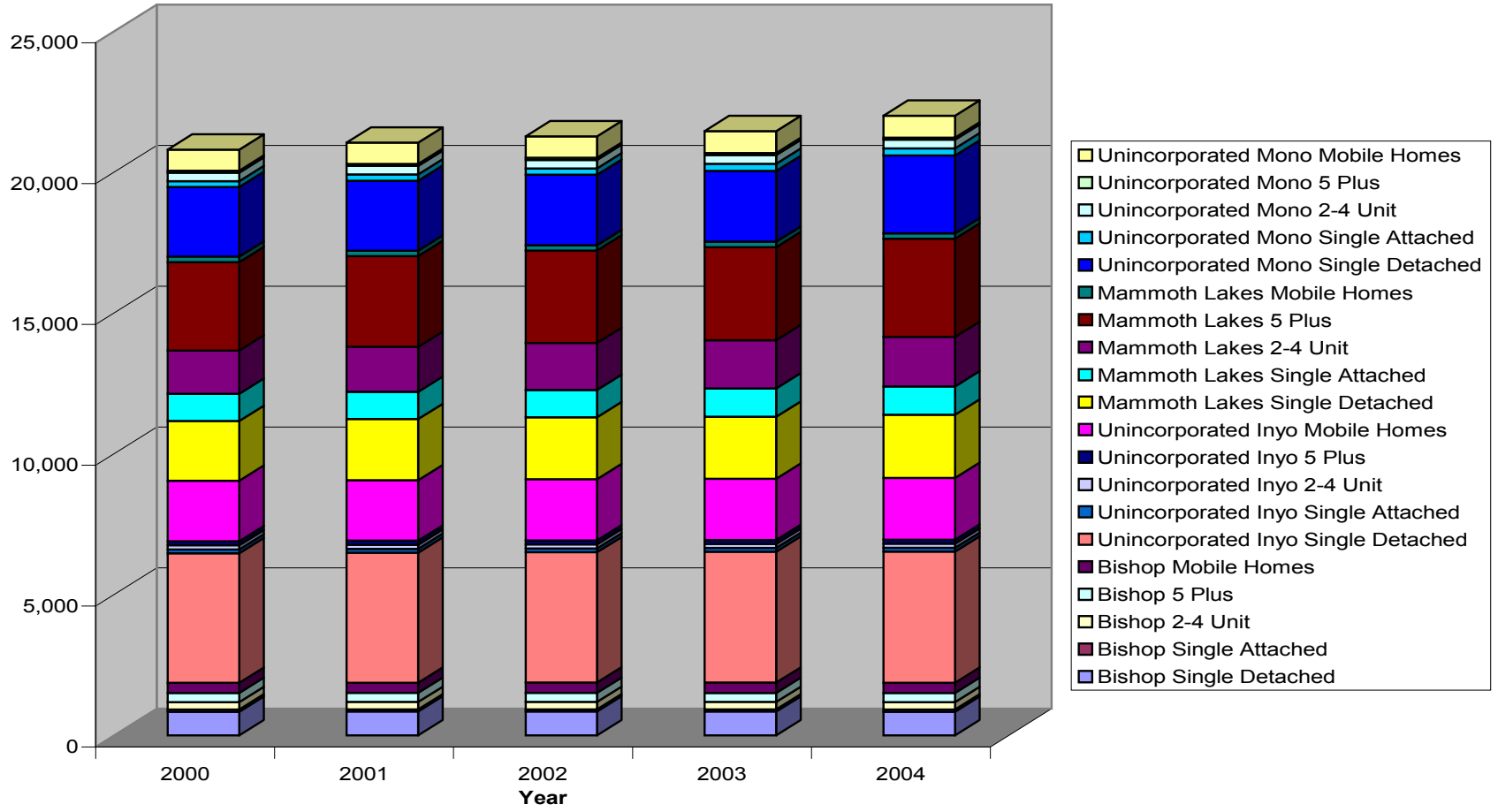
**Figure 27: Two-County Employment Impact—Distribution by Economic Sector 2007-2017**

*Model Output*




Source: The SGM Group, Inc.

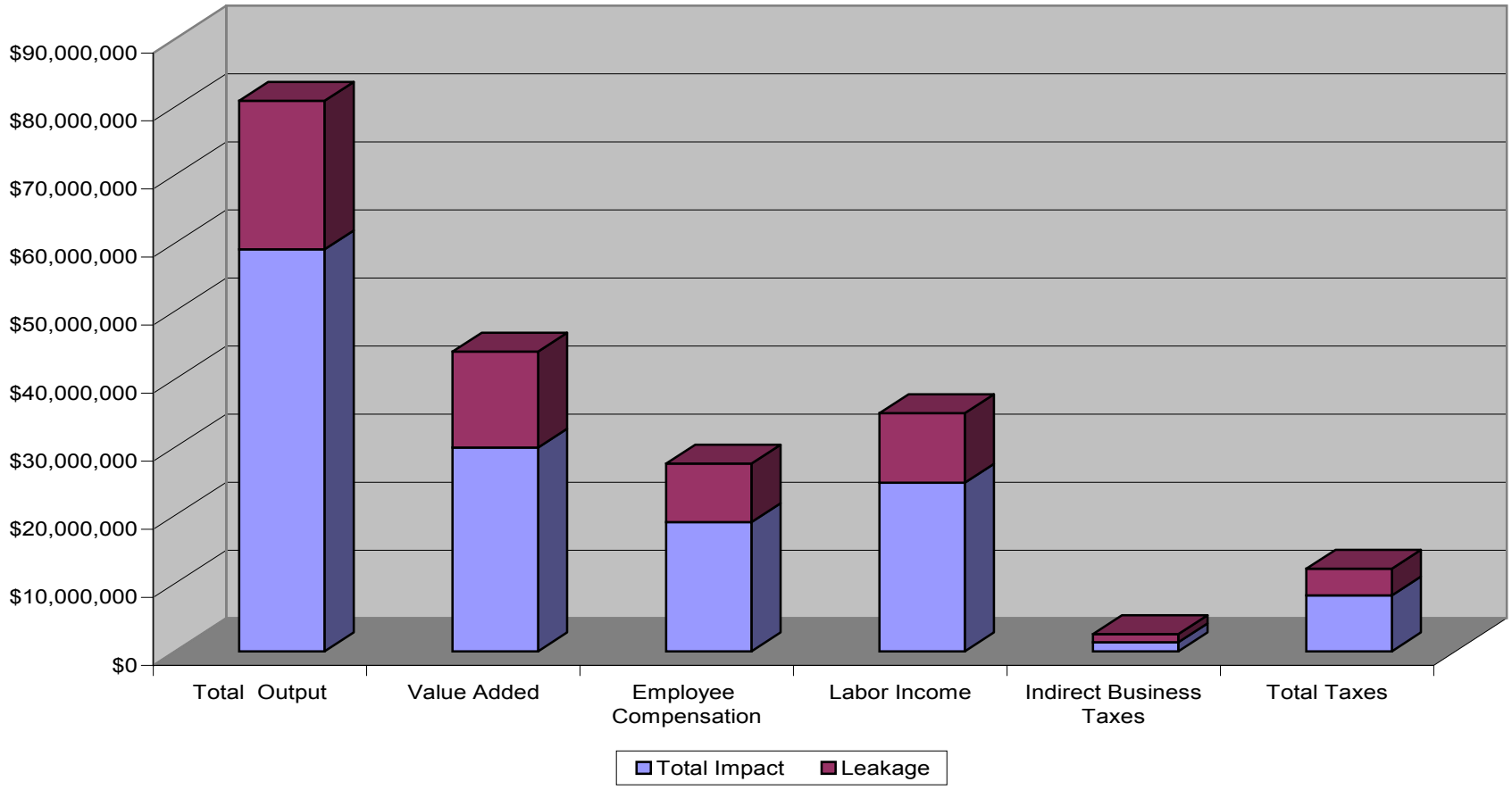
## Figure 28: Housing Characteristics—Mono and Inyo Counties 2000-2004




Source: The SGM Group, Inc.; California Department of Finance, Demographic Research Division

**Figure 29: Economic Leakage—Seven Counties versus Mono and Inyo Counties**

***Economic Value***




Source: IMPLAN and The SGM Group, Inc.

# References


1. Aspen Chamber Resort Association, Historical Monthly Occupancy 1985-7/04, e-mail transmittal July 2, 2004.

2. Aspen Consolidated Sanitation District Wastewater Treatment Plant, monthly data, 01/92 – 05/04, e-mail transmittal August 10, 2004.

3. Aspen/Pitkin County Airport [Online]. Master Plan – Draft Report. November 2003, page A.1-A.35. Retrieved July 2004 from www.aspenairport.com.

4. California Employment Development Department Labor Market Information for Mono and Inyo Counties.

5. City of Bishop, City of Bishop, New Building Construction, fax transmittal, August 2, 2004.

6. City of Bishop, Final Budget Fiscal Year 2003-2004.

7. Colorado Ski County USA's, Colorado Skier Data, http://www.media-coloradoski.com

8. County of Inyo, Final County Budget, Fiscal Year ending June 30, 2004.

9. County of Mono Final Budget 2004-2005 (approved 2003-2004) and special report prepared by Mono County Budget Office.

10. FAA. 2004. Airport Master Records for the Aspen/Pitkin County Sardy Field, Jackson Hole, Eastern Sierra Regional and Mammoth Lakes-Yosemite Airports. September 30, 2004.

11. H&K Consulting, Superior Court of California, County of Mono, Facilities Master Plan, May 6, 2003

12. Intrawest Resort Development Group, Development Calendar Summary for Mammoth Lakes, 1999-2014, September 2004.

13. Inyo County Assessor's, New Construction, e-mail transmittal, August 23, 2004.

14. Inyo County Assessor's Office, Development by Type of Use, e-mail transmittal, September 2, 2004.

15. Inyo County General Plan, December 2001

16. Jackson Hole Airport, Monthly Enplanements, 1964-2003 and Jackson Hole Airport Chronology, e-mail transmittal, June 21, 2004.

17. Jackson Hole Historical Society and Museum. [Online] "A Brief History of Jackson's Hole." Retrieved October 26, 2004 from www.tetonwyo.org/histoc/nav/100281.shtm

18. Jackson Hole, Wyoming Chamber of Commerce. Lodging Occupancy Reports faxed to Hayes Planning Associates on 12/8/04.

19. Mammoth Lakes Visitors Bureau. Mammoth Lakes General Information Binder, 5/19/04.

20. Mammoth Mountain, Mammoth Mountain Ski Area, Historical Paid Skier Days, 1960-2004.

21. MIG, Inc. IMPLAN Professional Version 2.0, User's Guide; Analysis Guide; Data Guide; 2nd Edition, June 2000.

22. Strategic Marketing Group, Tourism Assessment, Coalition of County Chambers of Commerce of Inyo County, n.d.

23. Telluride & Mountain Village Convention & Visitor's Bureau, Historical Occupancy Statistics 1997-6/04, e-mail transmittal, August 17, 2004.

24. Telluride Regional Airport, 14-year Statistics, received August 2004.

25. Town of Mammoth Lakes, CA. Fiscal Impact Model, October 2004.

26. Town of Mammoth Lakes, CA. The Town of Mammoth Lakes Draft General Plan, July 2004. Retrieved July 2004 from www.townofmammothlakes.com

27. Vail/Eagle County Airport official website, http://www.eaglecounty.us/.

28. Yosemite National Park, Yosemite National Park Visitor Use Statistics, 1985-2004, e-mail transmittal August 25, 2004.

# Endnotes

[1] Ricondo & Associates, Inc., "Updated Forecast of Aviation Demand—Final Report, Mammoth Yosemite Airport," Prepared for The Town of Mammoth Lakes, May 2004, Table 28, p. 36.

[2] Mammoth Lakes Fact Sheet, Mammoth Lakes Visitors Bureau, updated 5/18/04.

[3] Ibid.

[4] Mammoth Lakes Winter Visitor Survey, Final Report, Prepared by the Town of Mammoth Lakes, June 2002.

[5] California Department of Finance, Demographic Research Unit, and Table2: E-5. City/County Population and Housing Estimates, 1/1/2004. In this analysis, California data is used in lieu of comparable data from the Town of Mammoth Lakes for population and housing because the state maintains an historic record that facilitates trend analysis and housing type distribution evaluation.

[6] Town of Mammoth Lakes Land Use Element Draft, 7/13/04.

[7] California Department of Finance, Demographic Research Unit, Op. Cit.

[8] Mammoth Lakes Winter 2002 Visitor Survey Report, Record of Interviews Intrawest Corporation and Mammoth Lakes Visitors Bureau.

[9] Town of Mammoth Lakes, Op. cit.

[10] Town of Mammoth Lakes Draft General Plan Update, Summer 2004

[11] Mammoth Lakes region, Record of Contact personal interviews with Coldwell Banker, local real estate agents and local developers, 5/20-5/25/04.

[12] "The World's Finest Resorts" brochure and interview with Mammoth Realty Group, 5/21/04

[13] Mammoth Realty Group and Coldwell Banker personal interviews, 5/21/04.

[14] Realtor and local developer interviews 5/20-5/25/04.

[15] Dempsey Construction, Town of Mammoth Lakes Community Development Department, and Town of Mammoth Lakes Land Use Element Draft, 7/13/04.

[16] Interview with Intrawest Corporation, 5/25/04

[17] Interviews with Dempsey Construction, Intrawest Corporation, Mammoth Realty Group, and Coldwell Banker 5/20-5/25/04.

[18] Mono County Land Use Element, http://www.monocounty.ca.gov/nd, May 2004.

[19] Mono County GIS.

[20] Mono County Land Use Element, Op. Cit.

[21] U.S. Census 1980 and 1990; U.S. Census 2000, Summary File 1, Table P1: Total Population and Mono County Housing Element, Adopted 2004.

[22] California Department of Finance, Demographic Research Unit, City/County Population and Housing Estimates, 1/1/04.

[23] Ibid.

[24] Superior Court of California, County of Mono, Facilities Master Plan, May 6, 2003.

[25] Summary of interviews with local real estate agents and developers in Mammoth Lakes, 5/20/04-5/25/04.

[26] Ibid.

[27] Ibid.

[28] Ibid.

[29] Intrawest Corporation Interview, 5/25/04.

[30] Mono County Community Development Department personal interviews, 5/24/04 and telephone interviews with Mono County project planners, 6/04 and 7/04.

[31] Labor Market Information Division, Employment Development Department, State of California, June 2004.

[32] Ibid.

[33] Ibid.

[34] Ibid.

[35] Mammoth Lakes Visitors Bureau, Mammoth Lakes Fact Sheet, updated 5/18/04.

[36] Ibid.

[37] Mammoth Lakes Visitors Bureau, Mammoth lakes General Information, May 17, 2004

[38] Summary of interviews with local developers and Mammoth Lakes Visitors Bureau, 5/04.

[39] Mammoth Lakes Summer Visitor Survey Report, 2002

[40] Mammoth Lakes Winter 2002 Visitor Survey Report, Mammoth Lakes Visitors Bureau.

[41] Summary of interviews with Intrawest Corporation, local real estate agents and developers in Mammoth Lakes 5/20/04-5/25/04. Build-out schedules are dependent on market conditions and sales pace.

[42] Mammoth Mountain Demographics, Winter 2000-2001.

[43] Mammoth Mountain, personal interview, 5/20/04.

[44] Summary of interviews with local real estate agents and developers in Mammoth Lakes, 5/20/04-5/25/04.

[45] Mammoth Mountain, telephone interview, 10/04

[46] State of California, Department of Finance, E-5 City/County Population and Housing Estimates, 2004.

[47] City of Bishop, City Administrator, Interview, 5/21/04.

[48] Ibid.

[49] Tourism Assessment, Coalition of County Chambers of Commerce of Inyo County, U/D.

[50] City Administrator, City of Bishop, 5/21/04.

[51] Interview with the Bishop Area Chamber of Commerce and Visitors Bureau, 5/21/04.

[52] Ibid.

[53] State of California, Employment Development Department Labor Market Information Division.

[54] Interview with the Bishop Area Chamber of Commerce and Visitors Bureau, 5/21/04.

[55] ADE Data from California Department of Finance, City/County Population and Housing Estimates, Inyo County General Plan, December 2001.

[56] Inyo County General Plan, December 2001.

[57] Ibid.

[58] U.S. Department of Commerce, Bureau of Census, 1980.

[59] State of California, Department of Finance, E-5 City/County Population and Housing Estimates, 2004.

[60] Inyo County General Plan, December 2001.

[61] Interview with Inyo County Planning Director, 5/21/04.

[62] State of California, Department of Finance, Op. cit.

[63] Inyo County General Plan, December 2001 and interview with Inyo County Planning Director, 5/21/04.

[64] Ibid.

[65] Inyo County Treasurer Tax Collector, 5/21/04

[66] Ibid.

[67] Tourism Assessment, Coalition of County Chambers of Commerce of Inyo County and CALTRANS, District 9, System Planning Branch, US 395 Origin and Destination Study, 2000.

[68] Ibid.

[69] Definitions of Input-Output modeling components are included at the end of this technical memorandum. That discussion includes a description of the Input-Output models as well as definitions of Value Added, Total Output, and other components of the evaluation.

[70] Data used to determine total output for the county is provided through the Input-Output models prepared by IMPLAN, with the latest available transaction coefficient data available only through 2001.

[71] Population and employment data through 2002 are provided by BEA, US Department of Commerce; forecasts through 2004 are prepared by The SGM Group, Inc.

[72] 2002 NSOS (National Skier/Boarder Opinion Survey) Summer Report and Findings, Mammoth Lakes Visitors Bureau.

[73] Series of telephone interviews Flathead County planner and Flathead County Assessor, State of Montana, Montana Census and Economic Information Center, 6/04 and 7/04.

[74] Big Mountain Ski Resort, telephone interview, 7/04

[75] One important characteristic of the Mammoth Lakes economy in particular and of ski resort economies in general, is that retail expenditures are predominantly generated by exogenous rather than endogenous forces. Sales and use taxes result primarily from visitor activity—from those coming into the area not residing in the area. Household-generated retail expenditures represent only a small contribution by comparison. The total amount of retail expenditures is a function of the number of visitors, the type of visitors, and often by their length of stay. The longer a party stays in the resort, the greater the potential expenditure on retail and shopping activities. Visitors include those who come to ski, and some who come to participate in alternative activities. Where the shift is more to the alternatives, it is possible that retail expenditures go up. When visitors come from further distances and come by air rather than drive, they often represent a wealthier clientele, and that clientele can spend more.

In a market-driven economy as a resort environment is, the greater the retail expenditure potential, the greater the demand for retail services and related employment. Therefore, the number of employees in the retail and related sectors is a function of exogenous pressures represented by visitors to the resort. Using sales and use tax values adds a dimension to the analysis by incorporating change in expenditure patterns attributed to access, length of stay, and character. As a result, it is legitimate to use sales and use taxes as an exogenous variable in the regression models. Nothing in this process is without some correlation, and there is indeed some autocorrelation between sales and use taxes and number of visitors, but the added dimension of using this variable does seem to contribute positively to the overall employment modeling effort.

Population, however, is not nearly as independent of employment, connected by a linear ratio represented by the labor-force participation rate. To use population, which represents primarily permanent residents, to predict total employment, only relates to a small proportion of the overall employment in a resort community. In fact, using resident population as a primary variable to predict employment in a resort economy misses the point. Employment is generated by demand for visitor-related services: primarily visitor activities, visitor accommodations, and visitor-based retail expenditures. Only a relatively small component of total employment is a result of household expenditures by permanent residents. Employment in the analysis often exceeds population, as indicated, because of commuting patterns from outside the counties used in the analysis, and as a result of part-time jobs. Employment is measured at place of work; population is measured at place of residence. People employed in the community often live outside the community. It is also possible that individuals have more than one job and that employees come to the resort area from counties not included in the analysis.

[76] The case-study evaluations examine historic experience as a basis for deriving predictive models linking employment to airport accessibility, measured as a function of annual enplanements. It is important to recognize, however, that weekly variations in occupancy rates as well as seasonal variations throughout the year are characteristic of resort economies. These characteristic variations exist even with active airport operations, operations and levels of activity that change with demand. What cannot be demonstrated empirically is how much impact airport operations have on seasonal variations for a specific resort community. It is reasonable to assume that increased accessibility contributes to an improvement in occupancy rate variation during the year—the effect, however, cannot be measured.

[77] Affordable Housing in Mountain resort Towns: Policy Recommendations for June Lake, Mono County, CA, spring, 2004, UC Irvine.

[78] The official Telluride website.

[79] Ibid.

[80] Ibid.

[81] Ibid.

[82] E-mail correspondence with Richard Nuttall, Telluride Regional Airport Manager, March 23, 2005.

[83] 5010Web: Airport Summary and Activity Data, *G.C.R. & Associates, Inc.*, http://www.gcr1.com/5010WEB/, December 4, 2004.

[84] Telephone interview with Telluride Regional Airport Manager, 7/04

[85] Richard Nuttall, op. cit.

[86] Telephone interviews with Great Lakes Airlines, America West and the official Telluride website.

[87] Series of telephone conversations with the manager of the Telluride Visitor's Information Center, 7/04-11/04.

[88] Ibid.

[89] Ibid.

[90] Telluride Visitor's Information Center

[91] US Department of Commerce, Bureau of Economic Analysis, *Regional Economic Information System*, June 2004.

[92] Bureau of Economic Analysis, US Department of Commerce: http://www.bea.gov/bea/regional/reis/

[93] Colorado County General Revenues, Colorado Department of Local Affairs, http://dola.colorado.gov/cedis/county/cty2.cfm?choice=1

[94] Colorado Ski Country USA's http://www.media-coloradoski.com/

[95] FAA/APO Terminal Airport Forecasts (TAF) System, APO WinTAF Version 5.0

[96] E-Mail data transmission, Richard Nuttall, Telluride Airport Manager, June 17, 2004, tex@telluridecolorado.net

[97] Vail Resorts Development Company

[98] Ibid.

[99] Ibid.

[100] Ibid.

[101] Telephone interviews with the Town of Vail and Eagle County, July 2004

[102] Telephone Interview Town of Vail Community Development Department, 7/13/04.

[103] "Ski Magazine," November 29, 2000.

[104] Final Supplement to Subsequent EIR – Appendix H- Historical Forecast of Aviation Demand, Ricondo & Associates, March 2002.

[105] 5010Web: Airport Summary and Activity Data, Op. Cit.

[106] Telephone Interview with EGE Airport Manager, 6/18/04.

[107] Vail/Eagle County Airport official web site

[108]Telephone Interview with EGE Airport Manager, 6/18/04.

[109] Ibid.

[110] Town of Vail official website.

[111] Aspen Pitkin County Airport Statistics, Summer 2004 and telephone interview with Airport Manager, 8/10/04

[112] Aspen Pitkin County Airport Statistics, Summer 2004

[113] Aspen-Pitkin County Airport Draft Master Plan, page B-13, HPA Telephone interview with Steve Howard, Aspen/Pitkin County Airport.

[114] Aspen/ Pitkin County Airport, Master Plan Draft Report, November 2003

[115] Ibid.

[116] Ibid.

[117] Aspen/Pitkin County Airport, 18-year historical perspective of winter enplanements vs. total seats, 1985/86-2003/04.

[118] Ibid.

[119] Telephone interview with Aspen/Pitkin County Airport, August, 2004

[120] Aspen/ Pitkin County Airport, Master Plan Draft Report, November 2003

[121] Ibid.

[122] Telephone interview with Aspen/Pitkin County Airport, August, 2004

[123] Ricondo & Associates, "Updated Forecasts of Aviation Demand," May 2004. Aspen resort actually encompasses only four of the five ski areas listed, excluding Sunlight. Since the enplanements forecasts developed in the Ricondo report also included Sunlight as being served by the Aspen airport, all five resorts have been included in the case study.

[124] Telephone Interview with the Aspen Music Festival, August, 2004

[125] BEA, US Department of Commerce, June 2004 (2002 is the latest year reported).

[126] Telephone interview with the Aspen Consolidated Sanitation District, 8/04

[127] Telephone interview with the Aspen Chamber Association and Aspen Chamber Resort Historical Monthly Occupancy, 1995-7/04.

[128] Telephone interviews with the Aspen Chamber Resort Association, Aspen Consolidated Sanitation District, Stay Aspen/ Snowmass, Town of Aspen and the Northwest Council of Governments, Summer, 2004.

[129] Telephone interviews with the Aspen Chamber Resort Association, Aspen Consolidated Sanitation District, Stay Aspen/ Snowmass, Town of Aspen and the Northwest Council of Governments, Summer, 2004.

[130] Telephone Interview, Town of Aspen, 6/24/04

[131] Summary of telephone interviews with the Aspen Chamber Resort Association, Aspen Consolidated Sanitation District, Stay Aspen/ Snowmass, Town of Aspen and the Northwest Council of Governments, Summer 2004.

[132] Including Sunlight in the analysis does not alter the resulting model significantly. The model was compiled for both the four- and five-resort ski statistics, but maintained the five locations in order to be consistent with the Ricondo study.

[133] BEA, Colorado County General Revenues, Colorado Department of Local Affairs, http://dola.colorado.gov/cedis/county/cty2.cfm?choice=1, Colorado Ski Country USA's http://www.media-coloradoski.com/, and FAA/APO Terminal Airport Forecasts (TAF) System, APO WinTAF Version 5.0.

[134] Telephone interviews, Jackson Hole Chamber of Commerce, Summer 2004

[135] Grand Teton Park & Jackson Hole Visitor's Guide, 2004

[136] Telephone Interview, Grand Targhee Resort, 6/04

[137] Telephone interview Jackson Hole Camber of Commerce, 6/04.

[138] Additional occupancy data for specific dates can been found in Technical Memorandum: "Mammoth Yosemite Airport DEIS Seasonal Market Characteristics," January 2005, prepared by Hayes Planning Associates for URS, Town of Mammoth Lakes and FAA.

[139] Telephone interview with Jackson Hole airport officials, 6/16/04.

[140] The official website for Jackson Hole Airport, Winter 2004.

[141] Summary of a series of telephone interviews with the Rocky Mountain Lodging Group, Jackson Hole Chamber of Commerce, Jackson Hole Ski area and Jackson Hole Airport staff, Summer, 2004.

[142] Jackson Hole Airport monthly enplanements, 1964-2003,

[143] Jackson Hole Airport monthly enplanements, 2003 and interview with Jackson Hole Airport staff, 6/04.

[144] Telephone interview with Jackson hole Airport, 6/21/04

[145] Ibid.

[146] Jackson Hole Chamber of Commerce.

[147] U.S. Census Bureau (2000)

[148] Teton County

[149] State of Wyoming: http://revenue.state.wy.us/PortalVBVS/DesktopDefault.aspx?tabindex=3&tabid=10

[150] National Park Service, Public Use Statistics Office, http://www2.nature.nps.gov/stats/

[151] Jackson Hole Airport Manager, provided via e-mail, 7/16/04. The enplanement numbers provided by the airport manager for December 2001 were apparently not available at the time of the analysis; however, the total provided for the year was comparable to that available from FAA. The analysis was not significantly affected by the single month's data.

[152] "Updated Forecast of Aviation Demand, Final Report, Mammoth Yosemite Airport," Ricondo & Associates, Inc., May 2004.

[153] IMPLAN Professional, Version 2.0, Social Accounting & Impact Analysis Software, 2nd Edition—June 2000, p. 14-15.

[154] Elements of the Social Accounting Mix, Technical Report TR-98002, MIG, n.d., p. 1ff.

[155] Ricondo & Associates, Op. Cit.

[156] The SGM Group, Inc.

[157] Short-term economic impacts linked to construction are discussed in a separate section of the memorandum.

[158] IMPLAN prepares tax outputs based on the latest regional coefficients, which for this model was 2001. Only Indirect Business Taxes can be converted directly to 2004 dollars. Using that example, the inflation rate from 2001 to 2004 dollars is approximately 108.89 percent, resulting in a 2004 value for total tax benefit of $46.6 million.

[159] California Department of Finance, Research Division, http://www.dof.ca.gov/HTML/DEMOGRAP/repndat.htm#estimates

[160] Inyo County Assessor's Office, September 2004 (includes City of Bishop).

[161] Town of Mammoth Lakes, Updated Comprehensive Plan, September 2004.

[162] Town of Mammoth Lakes, Fiscal Impact Model, FIR Version 15, December 2004.

[163] Airport Capital Improvement Program (ACIP), Mammoth Yosemite Airport, Mammoth Lakes, California, April 5, 2004.

[164] IMPLAN Professional, Version 2.0.1024, June 2004, Minnesota IMPLAN Group, Inc., Minnesota. www.implan.com

[165] Telephone interviews and subsequent e-mail with local construction firms, 10/6/04

[166] MIG, Inc., IMPLAN Professional, Version 2.0, User's Guide, June, 2000, pp. 125-126, 253.

# Appendix E-4

## Traffic Information

This appendix contains traffic information for U.S. 395 within Mono and Inyo counties.

**TABLE E-4.1**
**U.S. 395 TRAFFIC CONDITIONS**

| County | Segment (Post Mile) | 1997 | | Percent Trucks/ Percent Bus |
|---|---|---|---|---|
| | | LOS | AADT | |
| Mono | 0 - 7.5 | A | 5,200 | 6 / 6 |
| Mono | 7.5 - 25.8 | A | 5,500 | 6 / 6 |
| Mono | 25.8 - 44.2 | A | 4,100 | 12 / 6 |
| Mono | 44.2 - 51.3 | A | 4,200 | 13 / 6 |
| Inyo | 118.8 - 129.5 | A | 6,300 | 4 / 8 |
| Inyo | 115.2 - 118.8 | E | 15,700 | 6 / 8 |
| Inyo | 100.6 - 115.2 | A | 6,800 | 10 / 8 |

Source: CALTRANS, 2000.

1 See Table E-3.2 for level of service (LOS) information.

**TABLE E-4.2**
**LEVEL OF SERVICE DESCRIPTION**

| Level of Service | Description | Volume to Capacity |
|---|---|---|
| A | Excellent operation. All approaches to the intersection appear quite open, turning movements are easily made, and nearly all drivers find freedom of operation. | 0-0.60 |
| B | Very good operation. Many drivers begin to feel somewhat restricted within platoons of vehicles. This represents stable flow. An approach to an intersection may occasionally be fully utilized and traffic queues start to form. | 0.61-0.70 |
| C | Good operation. Occasionally, drivers may have to wait more than 60 seconds, and back-ups may develop behind turning vehicles. Most drivers feel somewhat restricted. | 0.71-0.80 |
| D | Fair operation. Cars are sometimes required to wait more than 60 seconds during short peaks. There are no long-standing traffic queues. This level is typically associated with design practice for peak periods. | 0.81-0.90 |
| E | Poor operation. Some long-standing vehicular queues develop on critical approaches to intersections. Delays may be up to several minutes. | 0.81-0.90 |
| F | Forced flow. Represents jammed conditions. Backups from locations downstream or on the cross street may restrict or prevent movement of vehicles out of the intersection approach lanes; therefore, volumes carried are not predictable. Potential for stop and go type traffic flow. | 0.91-1.00 |

Source: Highway Capacity Manual, Special Report 209, Transportation Research Board, Washington, D.C., 1985 Interim Materials on Highway Capacity, NCHRP Circular 212, 1982.