# MAMMOTH LAKES

# *TRANSIT PLAN*

*Prepared for the*

Town of Mammoth Lakes

*Prepared by*

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# Table of Contents

# List of Tables



# List of Figures

# Chapter 1
# Introduction

Public transit service already plays a very important role in Mammoth Lakes area, providing a substantial proportion of the total access to the Mammoth Mountain Ski Area. For many years, there has been strong interest throughout the community to expand services to broaden the transit benefits to the community, as well as to further reduce traffic and parking issues associated with ski area operations. Expansion of transit services was a focus of an *Air Quality Mitigation Plan* established by Mono County, the U.S. Forest Service, Caltrans, and the Mammoth Mountain Ski Area in 1980 (prior to the incorporation of the Town of Mammoth Lakes). Subsequently, the *Town of Mammoth Lakes Transit System Design and Development Plan* was prepared by David Evans and Associates, Inc. in 1993. Most recently, the *Mammoth Multi-Modal Transportation Plan Study Report*, prepared by RKJK, Inc. in 1997 identified an expansion of public transit services as a key plan element.

Other, more comprehensive planning documents also indicate a high level of interest in the expansion of public transit services. The most pertinent example is the Town of Mammoth Lake's *Vision Statement* (reformatted with minor revisions in May, 1998), which envisions the following:

> *"Once visitors and residents reach their destination, automobile travel is subordinate to transit, pedestrian or cycling.*
>
> *Expansion of arterial, collector and local roadways has been discouraged and is only accomplished when other modes of transportation are not capable of serving the community in a convenient and reliable manner.*
>
> *Travel is improved to all major destination areas, and visitors and residents find that private automobile use is unnecessary in most cases" (P 5)*

As part of the community meetings recently held regarding resort corridor development, moreover, the community indicated a strong desire to de-emphasize roadway expansions and focus transportation improvements on alternative modes.

The need to actually get transit service improvements "on the ground" in Mammoth Lakes is particularly important at present, due to the community's current redevelopment efforts. Public transportation is essential to mitigating the transportation impacts of the redevelopment projects, particularly with regard to the key Gondola Village project. Put simply, if redevelopment is to be implementable and successful, expanded public transit service will be required.

This transit plan presents an up-to-date transit strategy for Mammoth Lakes, focusing on the requirements associated with redevelopment. While this analysis is not the result of a formal alternatives analysis process (such as was conducted in the 1993 study), it does benefit from the results of the two recent larger studies, as well as the Consultant's experience in the development of transit plans for a wide range of mountain resort communities. This document first presents a summary description of existing transit services in the area, followed by a recommended transit service, capital, and institutional plan. This elements are intended as the basis for further decisionmaking regarding a financial implementation strategy, as well as identification of an appropriate institutional form by which to fund and provide or contract for transit services.

# Chapter 2
# Existing Transit Services

Recognizing that both the number of annual visitors was increasing and that year-round residents would benefit from convenient service, the Town Council voted in 1986 to improve and expand existing transit service. Because skiers create the greatest transit demand in the Mammoth Mountain area, it was decided that the Mammoth Mountain Ski Area would contribute $500,000 in order to provide convenient transit service to residents and visitors alike. Over subsequent years, the ski area has expanded this funding level to provide additional services. Mammoth Mountain Ski Area currently makes all decisions regarding service expansions and changes.

## Description of Existing Service

Mammoth Area Shuttle (MAS) offers several free shuttles available to anyone in the Town of Mammoth Lakes during the winter season. The following five routes operate during daytime hours:

- The **Main Lodge/Snow Creek Line (Red Line)** provides service to and from the Main Lodge and Snowcreek Athletic Club, traveling along Minaret Road, Main Street, Old Mammoth Road and Chateau Road. At Gondola Village riders can transfer to all other lines. The Red Line service begins daily at 7:00 a.m. at the Snowcreek Athletic Club and ends at 5:30 p.m, with up to six departures in each direction per hour.

- The **Canyon Lodge Line (Blue Line)** provides service to and from Gondola Village and Canyon Lodge, traveling along Lakeview and Canyon Boulevards. Riders can transfer to all other lines at Gondola Village. Service begins daily at Gondola Village at 7:00 a.m. and ends at 5:30 p.m., providing up to six departures per hour in each direction.

- The **Juniper Springs Line (Green Line)** provides service to and from Chair 15 Outpost (Juniper Springs) and Old Mammoth Road, traveling along Azimuth and Meridian and Sierra Nevada Boulevards. Riders can transfer to all other lines at stop #34 (the intersection of Sierra Nevada Boulevard and Old Mammoth Road). The Green Line operates daily beginning at 7:30 a.m. at stop #34 and ends at 5:30 p.m., providing up to six departures per hour in each direction.

- The **Canyon Lodge/Juniper Springs Line (Yellow Line)** provides service to and from Canyon Lodge and Chair 15 Outpost (Juniper Springs), traveling along Canyon Boulevard, Lake Mary Road, Kelly Road and Majestic Pines Drive. Riders can transfer to all other lines at Gondola Village. Providing up to six departures per hour in each direction, the Yellow Line operates daily from 7:30 a.m. to 5:30 p.m. and begins at Chair 15 Outpost (Juniper Springs).

- The **Tamarack Lodge/Gondola Village Line (Orange Line)** provides service to and from Tamarack Lodge and Gondola Village, traveling along Lake Mary Road. Riders can transfer to all other lines at Gondola Village. The bus departs from Tamarack Lodge every hour on the half-hour and departs from Gondola Village every hour on the hour. The Orange Line operates daily from 8:00 a.m. to 5:30 p.m.

There are also three "Nightline" routes which provide service during evening hours. Riders can transfer between the following three Nightlines at Gondola Village:

- The **Gondola Village/Snowcreek Nightline (Red Line)** provides service to and from Gondola Village and Snowcreek Athletic Club, using a single bus. The Red Line services Main Street, Old Mammoth Road, Chateau Road, and Minaret Road. Beginning at Gondola Village, the bus departs every half-hour from 6:00 p.m. to 11:00 p.m. Sunday through Thursday and from 6:00 p.m. to midnight on Fridays, Saturdays and holidays.

- The **Unbound Nightline** provides service to and from the Main Lodge and Gondola Village. The bus departs from the Main Lodge every half-hour beginning at 6:00 p.m. and operates until 10:00 p.m. The Unbound Nightline operates on Fridays, Saturdays and holidays and only when the Unbound area is open for skiing and snowboarding.

- The **Canyon Lodge Nightline (Blue Line)** provides service to and from Gondola Village and Canyon Lodge, using a single bus The bus departs every half-hour from Gondola Village beginning at 6:00 p.m. and operates until midnight on Fridays, Saturdays and holidays.

The peak number of buses used to serve each route during the winter day is as follows:

- Red Route 10 buses
- Blue Route 10 buses
- Green/Yellow Routes 5 buses
- Orange Route 1 bus

As indicated, the current service requires a maximum of 26 buses in operation (excluding the necessary spare buses).

## Ridership

Annual reports show that ridership on the Mammoth Area Shuttle has been increasing each year. Table 1 lists the data available for the past five years. Ridership figures show a 6.8% increase from the 1995-96 to the 1996-97 season and a 12.4% increase from the 1996-97 to the 1997-98 season.

***TABLE 1: Mammoth Area Shuttle Town Transit Ridership***

| | FY 93/94 | FY 94/95 | FY 95/96 | FY 96/97 | FY 97/98 |
|---|---|---|---|---|---|
| ***Total Ridership by Route*** | | | | | |
| Red Route | 267,137 | 376,749 | 280,688 | 301,230 | 337,455 |
| Blue Route | 88,555 | 154,747 | 126,120 | 137,101 | 142,502 |
| Yellow/Green (Combo) Route | 55,598 | 107,678 | 77,830 | 89,375 | 100,018 |
| Tamarack/Gondola Village Route | 8,504 | 0 | 0 | 0 | 0 |
| Night Routes | 7,572 | 15,045 | 14,683 | 10,432 | 17,920 |
| ***Total Ridership by Month*** | | | | | |
| November | 7,423 | 34,005 | 0 | 22,526 | 37,804 |
| December | 104,612 | 151,195 | 91,739 | 128,638 | 126,132 |
| January | 82,035 | 140,277 | 96,938 | 125,821 | 132,686 |
| February | 95,710 | 127,793 | 135,147 | 122,191 | 129,656 |
| March | 101,172 | 121,889 | 132,657 | 96,966 | 101,274 |
| April | 35,718 | 78,887 | 42,840 | 37,327 | 72,060 |
| May | 604 | 0 | 0 | 0 | 0 |
| **Season (Fiscal) Total** | **427,274** | **654,046** | **499,321** | **533,469** | **599,612** |
| **Annual Change** | **–** | **53.1%** | **-23.7%** | **6.8%** | **12.4%** |

Mammoth Statistics.wb3

Table 2 presents the ridership by each route for the most recent complete month of operations (December of 1998). Daily operations account for the majority (94.5 percent) of system ridership. As shown, the Red Line carried 56.3 percent of the ridership, followed by the Blue Line with 22.3 percent, the combined Yellow and Green Lines with 15.5 percent, the Orange Line with 0.4 percent of the total ridership. Nightline routes represent 5.5 percent of total ridership for the month with the Red Line accounting for 45.1 percent of the night service, the Unbound Line 36.3 percent of night service and the Blue Line accounting for 18.6 percent of night service. Total ridership for the month was almost 155,000 one-way passenger trips.

Like ski ticket sales, ridership on the transit service has very high peaks. One example of a peak day was February 15, 1998 (the Sunday during Presidents Day), when public transit riders totaled 13,318 as shown in Table 3. In comparison with other transit services (even in comparison with other services in mountain resort communities), these figures are *very* high, as discussed more fully below.

Table 4 depicts trends in the number of transit passengers as compared to the number of lift tickets sold. As indicated, transit ridership increased over 18 percent across a two-year period, though this rate trailed the overall increase in skier visits. This data indicates an increasing need for transit services for skiers (and a parallel increase in transit demand for non-skiing purpose, due to the increased number of visitors), which is constrained during peak periods by the existing capacity of the transit system.

**Service Levels**

Table 5 shows the number of vehicle service hours for the past five operating seasons. Weather and ski conditions determine when Mammoth Mountain opens and closes for the season, which in turn causes the number of months of transit operation to vary each year. During FY 1997/98, the season consisted of six months of operation totaling 16,000 vehicle service hours. Table 6 compares the number of riders with the number of vehicle-hours to identify the riders per vehicle-hour. This number varies only slightly by year.

Ridership per vehicle-hour is also shown by route in Table 2. Of the different routes, the daily Blue Line service generates the highest number of one-way passenger-trips per hour (50), followed by the Red Line service (42). Nightline services average 36 passenger-trips per vehicle-hour. The Orange Line (Tamarack Lodge/Gondola Village Line) has the lowest performance with only 4 passenger- trips per vehicle-hour. With the exception of the Orange Line, these productivity figures are *very* impressive. Vehicle miles are not tracked by Mammoth Area Shuttle.

**Operating Costs**

Table 7 presents the historical operating costs for Mammoth Area Shuttle. Each of the season total costs includes transit operations, parking operations, special events, training and charter services. During FY 1997/98, total operating costs were approximately $787,000, excluding capital costs. The average total cost per passenger-trip has remained relatively stable throughout the past five years. During FY 1997/98 the average total cost of operations was $1.31 per passenger-trip.

The financial efficiency of a system is measured by cost per passenger-trip, however, a better indication of transit-specific costs can be seen in Table 2. The total cost of transit services during December of 1998 is $197,925 of which $186,236 is allocated to the daily town routes and $11,689 for the Nightline Routes. Mammoth Area Shuttle allocates the cost of transit services at $49 per vehicle-hour. As shown in Table 2, the cost per passenger-trip for the system as a whole is $1.28 with costs per route ranging from $0.99 for the Blue Line to $13.52 for the Orange Line.

## *TABLE 2: Mammoth Area Shuttle Statistics By Route*

***December, 1998***

| Route | Ridership # | Ridership % | Vehicle-Hours # | Vehicle-Hours % | Ridership Per Vehicle-Hour | Operating Cost | Operating Cost Per Passenger |
|---|---|---|---|---|---|---|---|
| **Daily Town Routes** | | | | | | | |
| Main Lodge/Snow Creek Line (Red Line) | 87,209 | 56.3% | 2,090 | 52.1% | 42 | $103,052 | $1.18 |
| Canyon Lodge Line (Blue Line) | 34,610 | 22.3% | 693 | 17.3% | 50 | $34,180 | $0.99 |
| Juniper Springs Line (Yellow/Green Line) | 24,030 | 15.5% | 814 | 20.3% | 30 | $40,110 | $1.67 |
| Tamarack Lodge/Gondola Village Line (Orange Line) | 658 | 0.4% | 180 | 4.5% | 4 | $8,894 | $13.52 |
| *Daily Town Total* | *146,507* | *94.5%* | *3,778* | *94.1%* | 39 | *$186,236* | *$1.27* |
| **Nightline Routes** | | | | | | | |
| Gondola Village/Snowcreek Nightline (Red Line) | 3,830 | 2.5% | 100 | 2.5% | 38 | $4,910 | $1.28 |
| Canyon Lodge Nightline (Blue Line) | 1,575 | 1.0% | 58 | 1.5% | 27 | $2,879 | $1.83 |
| Unbound Nightline | 3,085 | 2.0% | 79 | 2.0% | 39 | $3,900 | $1.26 |
| *Nightline Totals* | *8,490* | *5.5%* | *237* | *5.9%* | 36 | *$11,689* | *$1.38* |
| **M.A.S. Transit Totals** | **154,997** | **100.0%** | **4,015** | **100.0%** | 39 | **$197,925** | **$1.28** |

Source: Mammoth Area Shuttle, January 1999.

Mammoth Statistics.wb3

### *Table 3: Peak-Day Service and Ridership*

| Route | Hours of Service | Passenger-Trips | Psgrs per Hour |
|---|---|---|---|
| Red Route | 96 | 6,774 | 70.56 |
| Blue Route | 45.5 | 4,303 | 94.57 |
| Yellow/Green Routes | 31.5 | 1,886 | 59.87 |
| Night Routes | 5.3 | 355 | 66.98 |
| Total | 178.3 | 13,318 | 74.69 |

### *TABLE 4: Trends in Transit Ridership and Lift Ticket Sales*

| | FY 95/96 | FY 96/97 | FY 97/98 |
|---|---|---|---|
| Ridership | 499,321 | 533,469 | 599,612 |
| - Annual Growth | -- | 6.84% | 12.40% |
| Total Number of Lift Tickets Sold (1) | 739,230 | 728,165 | 947,612 |
| - Annual Growth | -- | -1.50% | 30.14% |

Note 1: Includes tickets sold during transit operating season, as well as early and late season periods.

Mammoth Statistics.wb3

### *TABLE 5: Mammoth Area Shuttle Vehicle Service Hours*

| | FY 93/94 | FY 94/95 | FY 95/96 | FY 96/97 | FY 97/98 |
|---|---|---|---|---|---|
| November | 349 | 1,063 | 0 | 698 | 953 |
| December | 1,862 | 3,676 | 2,087 | 3,517 | 3,543 |
| January | 2,506 | 3,629 | 3,175 | 3,397 | 3,407 |
| February | 2,885 | 3,135 | 3,087 | 2,962 | 3,235 |
| March | 2,759 | 3,131 | 3,533 | 2,872 | 2,994 |
| April | 1,366 | 2,405 | 1,318 | 1,473 | 1,868 |
| May | 42 | 6 | 0 | 0 | 0 |
| **Season (Fiscal) Total** | **11,769** | **17,045** | **13,200** | **14,919** | **16,000** |
| **Annual Change** | **--** | **44.8%** | **-22.6%** | **13.0%** | **7.2%** |

Mammoth Statistics.wb3

| TABLE 6: Mammoth Area Shuttle Riders Per Vehicle-Hour | | | | | |
|---|---|---|---|---|---|
| | FY 93/94 | FY 94/95 | FY 95/96 | FY 96/97 | FY 97/98 |
| November | 21.3 | 32.0 | – | 32.3 | 39.7 |
| December | 56.2 | 41.1 | 44.0 | 36.6 | 35.6 |
| January | 32.7 | 38.7 | 30.5 | 37.0 | 38.9 |
| February | 33.2 | 40.8 | 43.8 | 41.3 | 40.1 |
| March | 36.7 | 38.9 | 37.5 | 33.8 | 33.8 |
| April | 26.1 | 32.8 | 32.5 | 25.3 | 38.6 |
| May | 14.4 | 0.0 | – | – | – |
| **Season (Fiscal) Total** | **36.3** | **38.4** | **37.8** | **35.8** | **37.5** |

Mammoth Statistics.wb3

| TABLE 7: Mammoth Area Shuttle Operating Costs (Transit Only) | | | | | | |
|---|---|---|---|---|---|---|
| | FY 93/94 | FY 94/95 | FY 95/96 | FY 96/97 | FY 97/98 | FY 98/99 (partial) |
| November | $17,979 | $55,911 | – | $34,392 | $46,993 | $82,632 |
| December | $76,458 | $182,617 | $106,192 | $173,398 | $173,704 | $198,452 |
| January | $103,821 | $179,136 | $158,662 | $167,460 | $167,452 | – |
| February | $118,281 | $154,871 | $152,189 | $146,002 | $159,198 | – |
| March | $113,141 | $154,383 | $174,187 | $140,963 | $147,584 | – |
| April | $56,162 | $118,606 | $65,017 | $72,614 | $92,087 | – |
| May | $2,702 | $630 | – | – | – | – |
| Season (Fiscal) Total | $488,544 | $846,154 | $656,247 | $734,829 | $787,019 | $281,084 |
| Annual Change | – | 73.2% | -22.4% | 12.0% | 7.1% | -- |
| Avg. Cost Per Rider | $1.14 | $1.29 | $1.31 | $1.38 | $1.31 | -- |

Mammoth Statistics.wb3

## Existing Fleet

There are currently 30 buses in the fleet, 9 of which are equipped with wheelchair lifts. These buses seat between 23 and 47 passengers. Recently, two new Year 2000 vehicles were acquired. Model years range from 1979 to 2000, though the great majority of buses are between five and ten years old. Table 8 lists the details of the fleet.

## Staff

Not including parking lot operations, peak season transportation staff consists of approximately 55 people. The transportation department has 3 full-time employees, a Director, Operations Manager and Office Manager/Trainer. There are also 3 part-time Supervisors/Dispatchers and approximately 45 drivers. Mammoth Mountain Ski Area also provides 3 mechanics for repair and preventative maintenance. Only 4 of these positions (Director, Operations Manager, Office Manager and Parking Supervisor) are year round, while the remainder are seasonal. The parking department has 2 Parking/Transportation Supervisors, 4 Lead Parking/ Transportation Staff Members, and 10 to 15 lot attendants.

**TABLE 8: Mammoth Area Shuttle Fleet**

| Year | Type | Seats | Wheelchair Accessible |
|---|---|---|---|
| 2000 | Bluebird | 39 | Y |
| 2000 | Bluebird | 39 | Y |
| 1999 | Bluebird | 39 | Y |
| 1999 | Bluebird | 39 | Y |
| 1998 | Bluebird | 39 | Y |
| 1998 | Bluebird | 39 | Y |
| 1996 | Bluebird | 41 | Y |
| 1996 | Bluebird | 41 | Y |
| 1996 | Bluebird | 45 | Y |
| 1994 | Bluebird | 45 | N |
| 1994 | Bluebird | 45 | N |
| 1994 | Bluebird | 45 | N |
| 1994 | Bluebird | 45 | N |
| 1989 | Isuzu | 29 | N |
| 1989 | Isuzu | 29 | N |
| 1988 | Isuzu | 29 | N |
| 1988 | Isuzu | 31 | N |
| 1988 | Isuzu | 33 | N |
| 1988 | Isuzu | 35 | N |
| 1987 | Isuzu | 25 | N |
| 1987 | Isuzu | 25 | N |
| 1987 | Isuzu | 23 | N |
| 1985 | Isuzu | 26 | N |
| 1985 | Isuzu | 26 | N |
| 1985 | Isuzu | 26 | N |
| 1985 | Isuzu | 26 | N |
| 1985 | Isuzu | 26 | N |
| 1979 | International | 29 | N |
| 1979 | International | 28 | N |
| 1979 | International | 28 | N |

Source: Mammoth Area Shuttle, March 2000 Mammoth Transit Plan.wb3

## Other Services

Inyo-Mono Transit (also known as Inyo-Mono Dial-A-Ride or "IMDAR") provides regional services throughout Mono and Inyo Counties, focusing on the transportation needs of transit dependent residents. Two IMDAR routes currently provide service to Mammoth Lakes:

- Two round trips are provided each Saturday from Bishop to Mammoth and return. Buses leave Bishop at 7:30 A. M., serve Mammoth at 9:00 A. M. and returning to Bishop at 10:15 A. M., with the second run leaving Bishop at 2:00 P. M., serving Mammoth at 3:30 P. M., and returning to Bishop at 4:45 P. M. IMDAR records indicate that average ridership on this service is 18 passengers per day (including both Mammoth passengers as well as passenger riding on other route segments).

  Service is also available on Mondays and Wednesdays from Mammoth to Bishop with buses leaving Mammoth at 9:30 A.M. and arriving in Bishop at 10:40 A.M. Buses depart Bishop at

3:00 P.M. and return to Mammoth at 4:10 P.M. Fares range from $2.50 to $3.50 between Bishop and Mammoth.

- Mammoth Lakes is served on Mondays and Wednesdays as part of the Bridgeport - to - Bishop route. This service departs Bridgeport at 8:00 A. M., serves Mammoth at 9:30 A. M., and arrives in Bishop at 10:45 A. M., while the return trip leaves Bishop at 3:00 P. M., serves Mammoth at 4:15 P. M., and arrives in Bridgeport at 5:30 P. M. Over the last six months of 1998, IMDAR records indicate that this route as a whole served an average of 15 riders per day of service.

IMDAR currently does not provide any paratransit service in the Mammoth area.

# Chapter 3
# Analysis of Transit Needs

A key issue in any planning process is the need for expansion of services. This chapter addresses the evaluation of need in two ways. First, a comparison is made with other mountain resort communities in western North America. This is followed by an analysis of specific potential transit "markets" that are currently either not served, or under-served.

## Comparison With Other Mountain Resort Communities

A good guide for any transit planning process is a comparison of the study area's characteristics with those of similar communities facing similar issues. While no two mountain resort areas are exactly alike, it is instructive to evaluate where Mammoth Lakes stands in comparison with its "competitors" in the skier and tourism market.

Table 9 presents a summary of transit characteristics for Mammoth Lakes and eleven other mountain resort communities in western North America. This data is generally for Fiscal Year 1996-97, with the exception of the data for Mammoth Lakes, which is Fiscal Year 1997-98. A review of this information indicates the following:

- Based upon the "straight" figures, Mammoth generally falls in the "lower middle" portion of the range. Mammoth ranks eighth out of eleven with regard to operating funding, seventh out of twelve with regard to transit ridership, and eighth out of eleven with regard to the annual number of vehicle-hours of service.

- Mammoth transit ridership is near the average when adjusted for the level of skier activity. When divided by annual skier-days, Mammoth transit ridership ranks seventh out of the twelve peer systems.

- Mammoth transit services are particularly effective when considered in terms of passengers per vehicle-hour of service. As depicted in Figure 1, Mammoth's figure at 37.5 passengers per vehicle-hour is second only to Vail/Eagle County services in terms of the effectiveness of transit services. This high effectiveness indicates that ridership is substantially constrained by existing capacity, and that service expansion (which can be expected to reduce overall passenger-trips per vehicle hour) can be accomplished while keeping overall effectiveness at relatively good levels.

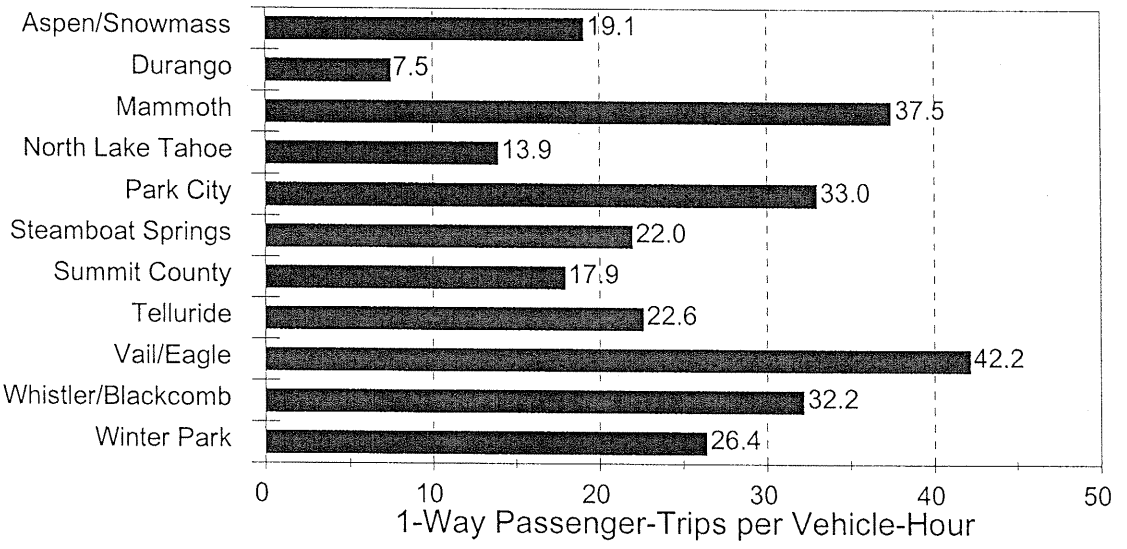
- Adjusted for annual skier activity, existing transit funding in Mammoth is relatively low. As shown in Figure 2, Mammoth ranks second from the bottom (ahead of only North Tahoe) in terms of transit operating funding per annual skier. In one perspective, of course, this ranking can be considered to be a factor of the relatively high productivity of Mammoth's transit program, which reduces the level of resources needed to serve each skier. It can also be concluded that total transit funding can be substantially increased while remaining within the range of transit investment found to be beneficial in the peer communities.

## TABLE 9: Peer Mountain Resort Transit Services

| Area | Annual Transit Operating Cost | Annual Number of Visitors | Percent Destination Visitors | Estimated Annual Destination Visitors | Transit Operating Cost per Destination Visitor | Annual Skier Days | Annual Transit Ridership | Annual Veh-Hrs of Service | Transit Psgrs per Skier-Day | Psgrs per Vehicle-Hour | Transit Operating Cost per Skier Day |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aspen/Snowmass | $9,700,000 | NA | NA | NA | NA | 1,600,000 | 3,700,000 | 193,923 | 2.31 | 19.1 | $6.06 |
| Durango | $702,200 | 587,000 | 80% | 469,600 | $1.50 | 307,000 | 161,991 | 21,636 | 0.53 | 7.5 | $2.29 |
| Jackson, WY | $500,000 | 4,700,000 | 55% | 2,585,000 | $0.19 | 470,000 | 103,434 | na | 0.22 | na | $1.06 |
| North Lake Tahoe | $1,303,045 | 2,261,000 | 79% | 1,786,000 | $0.73 | 2,030,000 | 230,503 | 16,555 | 0.11 | 13.9 | $0.64 |
| Park City | $1,600,000 | 1,693,968 | 90% | 1,524,571 | $1.05 | 1,055,857 | 1,000,000 | 30,312 | 0.95 | 33.0 | $1.52 |
| Steamboat Springs | $1,200,000 | 1,900,000 | 86% | 1,634,000 | $0.73 | 1,000,000 | 700,000 | 31,820 | 0.70 | 22.0 | $1.20 |
| Summit County, CO | na | 4,300,000 | 50% | 2,150,000 | $0.00 | 3,623,867 | 569,257 | 31,735 | 0.16 | 17.9 | na |
| Telluride | $490,000 | NA | 95% | NA | NA | 300,000 | 211,597 | 9,357 | 0.71 | 22.6 | $1.63 |
| Vail/Eagle | $3,700,000 | NA | NA | NA | NA | 2,200,000 | 4,300,000 | 102,000 | 1.95 | 42.2 | $1.68 |
| Whistler/Blackcomb | $2,040,964 | 1,523,640 | 65% | 990,366 | $2.06 | 1,775,275 | 845,982 | 26,272 | 0.48 | 32.2 | $1.15 |
| Winter Park | $1,000,000 | NA | NA | NA | NA | 1,000,000 | 653,000 | 24,760 | 0.65 | 26.4 | $1.00 |
| *Peer Average* | *$2,223,621* | | | | | *1,396,545* | *1,134,160* | *48,837* | *0.80* | *23.7* | *$1.82* |
| *Peer Median* | *$1,251,523* | | | | | *1,055,857* | *653,000* | *28,292* | *0.65* | *22.3* | *$1.36* |
| **Mammoth** | **$787,000** | **4,500,000** | **83%** | **3,735,000** | **$0.21** | **947,612** | **599,612** | **16,000** | **0.63** | **37.5** | **$0.83** |
| **Mammoth Ranking** | **8/11** | | | | | **9/12** | **7/12** | **8/11** | **7/12** | **2/11** | **10/11** |

Mammoth Transit Peers

## Figure 1
# Peer Transit Ridership Per Veh-Hour




## Figure 2
# Peer Transit Oper. Cost Per Skier Day

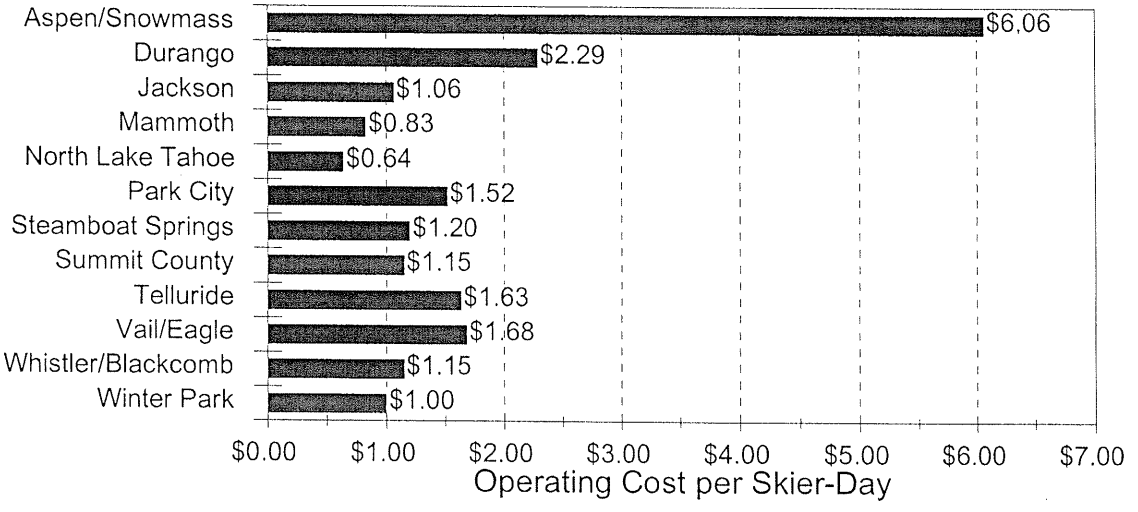


Table 10 presents a summary of the season and time of day in which transit services are provided in each mountain resort community. As indicated, Mammoth stands out as one of the few communities that has historically not provided transit services outside of the winter ski season. In fact, Mammoth is the only area which has not provided summer daytime transit service, and is one of only four (out of 15) that does not provide summer evening transit service. In general, this peer review indicates that there is substantial potential for expansion of transit services, and that the majority of similar communities have deemed it beneficial to provide expanded public transit services.

## Existing Transit Needs

Mammoth Lakes has a variety of existing transit needs, based upon the results of previous recent transit services, community-wide goals regarding alternative transportation programs, the results of the peer comparison presented above, and the specific needs for transportation impact mitigation regarding planned redevelopment projects. Each of these needs is discussed below:

### Expansion of Skier Services

Mammoth Lakes is currently developing redevelopment plans that will result in increased travel demand in the region, particularly during winter peak traffic periods. To mitigate these travel needs as well as address existing transportation deficiencies, it will be necessary to increase the person-trips accommodated on transit services.

The Mammoth Lakes Transportation Model, developed by RKJK, Inc. over recent years, has been used to evaluate transportation conditions assuming full build-out of the area, including the redevelopment projects as currently planned, as well as the expansion of Mammoth Mountain and the potential initiation of skiing on Sherwin Mountain. This transportation model indicates the transit ridership required in order for total traffic levels to be accommodated without resulting in unacceptable levels of congestion. Overall transit ridership to ski area access points, including Gondola Village, is identified as 15,212 passengers per day (35.2 percent of all ski area access) according to this model (Source: *Mammoth Redevelopment Plan Transportation Impact Analysis, Town of Mammoth Lakes*, RKJK, Inc., February 28, 1997). RKJK staff confirms that this level of transit patronage to the ski area (15,212 one-way passenger-trips per day) would provide the necessary transit mode split required to maintain the traffic volumes on area roadways identified in the Transportation Plan.

Table 11 presents an analysis of *existing* ski area access transit ridership. As indicated, approximately 11,792 passenger-trips are made by skiers and ski area employees traveling to or from the ski area over the course of a peak ski day. Comparing this table with the information from the transportation model, Table 12 indicates transit ridership to/from the ski area portals will need to be increased by 3,420 passengers per peak day -- equivalent to a 29 percent increase over current figures.

### Provision of Service Outside of the Winter Season

As discussed above, the majority of other similar mountain resort communities have expanded transit service into the Spring, Summer and Fall seasons. These services have proven to be effective in serving year-round resident transportation needs (particularly for commuting), as well as serving visitors in the non-skiing seasons. Economic benefits have been proven to accrue from the dispersion of visitors throughout the community, and in increasing the attractiveness of the area to bus tour passengers and other visitors traveling by non-auto modes. As one of the natural outcomes resulting from successful redevelopment is an expansion of visitor activity in the non-Winter seasons, the need for public transit services can also be expected to increase.

## *TABLE 10: Comparison of Time Periods that Transit Services are Provided*

| Area | Skier Shuttle Service | Daytime Transit Service | | | Evening Transit Service | | |
|---|---|---|---|---|---|---|---|
| | | Winter | Summer | Offseason | Winter | Summer | Offseason |
| Aspen | | | | | | | |
| Snowmass | | | | | | | |
| Durango | | | | | | | |
| Jackson | | | | | | | |
| **Mammoth** | | | | | | | |
| North Lake Tahoe | | | | | | | |
| Park City | | | | | | | |
| South Lake Tahoe | | | | | | | |
| Steamboat Springs | | | | | | | |
| Summit County | | | | | | | |
| Taos | | | | | | | |
| Telluride | | | | | | | |
| Vail | | | | | | | |
| Whistler/Blackcomb | | | | | | | |
| Winter Park | | | | | | | |

**TABLE 11: Peak-Day Transit Ridership**

| | Total Passengers | Estimated Percent Ski Area (1) | Estimated Passengers | |
|---|---|---|---|---|
| | | | Ski Area | Non-Ski Area |
| Red Route | 6,774 | 91% | 6,164 | 610 |
| Blue Route | 4,303 | 91% | 3,916 | 387 |
| Combo Green/Yellow Route | 1,686 | 91% | 1,534 | 152 |
| Night Routes | 355 | 50% | 178 | 178 |
| Parking Shuttles | 2,003 | -- | -- | 0 |
| Special Event Services | 95 | -- | -- | 0 |
| Total | 15,216 | -- | 11,792 | 1,327 |

Note 1: Includes both skiers and ski area employees accessing the mountain portals.

Source: Mammoth Daily Bus Operations Summary for Sunday, February 15, 1998 and a summary of MMSA transit services prepared by Thom Heller.

Mammoth Transit Plan.wb3

**TABLE 12: Analysis of Required Future Ski Area Transit Ridership**

| | | |
|---|---|---|
| Existing Peak-Day Ski Area Transit Ridership (1) | | 11,792 |
| Required Peak-Day MMSA Transit Ridership (2) | | 15,212 |
| Increase in Daily Ski Area Transit Passengers to Meet Traffic Reduction Requirements with MMSA Expansion | # | 3,420 |
| | % | 29.00% |

Note 1: Source Mark Cesena, MMSA Operations Manager

Note 2: Source *Mammoth Redevelopment Plan Transportation Impact Analysis, Town of Mammoth Lakes* (RKJK, February 28, 1997)

Mammoth Transit Plan.wb3

One lesson gained through experience in other areas are the benefits of providing summer transit services connecting lodging properties with nearby summer destinations. For instance, both the service connecting South Lake Tahoe with the Emerald Bay portion of Lake Tahoe as well as the service connecting Aspen, Colorado with the Maroon Bells area have proven to be very popular. Similar services that connect Mammoth Lakes with the Red's Meadow/Devils Postpile and the Lakes Basin areas could increase the attractiveness of Mammoth as a lodging area, while helping to address parking and traffic congestion problems in the destination areas.

**Provision of Service to Outlying Portions of Mammoth Lakes**

In fulfilling its goal of providing cost-efficient access for skiers, the existing MMSA services does not serve several of the outlying residential neighborhoods in the community, nor does it serve some important community activity centers, such as the schools, Cerro Coso College, or the hospital. While it is not effective to serve these relatively small segments of total transit demand via extensions of the existing large-bus fixed-route fleet, together they could be served by a community "checkpoint" system. Similar to services operating in Colorado, Montana, and Arizona, a smaller vehicle (such as a 21-passenger van) could serve a series of "checkpoints" on a published schedule. Between checkpoints, the driver could deviate to individual homes within a quarter mile of the checkpoints, in response to phone or in-person requests. Reflecting the higher level of service, these deviations would typically incur a fare.

**Provision of Comprehensive Winter Evening Transit Service**

MMSA currently operates a limited winter evening service, consisting of one route operated seven days a week and a second operated on Fridays through Sundays only (excluding the Unbound Route service operated for night skiing). Substantial portions of the community, however, are not within convenient walking distance of these routes. As evening service is essential in providing a comprehensive service for visitors arriving in the community without an automobile, providing such service will be required to attract non-auto travelers to the community (such as tour bus or air passengers).

**Provision of Service As Required by the Americans with Disabilities Act**

All transit services (both public and private) must comply with the civil rights requirements of the Americans with Disabilities Act (ADA). Put simply, this law requires the availability of wheelchair lift-equipped fixed route buses (seven buses in the current MMSA are so equipped) **and** that door-to-door service be available for persons with disabilities which preclude the use of fixed-route service. At present, there is no such service formally provided for Mammoth Lakes residents or guests.

# Chapter 4
# Transit Plan

Based upon the analysis of transit needs presented in the previous chapter, the stated transportation plans and characteristics of the community, and the experience of other mountain resort communities in regard to various service strategies, the following transit service and capital improvements have been identified as appropriate for Mammoth Lakes. A summary of cost and ridership impacts of the transit plan elements is presented in Table 13. As shown, there are four main components including:

- Winter Skier Services
- Winter Commuter Services
- Airport Shuttle Services
- Various Community Services

## Recommended Service Improvements

### Service Configuration

The basic transit route configuration recommended for the Mammoth Lakes area is a "transit-center based" system of routes, radiating from a single transit center in Gondola Village. As all routes serve a single center, schedules can be set so that passengers can easily transfer between all routes, thereby providing the ability to travel between any two stops on the system with a maximum of one transfer.

This system of radial routes is very common in smaller communities, and has been successfully serving other mountain resorts such as Aspen, Park City, and Snowmass Village for many years. It also builds upon the current route structure provided by MMSA, which provides passengers with the opportunity to transfer between the Red, Blue, Yellow, Green and Orange routes in North Village. Finally, this route structure takes full advantage of the transportation benefits provided by the gondola connecting Gondola Village with Canyon Lodge and the ski area.

### Skier Services

*Expansion Required to Attain MMSA Transit Ridership Requirements*

As discussed in Chapter 3, a substantial expansion of winter transit services will be necessary to provide acceptable traffic conditions with the completion of redevelopment projects as well as the projected increase in the number of skiers. In addition, transit routes will need to be modified to serve the three redevelopment areas. Service expansion will be required on all routes. Expansion of skier activity to the MMSA capacity of 24,000 skiers-at-one-time will require the operation of a total of 8 additional buses at peak times, operating approximately 31 vehicle-hours per day. This service expansion will be distributed across the various existing routes depending upon specific access requirements. As depicted in Figure 3 and outlined in Table 13, the following service modifications are recommended:

- The **Green Route** should be modified to serve Sierra Star in both the eastbound and westbound directions. In addition, the Green Route should be extended to serve Cerro Coso College, the high school and the middle school during school hours.

*TABLE 13: Town of Mammoth Lakes Transit Operating Plan Ridership and Cost Analysis*

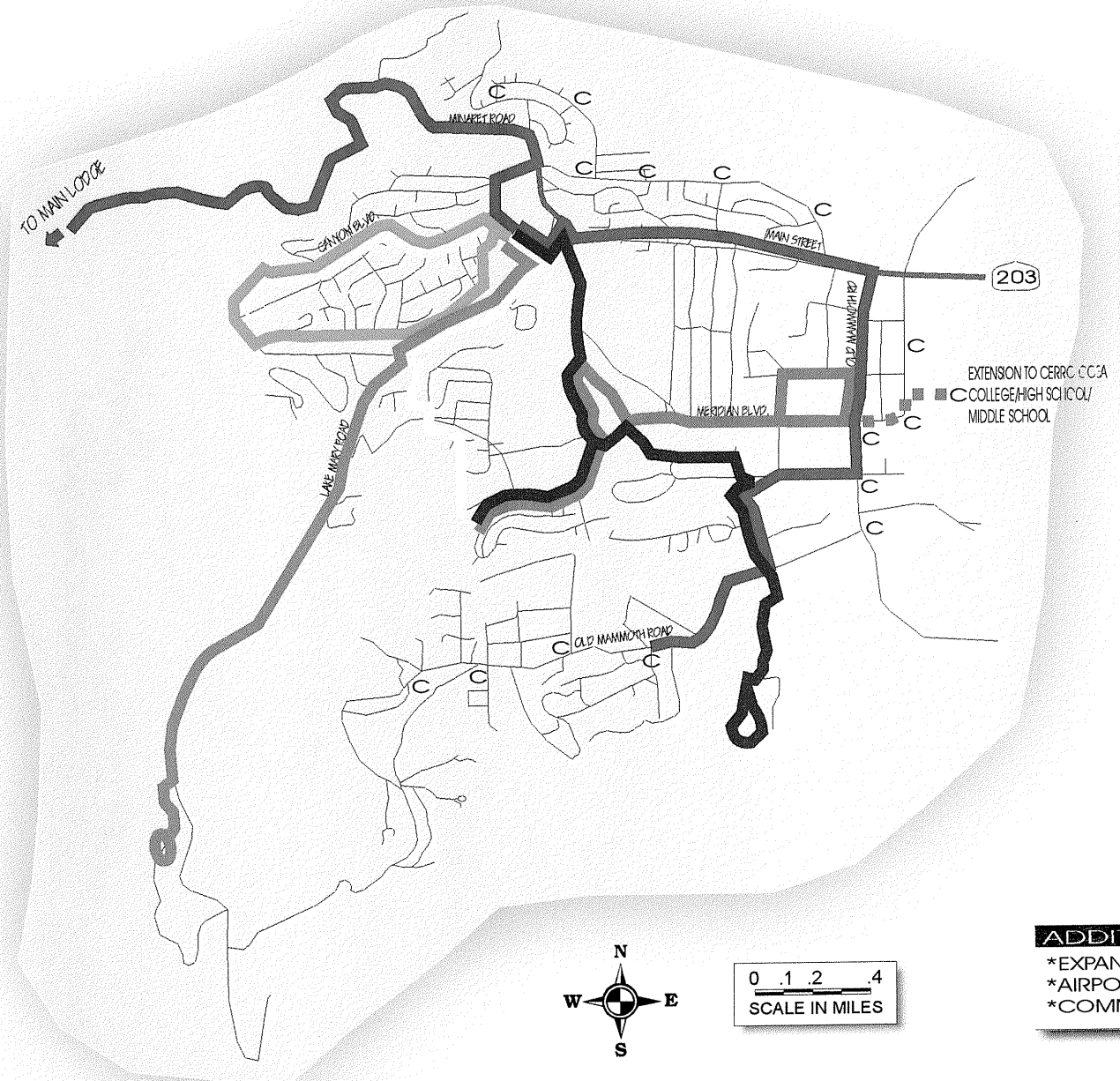
| | | Winter/Skier Services | | | | Commuter | Airport | Community Services | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Existing Services | Expansion Req'd to Attain MMSA Transit Ridership Requirements | Additional Winter Daytime Ridership Generated by Improvement in Service Levels | Reduction in Existing Red Route Due to Gondola | Net Change in MMSA Service | Increase In Bishop & June Lake Winter Commuter Services | Airport Shuttle Services | Additional Winter Evening Service (1) | Winter Community Checkpoint Service | Summer Service: Fixed | Summer Service: Checkpoint | Spring/Fall Services | Year-Round Dial-A-Ride Service (3) | Subtotal Community Services | **Total Increase** | **Systemwide Total** |
| **Number of Peak Vehicles** | 26 | 8 | -- | -2 | 6 | 0 | 2 | 2 | 1 | 2 | 1 | 3 | 1 | 2 | **10** | **36** |
| **Req'd Backup Vehicles** | 4 | 1 | -- | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | **2** | **6** |
| **Total Vehicles Required** | 30 | 9 | -- | -2 | 7 | 0 | 2 | 3 | 2 | 3 | 2 | 4 | 1 | 3 | **12** | **42** |
| **Daily Service Characteristics** | | | | | | | | | | | | | | | | |
| Daily Vehicle-Hours | 107 | 31 | -- | -9 | 22 | 3.0 | 8.0 | 5/6 | 15.0 | 29.0 | 15.0 | 45.0 | 8/12 | -- | **--** | **--** |
| **Annual Service Characteristics** | | | | | | | | | | | | | | | | |
| Annual Operating Days | 150 | 150 | -- | 150 | -- | 150 | 150 | 150/79 | 150 | 75 | 75 | 120 | 365 | -- | **--** | **--** |
| Vehicle-Miles | na | na | -- | na | na | na | na | na | na | na | na | na | 28,160 | -- | **na** | **--** |
| Vehicle-Hours | 16,000 | 4,650 | -- | (1,405) | 3,245 | 450 | 1,200 | 1,188 | 2,250 | 2,175 | 1,125 | 5,400 | 3,520 | 15,658 | **20,553** | **36,553** |
| Operating Cost (2) | $787,019 | $227,900 | -- | ($68,800) | $159,100 | $22,100 | $58,800 | $58,200 | $110,300 | $106,600 | $55,100 | $264,600 | $83,300 | $678,100 | **$918,100** | **$1,705,119** |
| **Ridership** | | | | | | | | | | | | | | | | |
| Average Day | 3,997 | 899 | 68 | -- | 967 | 98 | 100 | 232 | 120 | 348 | 33 | 230 | 24 | 987 | **2,152** | **6,149** |
| Peak Day (4) | 13,318 | 3,420 | 227 | -- | 3,647 | 98 | 100 | 773 | 180 | 522 | 50 | 276 | 36 | 1,837 | **5,682** | **19,000** |
| Annual | 599,512 | 134,778 | 10,252 | -- | 145,030 | 14,760 | 15,000 | 27,721 | 18,000 | 26,100 | 2,505 | 27,600 | 8,800 | 110,726 | **285,516** | **885,028** |
| **Annual Farebox Revenue** | $0 | $0 | $0 | $0 | $0 | $0 | $58,800 | $0 | $9,000 | $0 | $1,300 | $900 | $15,400 | $26,600 | **$85,400** | **$85,400** |
| **Annual Subsidy Required** | $787,019 | $227,900 | $0 | ($68,800) | $159,100 | $22,100 | $0 | $58,200 | $101,300 | $106,600 | $53,800 | $263,700 | $67,900 | $651,500 | **$832,700** | **$1,619,719** |

Note 1: Assumes existing MMSA winter evening services (1 bus four nights/week and 2 buses three nights/week) are continued.
Note 2: Assuming marginal costs of $0.36 per vehicle-mile plus $15.67 per vehicle-hour for dial-a-ride service, and marginal cost of $49.00 per vehicle-hour for all other services.
Note 3: Also includes $10,000 for additional dispatcher costs associated with extended operating hours, as well as $8,000 for taxi reimbursement for ADA service requests during periods of fixed-route service when dial-a-ride is not operating.
Note 4: Peak day ridership based upon existing ratio of peak to average ridership (factor of 3.33) where applicable.

Mammoth Transit Plan.wb3

FIGURE 3

# WINTER DAY SERVICE PLAN




**LEGEND**

- HIGHWAYS
- STREETS
- RED ROUTE-REDUCTION
- BLUE ROUTE-EXPANSION
- YELLOW ROUTE-EXPANSION
- GREEN ROUTE-MODIFIED
- GREEN ROUTE EXTENSION
- PURPLE ROUTE-NEW
- ORANGE ROUTE
- C COMMUNITY CHECKPOINT SERVICE STOPS

N W E S

0 .1 .2 .4
SCALE IN MILES

**ADDITIONAL PLAN ELEMENTS**

*EXPANSION OF COMMUTER SERVICES
*AIRPORT SHUTTLE SERVICES
*COMMUNITY CHECKPOINT SERVICES



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- As development progresses, a new route (the **Purple Route**) should be initiated between Old Mammoth, Snowcreek, Juniper Springs, and Gondola Village, via Sierra Star. This route will require up to two buses operating at one time to provide adequate capacity. This route is intended to provide convenient ski access to persons residing or lodging in the southern portion of the community, to encourage increased use of the Juniper Springs portal (consistent with both the Transportation plan and the ski area's goals), and to provide service to those portions of Sierra Star not served by the proposed Peoplemover. While previous transit plans for Mammoth Lakes have indicated that this new route should operate between Sherwin Mountain and the MMSA Main Lodge, a detailed review of passenger loadings on this line indicate that this route can be more effectively operated with a northern terminus at Gondola Village, as the large majority of transit trips are in the shorter section.

- With full redevelopment, it will probably not be efficient to operate the **Green and Yellow Routes** in combination (as at present). Redevelopment will result in substantially higher peak-hour ridership on the Green Route (811 passengers per hour) than for the Yellow Route (134 passengers per hour) as discussed in the *Mammoth Master Transportation Plan* (RKJK, 1997). As a result, higher service frequencies will be required on the Green Route than the Yellow Route.

- In addition to these services, there may be a need for additional transit capacity between Sierra Star and the ski area base at Juniper Springs, particularly if a resort hotel at Sierra Star is to be considered to be a "ski-in/ski-out" property. While there are a variety of fixed guideway technologies (such as "Yantrak") that could provide this capacity, from a public perspective the high capital costs of such systems are very difficult to justify. A high-frequency, direct bus or van shuttle system (perhaps marketed separately from the remainder of the transit service) would be substantially more cost-effective.

*Additional Winter Daytime Ridership Generated by Improvement in Service Levels*

The community will derive an added benefit from this expansion of winter day-time transit services, in the form of increased non-skier transit ridership. The improvement in service frequency necessary to meet the required ski area access ridership levels will also attract increased ridership in the "off-peak" direction. As shown in Table 13, this non-skier ridership increase is forecast to total approximately 10,250 passenger-trips per year.

*Reduction in Existing Red Route Due to Gondola*

During much of the winter, the new provision of direct ski area access via the gondola serving Gondola Village will reduce (but not eliminate) the need for transit service along Minaret Road to the Main Lodge. Data presented in the *Mammoth Master Transportation Plan* (RKJK, 1997) indicates that this gondola will reduce the need for transit service to the Main Lodge by 17 percent. It is expected that service can be provided with two fewer buses for a cost savings of $68,800.

*Net Change in Mammoth Mountain Ski Area (MMSA) Service*

The total net effect of changes in skier services at Mammoth Mountain Ski Area will require the operation of up to 6 additional buses at peak times, operating approximately 22 additional vehicle-hours per day. An extra backup vehicle is also required. During the 150 annual operating days, this equates to an annual increase of approximately 3,250 vehicle-hours. The operating cost, based upon an estimated marginal cost for MMSA service of $49.00 per vehicle-hour, amounts to $159,100 for the year. Ridership is expected to increase by just over 145,000 one-way transit passenger-trips annually, or almost

1,000 passenger-trips per day on average. The peak day winter transit service ridership, based on the current ratio of average-day to peak-day ridership, is expected to increase by almost 3,650 one-way passenger-trips.

**Expansion of Winter Commuter Services**

Expansion of commuter services connecting Mammoth Lakes with employee housing opportunities in Bishop/Crowley Lake as well as June Lake is essential. Existing service operated by the MMSA consists of a single daily round-trip in each corridor, and often runs at or near capacity. While the full impact of future development on the jobs/housing balance and associated need for commuting is difficult to determine, it is reasonable to assume that future employment growth will necessitate the provision of a second bus round-trip in both directions on US 395 for the winter season. The need for this service is heightened by the planned absence of employee parking at Gondola Village.

It is assumed for purposes of this plan that it will be feasible to operate this additional commuter service in a "park out" operation – buses will be parked out overnight in Bishop and June Lake, and operated by drivers living in these outlying areas. This strategy effectively cuts the operational cost of commuter service in half, by avoiding the inefficient "dead-head" movements out from Mammoth Lakes in the morning and returning in the evening. This approach, however, does require that an adequate number of transit drivers live in the outlying areas to operate the buses and to provide for substitute drivers in case of illness. In addition, this strategy would benefit from the ability to park the buses overnight at a public or private vehicle maintenance facility, which can provide mechanic services in case of minor mechanical problems.

No additional vehicles are needed to provide a second round-trip, however, 3 additional vehicle-hours will be required per day throughout the winter ski season, totalling 450 additional annual vehicle-hours. An estimated increase of 98 passenger-trips per day, or 14,760 passenger-trips per year, would be gained with this increase in service.

**Airport Shuttle Service**

A key element of Mammoth Lake's redevelopment strategy is the generation of increased visitation through the provision of seasonal scheduled air service to the municipal airport. Experience in other mountain resort communities (particularly those relatively removed from major urbanized areas) indicates that this strategy can yield substantial benefits to the local economy, while also encouraging a substantial shift in travel mode from auto to transit.

Ensuring that air passengers become transit users while visiting the community, however, requires that they need not rent a car for the trip from the airport, as travelers tend to use the car once one is rented. Transit shuttle services directly from the airport to lodging properties is therefore a necessity. While larger lodging properties may choose to operate private vans, a public service will be needed to ensure that shuttle services are available to guests of smaller lodging properties and vacation rental agencies.

Due to the vagaries of flight arrivals, this service cannot be effectively provided on a fixed schedule, but rather must have the flexibility to serve the airport as necessary to connect with arrivals and departures. A fare should be charged adequate to cover the marginal operating costs associated with the service. Preferably, these fares can be included into lodging or vacation packages, so that the passenger need not be faced with paying a separate fare for the service.

This analysis assumes that airport shuttle service will require the purchase of two additional buses. During the season, it is estimated that 100 one-way passenger-trips will be provided each day for an

annual ridership total of 15,000 one-way trips. With fares charged equal to the marginal operating costs associated with the service, the total required subsidy for this service would equal zero.

**Community Transit Services**

Rather than required to meet specific traffic reduction requirements, these services are necessary in order to achieve broader community transportation and economic goals.

*Additional Winter Evening Service*

The provision of a quality evening transit program during the ski season is an important element of a comprehensive transportation strategy, for the following reasons:

- Provides an economic benefit by encouraging increased spending during the evening hours. This is particularly important for Old Town, Main Street, and other commercial districts that do not have substantial lodging within walking distance.

- It allows visitors to have a complete, quality destination resort stay without the need for a car. As result, evening service encourages more skiers and other winter visitors to travel *to* Mammoth by bus or by air.

The recommended evening program consists of the following elements, as shown in Figure 4:

- Continuation of existing MMSA-funded evening services, including operation of the town portion of the **Red Route** (seven days a week) and operation of the Blue Route (weekends and holidays only).

- Expansion of **Blue Route** service to seven days a week, as demand warrants, operating from 6:00 P. M. to 11:00 P. M. on weekdays. This route is to be operated in one direction only (as compared with the winter daytime service where the Blue Route provides service in both directions) and combined sequentially with the **Yellow Route**.

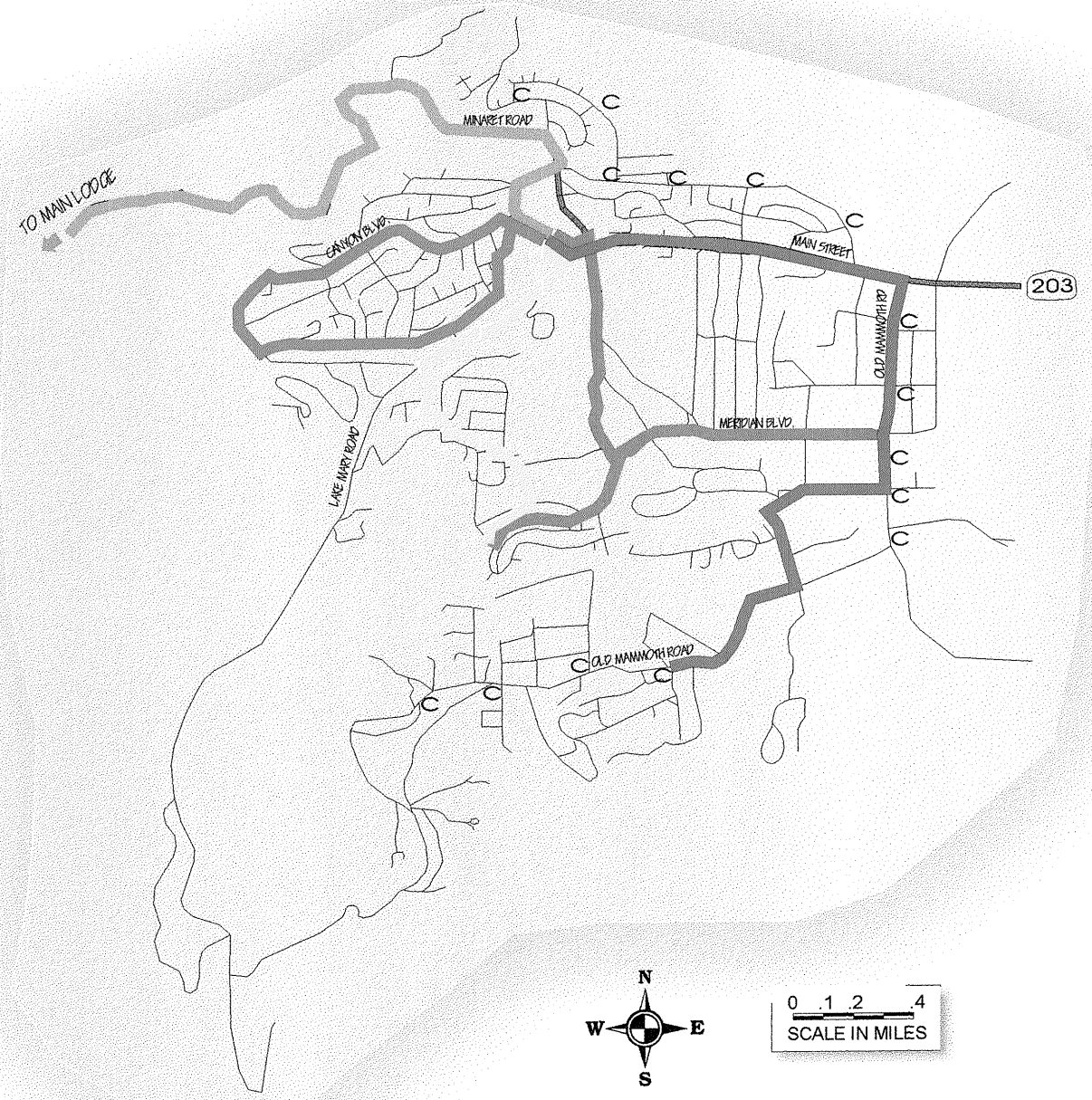
- Institution of a new evening **Green Route** service seven days a week, providing service between Gondola Village, Sierra Star, Juniper Springs, and Old Town, via Minaret Road and Meridian Boulevard. This service should be operated from 6:00 P. M. to 11:00 P. M. on Sundays through Thursdays, and from 6:00 P. M. to Midnight on Fridays and Saturdays.

- Headways of **30 minutes** for the Red Route, Green Route and combined Blue-Yellow Route can be provided by three buses (assuming that existing MMSA winter evening services continue with one bus and two additional peak buses are added during the evenings). Buses from the existing fleet can be used during these evening hours.

Provision of additional winter evening service in this manner would require two buses, however, existing buses can be utilized. As indicated in Table 13, this increase in service will incur a cost of approximately $58,200 per year (assuming a marginal operating cost of $49.00 per vehicle-hour). This service is expected to carry on the order of 27,700 passenger-trips over the course of the ski season, based upon the ratio of evening to day-time ridership observed in similar mountain resort communities.

FIGURE 4

# WINTER EVENING SERVICE PLAN




## LEGEND

- HIGHWAYS
- STREETS
- RED NIGHTLINE
- BLUE NIGHTLINE-EXPANSION
- UNBOUND NIGHTLINE
- GREEN NIGHTLINE-NEW
- YELLOW NIGHTLINE-NEW
- C COMMUNITY CHECKPOINT SERVICE STOPS

★ALL SERVICES EVERY 30 MINUTES
★BLUE ROUTE OPERATES IN ONE DIRECTION ONLY IN COMBINATION WITH YELLOW ROUTE

*Winter Community Checkpoint Service*

A flexible form of transit service is appropriate for winter daytime service to a variety of residential areas and community functions that are not efficient or convenient to serve with the fixed-route service. Specifically, a "checkpoint" service is recommended that would provide scheduled service to individual signed checkpoints (largely off of the fixed-route system), and would also be able to provide serve directly to individual residences in response to phone requests (on the inbound trip) or direct requests of the driver (on the outbound trip). While service to the checkpoints would remain free, a fare of $2.00 is recommended for deviated service requests, both to reflect the increased costs of providing this high-quality service, as well as to encourage passengers to group at the checkpoints in order to make the overall service more cost-effective.

As shown in both Figure 3 and Figure 4, checkpoints should be located in the following areas:

- Old Mammoth neighborhood (4 locations)
- Forest Trail neighborhood (3 locations)
- Knolls neighborhood (2 locations)
- Mammoth Museum/Mammoth Creek Park
- Cerro Coso College
- Middle School
- High School Minaret Village Mall
- Sherwin Plaza
- Community Center
- Gondola Village

One vehicle should operate this service on an hourly headway during the winter, from 7 A.M. to 10 P.M. Passengers desiring a pickup at their residence will be required to call at least one hour before their desired departure time. Note that many passengers can be expected to use this service to connect to or from the fixed-route services; the schedule should be designed to provide direct transfers to the Red and Green Routes at Minaret Village Mall. Based upon ridership generated by similar services in Aspen and Snowmass Village, Colorado, the Community Checkpoint service can be expected to generate approximately 18,000 passenger-trips over a 150-day winter season. A new van, plus a backup van, will be needed in order to operate checkpoint service.

*Summer Fixed Route Service*

With successful redevelopment, the level of summertime destination visitation to Mammoth Lakes can be expected to increase significantly. As discussed in Chapter 3, other mountain resorts with substantial summer visitation have found summer transit programs to be an important element in guest services, and in addressing summer recreational traffic problems. A specific summer transit program tailored to Mammoth Lakes conditions is shown in Figure 5, and discussed below:

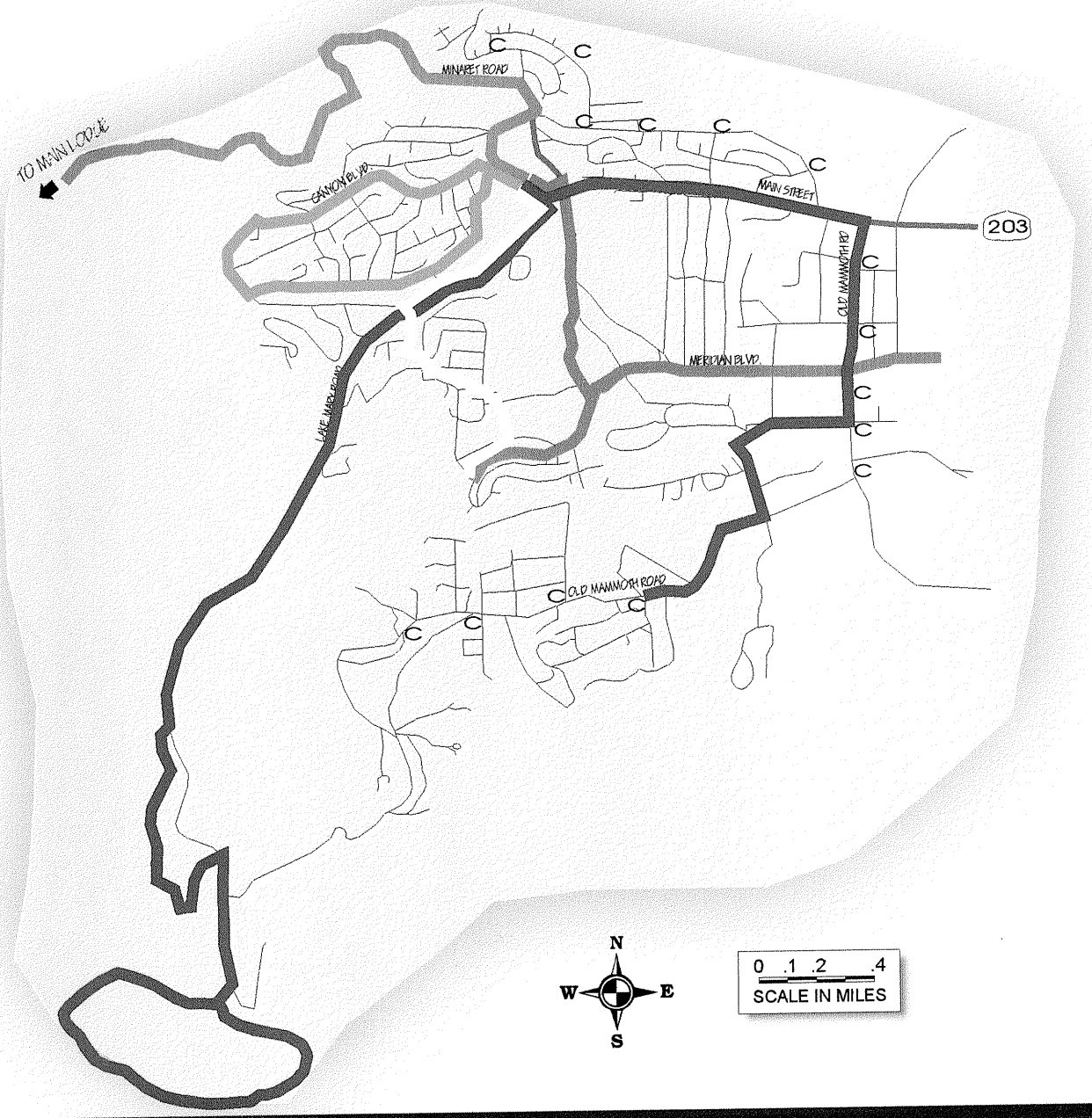
- Within town, the **Red Route** should operate along the existing winter Red Route, connecting the Snowcreek area with Gondola Village via Old Town and Main Street. Rather than continuing along SR 203 to the MMSA Main Lodge, however, the summer route should serve the Lakes Basin, via Lake Mary Road, terminating at the Crystal Crag Drive loop around Lake Mary. This service is recommended for several reasons:

  - It will help to mitigate the traffic and parking problems that occur in the Lakes Basin during peak summer days, which will be exacerbated by the increase in summer visitation that will accompany redevelopment.

  - It will provide an important visitor amenity for those summer visitors that arrive via tour bus, allowing them to conveniently access an attractive natural area. For the intrepid, this service in

FIGURE 5

# SUMMER TRANSIT SERVICE PLAN




LEGEND

- HIGHWAYS
- STREETS
- RED ROUTE-EXTENDED
- GREEN ROUTE
- YELLOW ROUTE
- BLUE ROUTE
- DEVILS POSTPILE SHUTTLE
  - ●NOT OPERATED AS PART OF COMMUNITY SERVICE
- C COMMUNITY CHECKPOINT SERVICE STOPS
- ★RED ROUTE EVERY 60 MINUTES
- ★GREEN-YELLOW-BLUE ROUTES OPERATES SEQUENTIALLY FOR A ONE HOUR LOOP

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SCALE IN MILES



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combination with the Reds Meadow/Devils Postpile shuttle will provide the opportunity to make a one-way hike over Mammoth Pass into a circular tour of the area.

- It At least initially, the service to the Lakes Basin will be most cost-effective if limited to approximately 8:00 A. M. to 6:00 P. M. During this period, service on the Red Route would be provided on an hourly basis. Between 7:00 A. M. and 8:00 A. M., and between 6:00 P. M. and 10:00 P. M., the "in-town" portion of the Red Route should be operated twice per hour, yielding 30-minute headway service.

- The **Blue Route** would replicate the existing winter Blue Route, providing service between Gondola Village and Canyon Lodge along Canyon Boulevard and Lakeview Boulevard. This service should be provided between approximately 7:00 A. M. and 10:00 P. M.

- The **Green Route** should connect Gondola Village, Sierra Star, Juniper Springs, and Old Town Mammoth, operating along Minaret Road and Meridian Boulevard. As indicated in Figure 5, this route would "backtrack" on Meridian Boulevard between Sierra Star and Juniper Springs. While this is not optimal (as passengers traveling between Gondola Village and Old Town would be delayed by roughly five minutes), it allows this route to provide direct service between the three redevelopment areas, as well as direct service from Juniper Springs and Sierra Star to Old Town and return. This route should be operated between roughly 7:00 A. M. and 10:00 P. M.

- The **Yellow Route** should continue to connect Juniper Springs with Gondola Village, providing service to the residential area along Majestic Pines Road. This service should also be provided between approximately 7:00 A. M. and 10:00 P.M.

- The **combined Blue - Yellow - Green Routes**, sequentially operated, can provide one-hour headways. The Blue Route is (similar to the winter evening service) only operated in one direction.

- In addition, the existing **Reds Meadows/Devils Postpile shuttle bus** system should be extended to serve the Gondola Village Transit Center, providing at least one scheduled run per hour that originates at the Transit Center. This is similar to the Maroon Bells shuttle service provided by the White River National Forest in Colorado, which originates at Aspen's central Rubey Park Transit Center, and would allow residents of Mammoth Lakes as well as overnight visitors to access this popular service via the local transit routes.

This service plan would require two local buses in operation: one to operate the Red Route, and the other to operate the Blue, Yellow and Green Routes in succession. Buses from the existing fleet can be used to perform summer service. As shown in Table 13, this service would require approximately $106,600 in total operating costs per year, and will serve roughly 26,100 passengers per year or an average of 348 one-way passenger-trips per day throughout the summer.

Initially, limited service could be provided using a single vehicle operating only the Blue, Green, and in-town portions of the Red Route on an hourly headway. If operated over a limited eight-hour period per day (9:00 A. M. to 5:00 P. M.), this service would require approximately $25,000 per year in operating costs. As ridership grows, the service can be expanded to include service to Lakes Basin and the Yellow Route service area. To encourage ridership and provide as much reduction in auto use as possible, it is recommended that this service be operated at no fare to the passenger.

*Summer Community Checkpoint Service*

The **Community Checkpoint** service, as described above and presented in Figure 5, should operate between 7:00 A. M. and 10:00 P. M. during the summer. With half as many annual operating days as Community Checkpoint service in the winter (75 days of operation versus 150 days), the Summer Community Checkpoint service is expected to cost $55,100. Ridership is estimated at approximately 2,500 annual one-way passenger-trips, or an average of 33 one-way trips per day.

*Spring/Fall Season Services*

An important element in developing transit usage habits among year-round residents and employees is the provision of year-round services. Without the availability of consistent services, members of a potential transit riding household must acquire a car (or an additional car) to meet their transportation needs in the off-seasons, and then tend to continue to use this additional car during the peak season. As a result, off-season transit services yields increases in peak-season ridership, when usage is needed to reduce auto congestion, parking and air quality impacts.

As shown in Figure 6, Spring/Fall services are planned to consist of the following:

- The **Red Route** should be operated once every half-hour, providing service between Snow Creek/Old Mammoth and Gondola Village.

- The **Green Route**, **Yellow Route** and **Blue Route** (following the summer bus routes discussed above) should be operated sequentially for a combined one hour loop. The Green Route should also be extended to Cerro Cosa College.

- The **Community Checkpoint service** should be operated, timed to provide transfers to the fixed route at Gondola Village.

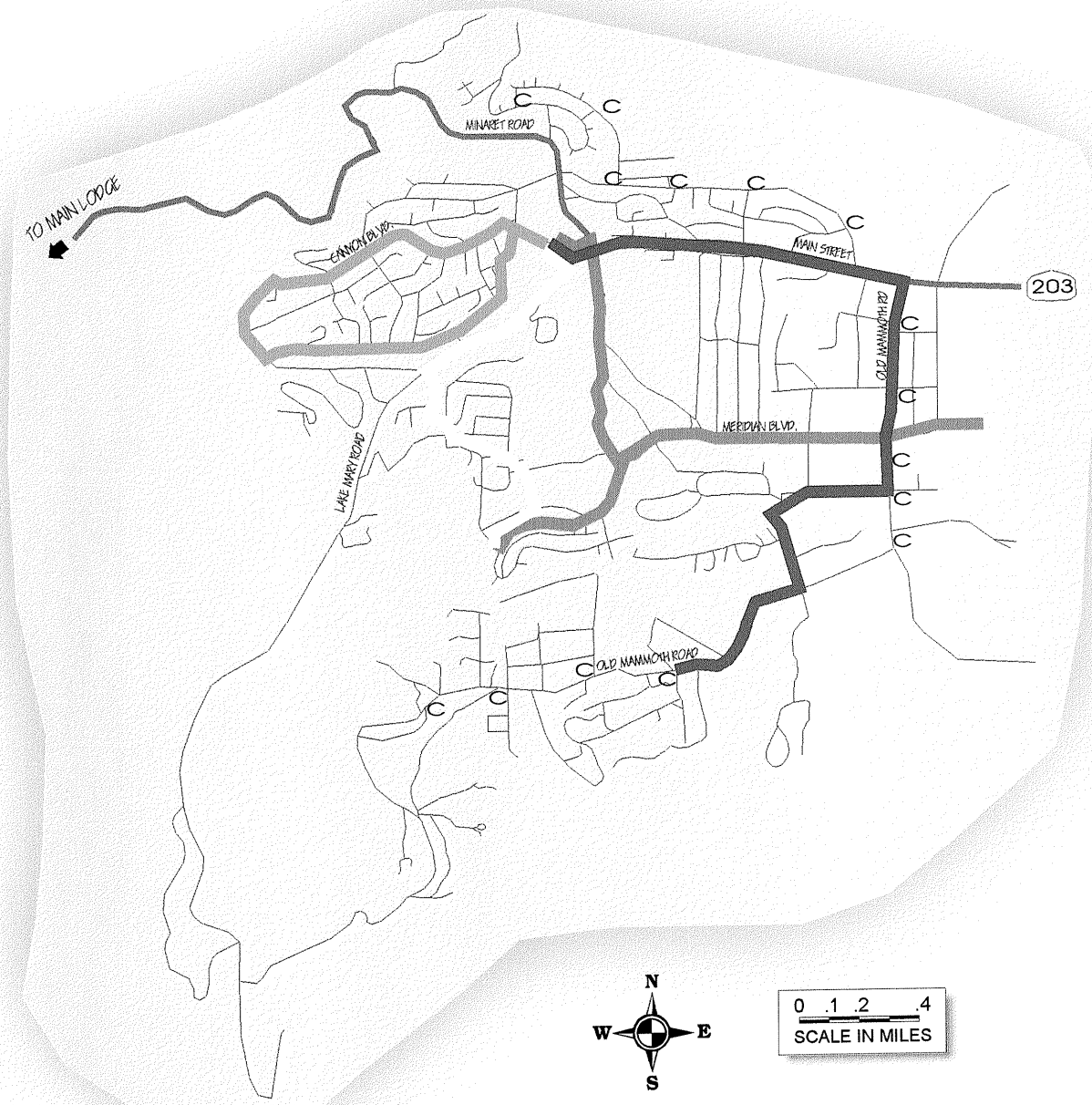
These services should be operated between 7:00 A.M. and 10:00 P.M. on Monday through Saturday, with no service on Sunday. No additional vehicles would need to be purchased for this off-peak service. Assuming that the three vehicles (two fixed-route bus and one community service van) each operate for 15 hours per day, six days per week, the total estimated cost of spring/fall services is approximately $264,600. Only limited farebox revenues would be generated by the $2.00 fare for deviated service requests (as discussed above in Winter Checkpoint Service). Annual ridership of roughly 27,600 is estimated during the off-seasons, based upon ridership generated by similar services in Aspen and Snowmass Village, Colorado.

*Dial-A-Ride Service*

In addition to the fixed-route services discussed above, a single-van Dial-A-Ride service is recommended. This service would operate 12 hours per day (8:00 A.M. – 8:00 P.M.) during the winter season, and 8 hours per day (8:00 A.M. – Noon and 1:00 P.M. – 5:00 P.M.) during the off-seasons. Reflecting the high quality of door-to-door service, this service would be operated at a relatively high fare: $3.00 per one-way trip for general public, and $1.50 per one-way trip for elderly, disabled, and children. This service is required as part of a general public transit program, under the requirements of the Americans with Disabilities Act (ADA). It will provide important mobility to the community's senior and disabled population, as well as visitors. It should be noted that the passage of the ADA has resulted in increased travel by the nation's disabled population, even to winter resort communities where snow and ice create mobility challenges.

FIGURE 6

# SPRING AND FALL SERVICE PLAN




**LEGEND**

- HIGHWAYS
- STREETS
- RED ROUTE
- GREEN ROUTE
- YELLOW ROUTE
- BLUE ROUTE
- C COMMUNITY CHECKPOINT SERVICE STOPS

★RED ROUTE EVERY 30 MINUTES
★GREEN-YELLOW-BLUE ROUTES OPERATES SEQUENTIALLY FOR A ONE HOUR LOOP

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THE TOWN OF MAMMOTH LAKES CALIFORNIA



LSC INC
SPRINGFALL.CDR

The ADA requires that door-to-door service be provided during all periods in which fixed-route service is operated. As dial-a-ride service hours are more limited than fixed-route service, it is necessary to establish a means of providing for this additional door-to-door service. Many communities (such as in North Lake Tahoe) have found it cost-effective during periods of low demand to provide such service through an agreement with a local taxi firm (such as Mammoth Shuttle). ADA-eligible passengers are served by the taxi company for the same fare as the dial-a-ride program; the public transit program then reimburses the taxi company for the difference between the fare and a contract per-trip rate. This approach is typically much less expensive during periods of low demand than paying a dial-a-ride driver on a stand-by basis.

An additional van would need to be purchased in order to provide dial-a-ride service, however, the necessary backup vehicle can be shared with the winter community checkpoint service. As shown in Table 13, this service would require on the order of $83,300 per year in operating funding (assuming Inyo Mono Dial-A-Ride "IMDAR" actual cost rates, and including $10,000 per year in additional dispatch costs as well as $8,000 per year for an off-hours cab subsidy program). As ridership of 8,800 would generate roughly $15,400 per year in farebox revenues, total operating subsidy for this program would be approximately $67,900 per year.

## Service Plan Summary

This service plan should not be considered to represent the maximum potential feasible service level for Mammoth Lakes. Rather, it represents an effective operating plan for the initial phases of redevelopment. With full redevelopment, Mammoth Lakes will benefit from expanded visitation during both the non-winter seasons, as well as during Winter mid-week periods. As this transition occurs, the increased transit demand will warrant expansion over these service levels. However, it is not possible at present to forecast activity levels by season and time of day with sufficient accuracy to make reasonable forecasts of transit need, and corresponding transit service requirements.

During the peak winter period, this plan will generate ridership that will make Mammoth Lakes one of the most transit-oriented mountain resorts communities of the West. With 35 percent of ski area access being provided via bus transit, Mammoth Lakes will benefit from a transit "mode split" equal to that of Vail, and exceeding the approximately 30 percent transit mode split of Aspen. As an additional 26 percent of ski area access will be by pedestrians, only 36 percent of ski visitors and employees will arrive at the ski area by car. In light of the dispersed housing pattern in Mammoth Lakes and the fact that many visitors will continue to arrive by car, this latter figure can be considered to be a reasonable minimum.

Non-skier travel during winter days will be provided with free service on a headway during peak periods of ten minutes or less, which is unparalleled in other mountain resort communities (outside of very short shuttle services). Absent auto disincentives (such as restrictions on parking availability or parking fees at commercial developments), and absent dramatic shifts in mid-week winter occupancy rates, the winter daily ridership generated by this plan can be expected to be an effective maximum level.

## Capital Plan

Public transportation services require a substantial level of capital facilities and equipment. In addition to the obvious need to purchase (and finance replacement) of transit buses and vans, adequate facilities need to be provided for vehicle maintenance and storage, for passenger waiting and transfer areas, and for administrative functions. Based upon the operating plan presented above, the following capital needs will be required to provide Mammoth Lakes with an appropriate transit service, as listed in Table 14.

**TABLE 14: Mammoth Lakes Transit Capital Requirements**

| | Cost per Unit | Number of Units | Total Cost |
|---|---|---|---|
| Fleet Replacement | | | |
| Year 2000 Bus Replacement | $167,000 | 3 | $501,000 |
| Fleet Expansion | | | |
| Skier Shuttle Buses (1) | $167,000 | 7 | $1,169,000 |
| Airport Shuttle Service | $167,000 | 2 | $334,000 |
| Evening Service Buses | – | (Uses skier shuttle buses) | – |
| Summer/Offseason Service Buses | – | (Uses skier shuttle buses) | – |
| Community Service Vans (2) | $60,000 | 3 | $180,000 |
| Bus Shelters | $20,000 | 12 | $240,000 |
| Bus Benches/Signs | $400 | 25 | $10,000 |
| Transit Center | – | (Provided in Gondola Village) | – |
| Vehicle Storage and Washing Facility | – | 1 | $1,062,500 |
| **TOTAL** | | | **$3,496,500** |

Note 1: Net number of buses for Skier Shuttle service includes the reduction in existing Red Route service due to the Gondola.
Note 1: Includes vans for Community Checkpoint service and Dial-a-Ride service.

Mammoth Transit Plan.wb3

## Fleet Requirements

Table 13, presented above, identifies the fleet requirements of each individual new service. Table 14 details the capital requirements for the entire system. Considering the opportunity to share vehicles between programs operating at differing times, the following fleet expansions will be required:

- *Fleet Replacement* - Three additional buses are needed during Year 2000 to replace those existing vehicles in the fleet which are reaching the end of their 15-year operating span. Assuming a unit cost of $167,000 each, a total of $501,000 will be required for bus replacement.

- *Fleet Expansion, Buses* - A total of nine buses will need to be purchased. Assuming a unit cost of $167,000 each, a total of $1,503,000 will be required for this fleet expansion.

  - A net total of 7 buses (6 buses required at peak, plus 1 additional backup vehicle) will be required for expanded skier shuttles, including those vehicles required to increase existing transit mode split and to serve the expansion of MMSA.

  - Two additional buses will be required to provide the Airport Shuttle service. As flights may well arrive or depart during the periods of peak fleet requirements for the skier shuttle services, it is not possible to provide this service with buses required for the peak winter daytime service.

  - It is assumed that evening and summer transit services can be provided using buses from the fleet used for winter daytime service. Depending upon the results of negotiations regarding transit funding, an hourly charge for vehicle depreciation may be warranted. All buses used in summer and off-season service should be equipped with bicycle racks.

- *Fleet Expansion, Vans* - Three vans will be required to operate the Community Checkpoint and Dial-A-Ride services (this includes one backup van). The only wheelchair-accessible van in the MMSA fleet is appropriate only as a backup, as it has only a single wheelchair tie-down position. Assuming a unit cost of $60,000 each, a total of $180,000 will be required for community service.

**Facility Requirements**

*Transit Center*

As a "transit center based" system, the location and design of the centralized transit center are crucial to the efficiency and attractiveness of Mammoth Lakes entire transit service. Due to the configuration of Mammoth Lakes, there are a number of potentially feasible locations for the transit center:

- The Sierra Star area (near the intersection of Minaret and Meridian) is physically the center of the potential service area. However, the area is not a commercial activity center that will be a potential transit destination for persons other than employees and guests of Sierra Star.

- The "Old Town" area, while an important commercial center, is physically on the eastern edge of the transit service area, which would require an inefficient route design to serve. Additionally, the auto-dominated development pattern makes the area less attractive to potential transit riders.

- Gondola Village will provide a strong attraction for transit passengers, and also is relatively close to the center of the transit service area. In addition, the ability to provide direct access to the gondola (which can be considered as an additional public transportation "route") makes it particularly effective in serving skiers via transit.

On balance, the Gondola Village is the most beneficial location for Mammoth Lake's transit center. As discussed above, however, the provision of service to the Old Town area by more than one route makes this commercial area an important secondary transit center.

As the key facility in the expanded Mammoth Lakes transit center, and as an important "portal" to the MMSA, it will be important for the Transit Center to be designed for efficient and safe movement of transit buses and passengers. This center will be served by the following routes:

| Winter Day Service | Winter Evening Service | Spring/Fall Service | Summer Service |
|---|---|---|---|
| Red Route (Southbound) | Red Route | Red Route | Red Route (Eastbound) |
| Red Route (Northbound) | Blue Route | Blue Route | Red Route (Westbound) |
| Blue Route | Yellow Route | Yellow Route | Blue Route |
| Yellow Route | Green Route | Green Route | Yellow Route |
| Purple Route | Community Checkpoint | Community Checkpoint | Green Route |
| Green Route | | | Devils Postpile Route |
| Orange Route | | | Community Checkpoint |
| Community Checkpoint | | | |

Due to the high frequency of service and the need to avoid blocking Millers Siding with buses waiting for an open bay, it will be necessary for this transit center to provide a minimum of seven bus bays, designated as follows for the Winter daytime service:

| East Side of Miller Siding | West Side of Miller Siding |
|---|---|
| Red Route (Northbound) | Red Route (Southbound) |
| Blue Route | Purple Route |
| Orange Route | Yellow Route |
| Green Route | |

In addition, an adjacent smaller bay or parking space is required for the Community Checkpoint van. Providing less than seven bus bays would result in buses frequently stopping in travel lanes while the driver waits for a bay to be available, causing a substantial traffic congestion problem. The availability of seven bays will also provide the opportunity to assign specific routes to specific bays, which aids passenger's ability to find their bus and greatly increases the speed of passenger loading.

Optimally, these seven bays would be configured on both sides of a centralized plaza, which would allow passengers to transfer between all buses without crossing vehicular travel lanes. This configuration is not feasible in Gondola Village, however, as it would require substantially more land than is available for transit purposes. Providing bays on either side of Millers Siding, moreover, allows half of the transit passengers to walk to and from the gondola without crossing traffic lanes.

Each of these bus bays should be a minimum of 55 feet in length, to allow buses to pull in and out of the bays while other adjacent bays are occupied. Shelter for passengers (with lighting and potentially passenger-activated heating) should be provided convenient to each bay, and bicycle parking should be available. With regard to the overall design of this transit center, the *Mammoth Multi-Modal Transportation Plan Study Report* indicates the following:

> *"The interaction between the overhead lifts and the bus transit system is also very important. The buildings which house the terminus of the overhead lifts in town should be designed with transit accessibility as well as pedestrian accessibility in mind. The design should allow for "doorstep" access in a dry and comfortable environment."* (P 7-7)

*Other Transit Passenger Facilities*

While passenger amenities at bus stops are an important factor in attracting ridership for all transit systems, they are particularly key in Mammoth Lakes due to both the climate and the "discretionary" nature of many of the potential passengers. A goal of the program should be to provide benches at all locations that generate ten or more passenger boarding over a peak day, and to provide shelters at all locations that generate 25 or more passenger boardings. With the expansion of transit services, locations where additional shelters will be particularly important will consist of the following:

- The Juniper Springs base area, where a single stop can preferably be sited to serve both the ski base as well as adjacent lodging properties.

- The northwest and southeast quadrants of the Meridian/Old Mammoth intersection, to serve as the transit focus of Old Town, and to also serve passengers transferring between the Green and Red Routes.

*Vehicle Maintenance Storage & Wash Facility*

Inside, heated overnight storage for at least a portion of the fleet is a final important element in the provision of a high quality and cost-effective system. Providing inside storage for a minimum of 12 buses would provide the following benefits:

- Would allow the removal of ice buildup on the undercarriage, reducing damage to electrical systems, brake lines, and other components.
- Would improve passenger comfort on the first few runs of the day, by ensuring that the buses are warm.
- Would allow for better pre-trip inspections, aiding safety.
- Would extend the useful life of the transit fleet.

In addition, providing a wash bay as part of this facility would improve the image of the transit service, which is an important factor in the image of the overall community. Two mechanics bays are also warranted, to expand the capacity to maintain the expanded fleet. The cost estimate for this facility is based upon costs incurred for similar facilities in the Sierra. As indicated in Table 15, a total cost of $1,062,500 is estimated, including construction, design and engineering, and contingency.

***TABLE 15: Mammoth Lakes Transit Maintenance Facility Cost Estimate***

| | Quantity | Sq. Feet/ Unit | Sq. Feet | Units | Cost/ Sq. Feet | Cost |
|---|---|---|---|---|---|---|
| **Vehicle Mainternance/Storage/Washing** | | | | | | |
| Vehicle Storage | 12 Buses | 600 | 7,200 | SF | $40 | $288,000 |
| Mechanic Bays | 2 Bays | 800 | 1,600 | SF | $40 | $64,000 |
| Washing | 1 Bay | -- | 800 | SF | $40 | $32,000 |
| Wash Equipment | 1 Unit | -- | -- | EA | $80,000 | $80,000 |
| | | | 8,000 | | | $464,000 |
| **Operations Space** | | | | | | |
| Locker Room | 1 | 200 | 200 | SF | $80 | $16,000 |
| Restrooms | 2 | 150 | 300 | SF | $80 | $24,000 |
| Break/Training Room | 1 | 400 | 400 | SF | $80 | $32,000 |
| Mechanical Room | 1 | 100 | 100 | SF | $80 | $8,000 |
| Circulation | 1 | 300 | 300 | SF | $80 | $24,000 |
| Subtotal | | | 1,300 | SF | | $104,000 |
| **Total Transit Operations Building** | | | 9,300 | | | $568,000 |
| **Parking and Circulation** | | 24,000 | 24,000 | SF | $8.00 | $192,000 |
| **Lighting and Landscaping** | | | | | | $10,000 |
| **TOTAL CONSTRUCTION COST** | | | | | | $770,000 |
| **Soft Costs** | | | | | | |
| Design and Engineering | | | | | 10.00% | $77,000 |
| Site Preparation, Contingency | | | | | 15.00% | $115,500 |
| **Furnishings and Equipment** | | | | | | $100,000 |
| **Land Costs – Assumed to be provided at no cost** | | | | | | -- |
| **TOTAL PROJECT COST** | | | | | | $1,062,500 |

Mammoth Transit Plan.wb3

### Summary of Capital Requirements

As shown in Table 14, implementation of the proposed transit plan will require a total of nearly $3.5 million in capital expenditures. The cost of the transit center provided in Gondola Village is not included as the total cost is assumed to be paid by Intrawest as part of the Gondola Village development. Federal funding is probably available for a substantial portion of the capital costs, through the Federal Transit Administration's "Section 5309" program. In general, 80 percent of the total capital costs are expected to come from federal funding, however, the remaining 20 percent will need to be generated locally. Allocation of this "local match" is discussed in detail below.

## Total Financial Requirements

In summary, this transit plan will require the following financial resources:

| | |
|---|---|
| Operating Subsidy: Improvement in Skier Services | $ 159,100 per year |
| Operating Subsidy: Winter Commuter Services | $ 22,100 per year |
| Operating Subsidy: Airport Shuttle Services | $ 0 per year |
| Operating Subsidy: Community Services | $ 651,500 per year |
| ***Operating Subsidy: Total*** | ***$ 832,700 per year*** |
| **Capital Cost: Total** | **$ 3,496,500** |

Virtually all of the required increase in operating subsidy will need to be generated through a combination of private and public sources in the Mammoth Lakes area, however, federal funding is probably available for a substantial portion of the capital costs. Where applicable, it is assumed that approximately 20 percent of the capital costs will need to be generated through "local match" while 80 will be funded federally.

### Total Cost of Transit Services

As shown in Table 13, the total operating cost of the proposed transit operating plan is estimated at $1,705,119 per year, an increase of $918,100 over the cost of current services (in current dollars). Farebox revenues will be generated by requests for door-to-door service under the checkpoint van service and the year-round dial-a-ride service. In addition, it is assumed that the airport shuttle service will generate passenger revenues equivalent to the operating costs, either through direct fares (which would be slightly less than $2.00 per passenger) or as part of package tour fees. Total farebox revenues are estimated at $85,400.

Subtracting the total farebox revenues generated from the total operating costs gives the required annual subsidy amount. As indicated, the service improvements necessary to attain transportation and development goals will require an increase in operating subsidy of $732,700 per year, in current costs. The system-wide operating subsidy required for existing services plus proposed services totals $1,619,719.

## Analysis of Subsidy Requirements

### Operating/Administrative Subsidy Requirements

It is next necessary to develop annual forecasts of operating costs (including administrative costs), ridership and operating revenues, and resulting operating subsidy requirements. First, the schedule for implementation of new services was developed, as shown in Table 16. This estimate of the proportion of total future service to be operated in each fiscal year was based upon the following assumptions:

- Growth in the need for skier shuttle services was assumed to occur in parallel with the growth in the number of Intrawest lodging and residential units. The need for airport shuttle service and increased winter evening service was also assumed to follow this same growth pattern.

- The implementation of the new gondola, and associated reduction in the need for Red Route service to the Main Lodge, was assumed to occur in Fiscal year 2001-02.

- The increase in winter commuter services is assumed to be required in the first year, to accommodate the increase in both construction and long-term employment.

- Winter checkpoint service is assumed to be implemented in the first year.

- Services in the non-winter seasons and the year-round dial-a-ride service are assumed to be initiated in Spring of 2001.

Applying the proportions identified in Table 16 by the operating costs identified for each plan element in Table 13 yields the year-by-year cost estimates shown in Table 17. These figures also assume a 3 percent annual rate of inflation. As shown, total operating/administrative costs would reach$2,355,800 in Fiscal Year 2009-2010.

Similarly, year-by-year estimates of ridership and farebox revenues can be identified. As shown in Table 18, these figures reflect the implementation schedule shown in Table 16, as well as the natural growth in ridership for new transit services. For the existing winter services and the airport shuttle service, it is assumed that full ridership potential is achieved in the first year of service expansion. For new services, however, it is assumed that 66 percent of potential ridership is achieved in the first year of service, 90 percent in the second year, and 100 percent in Years 3 and beyond, as is typically observed for new services.

In addition, general growth in the community will yield a small increase in annual ridership for the community services. Based upon growth in non-redevelopment portions of the community, ridership is also forecast to be increased by 2.5 percent per year. As shown, total annual ridership is forecast to reach as high as 895,020 by the end of the 10-year planning period – an increase of 49 percent over current ridership. Revenues total $113,040 by the end of the planning period.

A summary of annual operating subsidy requirements is presented in Table 19. Passenger fares (as identified in Table 18) are subtracted from operating costs (as shown in Table 17) to yield total subsidy requirements for each service. For the specific case of the Community Services, $200,000 in Transportation Development Act funds (increasing by 3 percent per year for inflation) is also assumed to be available, reducing the required remaining operating subsidy. The total remaining required operating subsidy reaches $1,981,805 the end of the planning period.

*TABLE 16: Transit Service Expansion Implementation Schedule*

| | Fiscal Year | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 2000-01 | 2001-02 | 2002-03 | 2003-04 | 2004-05 | 2005-06 | 2006-07 | 2007-08 | 2008-09 | 2009-10 |
| Skier Service Expansion | 35% | 45% | 61% | 78% | 97% | 98% | 100% | 100% | 100% | 100% |
| Reduction in Existing Red Route Due to Gondola | 0% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Increase In Bishop & June Lake Winter Commuter Services | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Airport Shuttle Services | 35% | 45% | 61% | 78% | 97% | 98% | 100% | 100% | 100% | 100% |
| Additional Winter Evening Service | 35% | 45% | 61% | 78% | 97% | 98% | 100% | 100% | 100% | 100% |
| Winter Community Checkpoint Service | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Summer Service: Fixed | 50% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Summer Service: Checkpoint | 50% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Spring/Fall Services | 50% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Year-Round Dial-A-Ride Service | 50% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |

Mammoth Transit Plan.wb3

*TABLE 17: Mammoth Lakes Transit Plan Operating/Administration Costs*

| | Base Case | Fiscal Year 2000-01 | 2001-02 | 2002-03 | 2003-04 | 2004-05 | 2005-06 | 2006-07 | 2007-08 | 2008-09 | 2009-10 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Case (1) | $860,000 | $860,000 | $885,800 | $912,400 | $939,700 | $967,900 | $997,000 | $1,026,900 | $1,057,700 | $1,089,400 | $1,122,100 |
| Skier Service Expansion | $227,900 | $82,200 | $108,800 | $151,900 | $200,100 | $256,300 | $266,700 | $280,300 | $288,700 | $297,400 | $306,300 |
| Reduction in Existing Red Route Due to Gondola | ($68,800) | $0 | ($73,000) | ($75,200) | ($77,400) | ($79,800) | ($82,200) | ($84,600) | ($87,200) | ($89,800) | ($92,500) |
| Increase In Bishop & June Lake Winter Commuter Services | $22,100 | $22,800 | $23,400 | $24,100 | $24,900 | $25,600 | $26,400 | $27,200 | $28,000 | $28,800 | $29,700 |
| Airport Shuttle Services | $58,800 | $21,200 | $28,100 | $39,200 | $51,600 | $66,100 | $68,800 | $72,300 | $74,500 | $76,700 | $79,000 |
| Additional Winter Evening Service | $58,200 | $21,000 | $27,800 | $38,800 | $51,100 | $65,400 | $68,100 | $71,600 | $73,700 | $75,900 | $78,200 |
| Winter Community Checkpoint Service | $110,300 | $113,600 | $117,000 | $120,500 | $124,100 | $127,900 | $131,700 | $135,700 | $139,700 | $143,900 | $148,200 |
| Summer Service: Fixed | $106,600 | $54,900 | $113,100 | $116,500 | $120,000 | $123,600 | $127,300 | $131,100 | $135,000 | $139,100 | $143,300 |
| Summer Service: Checkpoint | $55,100 | $28,400 | $58,500 | $60,200 | $62,000 | $63,900 | $65,800 | $67,800 | $69,800 | $71,900 | $74,000 |
| Spring/Fall Services | $264,600 | $0 | $280,700 | $289,100 | $297,800 | $306,700 | $315,900 | $325,400 | $335,200 | $345,200 | $355,600 |
| Year-Round Dial-A-Ride Service | $83,300 | $85,800 | $88,400 | $91,000 | $93,800 | $96,600 | $99,500 | $102,400 | $105,500 | $108,700 | $111,900 |
| *Total Costs of Plan Elements* | *$918,100* | *$429,900* | *$772,800* | *$856,100* | *$948,000* | *$1,052,300* | *$1,088,000* | *$1,129,200* | *$1,162,900* | *$1,197,800* | *$1,233,700* |
| Total | $1,778,100 | $1,289,900 | $1,658,600 | $1,768,500 | $1,887,700 | $2,020,200 | $2,085,000 | $2,156,100 | $2,220,600 | $2,287,200 | $2,355,800 |
| *Percent Impact of Plan Elements* | | *50%* | *87%* | *94%* | *101%* | *109%* | *109%* | *110%* | *110%* | *110%* | *110%* |

Note 1: FY 1997-98 transit costs, increased to estimated 2000-01 costs by 3% annual inflation.

Mammoth Transit Plan.wb3

**TABLE 18: Mammoth Lakes Transit Plan Annual Ridership and Fare Revenues**
*(Ridership In One-Way Passenger-Trips)*

| | Base Case | Fiscal Year 2000-01 | 2001-02 | 2002-03 | 2003-04 | 2004-05 | 2005-06 | 2006-07 | 2007-08 | 2008-09 | 2009-10 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Annual Passenger-Trips*** | | | | | | | | | | | |
| Base Case | 600,000 | 600,000 | 600,000 | 600,000 | 600,000 | 600,000 | 600,000 | 600,000 | 600,000 | 600,000 | 600,000 |
| Skier Service Expansion | 134,778 | 47,170 | 60,650 | 82,210 | 105,130 | 130,730 | 132,080 | 134,780 | 134,780 | 134,780 | 134,780 |
| Increase In Bishop & June Lake Winter Commuter Services | 14,760 | 14,760 | 14,760 | 14,760 | 14,760 | 14,760 | 14,760 | 14,760 | 14,760 | 14,760 | 14,760 |
| Airport Shuttle Services | 15,000 | 5,250 | 6,750 | 9,150 | 11,700 | 14,550 | 14,700 | 15,000 | 15,000 | 15,000 | 15,000 |
| Additional Winter Evening Service | 27,721 | 9,950 | 13,110 | 18,210 | 23,870 | 30,420 | 31,510 | 32,950 | 33,780 | 34,620 | 35,490 |
| Winter Community Checkpoint Service | 18,000 | 12,180 | 12,480 | 17,450 | 19,870 | 20,370 | 20,870 | 21,400 | 21,930 | 22,480 | 23,040 |
| Summer Service: Fixed | 26,100 | 8,830 | 18,100 | 25,300 | 28,810 | 29,530 | 30,270 | 31,020 | 31,800 | 32,600 | 33,410 |
| Summer Service: Checkpoint | 2,505 | 850 | 1,740 | 2,430 | 2,760 | 2,830 | 2,900 | 2,980 | 3,050 | 3,130 | 3,210 |
| Spring/Fall Services | 27,600 | 9,340 | 19,140 | 26,750 | 30,470 | 31,230 | 32,010 | 32,810 | 33,630 | 34,470 | 35,330 |
| Year-Round Dial-A-Ride Service | 8,800 | 2,980 | 6,100 | 8,530 | 9,710 | 9,960 | 10,210 | 10,460 | 10,720 | 10,990 | 11,260 |
| *Total Impact of Plan Elements* | *275,264* | *108,330* | *146,730* | *196,260* | *237,370* | *274,420* | *279,100* | *285,700* | *288,730* | *291,840* | *295,020* |
| Total | 875,264 | 708,330 | 746,730 | 796,260 | 837,370 | 874,420 | 879,100 | 885,700 | 888,730 | 891,840 | 895,020 |
| *Percent Impact of Plan Elements* | | *18%* | *24%* | *33%* | *40%* | *46%* | *47%* | *48%* | *48%* | *49%* | *49%* |
| ***Fare Revenues*** | | | | | | | | | | | |
| Base Case | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 |
| Skier Service Expansion | 0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 |
| Reduction in Existing Red Route Due to Gondola | 0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 |
| Increase In Bishop & June Lake Winter Commuter Services | 0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 |
| Airport Shuttle Services (1) | 58,800 | $21,200 | $28,100 | $39,200 | $51,600 | $66,100 | $68,800 | $72,300 | $74,500 | $76,700 | $79,000 |
| Additional Winter Evening Service | 0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 |
| Winter Community Checkpoint Service | 9,000 | $6,090 | $6,240 | $8,730 | $9,940 | $10,190 | $10,440 | $10,700 | $10,970 | $11,240 | $11,520 |
| Summer Service: Fixed | 0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 |
| Summer Service: Checkpoint | 1,300 | $440 | $900 | $1,260 | $1,430 | $1,470 | $1,510 | $1,550 | $1,580 | $1,620 | $1,670 |
| Spring/Fall Services | 900 | $300 | $620 | $870 | $990 | $1,020 | $1,040 | $1,070 | $1,100 | $1,120 | $1,150 |
| Year-Round Dial-A-Ride Service | 15,400 | $5,220 | $10,680 | $14,930 | $16,990 | $17,430 | $17,870 | $18,300 | $18,760 | $19,230 | $19,700 |
| Total Impact of Plan Elements | *$70,000* | *$33,250* | *$46,540* | *$64,990* | *$80,950* | *$96,210* | *$99,660* | *$103,920* | *$106,910* | *$109,910* | *$113,040* |
| Total | $70,000 | $33,250 | $46,540 | $64,990 | $80,950 | $96,210 | $99,660 | $103,920 | $106,910 | $109,910 | $113,040 |

Note 1: Fares assumed to equal operating costs.

Mammoth Transit Plan.wb3

*TABLE 19: Mammoth Lakes Transit Operating/Administrative Financial Plan*

| | | Fiscal Year | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 2000-01 | 2001-02 | 2002-03 | 2003-04 | 2004-05 | 2005-06 | 2006-07 | 2007-08 | 2008-09 | 2009-10 |
| **Operating Costs** | | | | | | | | | | | |
| Skier Services | | $942,200 | $921,600 | $989,100 | $1,062,400 | $1,144,400 | $1,181,500 | $1,222,600 | $1,259,200 | $1,297,000 | $1,335,900 |
| Increase In Bishop & June Lake Winter Commuter Services | | $22,800 | $23,400 | $24,100 | $24,900 | $25,600 | $26,400 | $27,200 | $28,000 | $28,800 | $29,700 |
| Airport Shuttle Service | | $21,200 | $28,100 | $39,200 | $51,600 | $66,100 | $68,800 | $72,300 | $74,500 | $76,700 | $79,000 |
| Community Services | | $303,700 | $685,500 | $716,100 | $748,800 | $784,100 | $808,300 | $834,000 | $858,900 | $884,700 | $911,200 |
| Total | | $1,289,900 | $1,658,600 | $1,768,500 | $1,887,700 | $2,020,200 | $2,085,000 | $2,156,100 | $2,220,600 | $2,287,200 | $2,355,800 |
| **Transit Fares** | | | | | | | | | | | |
| Airport Shuttle Service | | $21,200 | $28,100 | $39,200 | $51,600 | $66,100 | $68,800 | $72,300 | $74,500 | $76,700 | $79,000 |
| Community Services | | $12,050 | $18,440 | $25,790 | $29,350 | $30,110 | $30,860 | $31,620 | $32,410 | $33,210 | $34,040 |
| Total | | $33,250 | $46,540 | $64,990 | $80,950 | $96,210 | $99,660 | $103,920 | $106,910 | $109,910 | $113,040 |
| **Transportation Development Act Funds (1)** | | | | | | | | | | | |
| Community Services | | $200,000 | $206,000 | $212,180 | $218,545 | $225,102 | $231,855 | $238,810 | $245,975 | $253,354 | $260,955 |
| **Required Remaining Operating Subsidy** | | | | | | | | | | | |
| Skier Services | | $942,200 | $921,600 | $989,100 | $1,062,400 | $1,144,400 | $1,181,500 | $1,222,600 | $1,259,200 | $1,297,000 | $1,335,900 |
| Increase In Bishop & June Lake Winter Commuter Services | | $22,800 | $23,400 | $24,100 | $24,900 | $25,600 | $26,400 | $27,200 | $28,000 | $28,800 | $29,700 |
| Airport Shuttle Service | | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 |
| Community Services | | $91,650 | $461,060 | $478,130 | $500,905 | $528,888 | $545,585 | $563,570 | $580,515 | $598,136 | $616,205 |
| Total | | $1,056,650 | $1,406,060 | $1,491,330 | $1,588,205 | $1,698,888 | $1,753,485 | $1,813,370 | $1,867,715 | $1,923,936 | $1,981,805 |
| **Operating Subsidy Revenues** | | | | | | | | | | | |
| MMSA | (2) | $942,200 | $921,600 | $989,100 | $1,062,400 | $1,144,400 | $1,181,500 | $1,222,600 | $1,259,200 | $1,297,000 | $1,335,900 |
| Intrawest | (3) | $88,444 | $309,432 | $308,690 | $317,903 | $334,432 | $322,989 | $314,355 | $304,468 | $296,135 | $289,203 |
| Town of Mammoth Lakes | (4) | $26,006 | $175,028 | $193,540 | $207,901 | $220,056 | $248,996 | $276,414 | $304,047 | $330,801 | $356,702 |
| Total | | $1,056,650 | $1,406,060 | $1,491,330 | $1,588,205 | $1,698,888 | $1,753,485 | $1,813,370 | $1,867,715 | $1,923,936 | $1,981,805 |

Notes
1. Assumed to equal $200,000 in current funds, increasing with inflation. Allocated solely to community services.
2. Subsidy requirements for Skier Services
3. Commuter Services, plus proportion of Community Services equal to proportion of lodging/residential person-trips
4. Proportion of Community Services subsidy equal to proportion of lodging/residential person-trips.

Mammoth Transit Plan.wb3

**Allocation of Subsidy Requirements**

The variety of transit services for Mammoth Lakes would best be provided through a single, coordinated system, rather than through multiple services. A single transit operation is both more cost-effective (as it avoids duplication of administrative, maintenance facilities, and other fixed costs), and can provide better service to the passenger (as services can be marketed under a single, easily-understandable system). A key issue in funding a single service, of course, is identifying an equitable allocation of subsidy requirements.

Put simply, the MMSA and Intrawest (and other developers) should be responsible for transit services needed to comply with existing agreements, while the public sector should be responsible for additional desired services over and above those that are the responsibility of private organizations. Simplifying the complex legal issues, it is important that there be a "rational nexus" between the impacts of a private organization (such as a ski area, or developer) and those public improvements or services that they are legally required to fund.

Discussion of the allocation of subsidy for the various services is presented, below.

*Allocation of Skier Service Subsidy Requirements*

In the specific case of Mammoth Lakes, the following agreements currently require the MMSA to fund transit services:

- Proposition A, passed by Mammoth Lakes voters in 1986, resulted in an agreement by MMSA to provide approximately $500,000 per year in transit funding. (It is worth noting that this figure, adjusted for inflation between 1996 and 2000, is equivalent to approximately $810,000 in Year 2000 dollars -- very close to existing funding levels).

- The Decision Notice and Finding of No Significant Impact issued by the US Forest Service with regard to the Mammoth Mountain Ski Area Base VII (Juniper Springs) requires as a mitigation measure that "Upon opening of this base facility, MMSA will be expected to provide a minimum of three additional buses (green/yellow routes) providing service into the community." (p 3).

As shown in Table 19, the total cost of skier services ranges from $942,200 in FY 2000-01 to $1,335,900 in FY 2009-2010. In constant FY 2000-01 dollars, this latter figure is equivalent to $994,035. While the Juniper Springs mitigation measure does not identify a specific funding level attributable to the new services, it can be concluded that the funding level required for skier services remains within the level identified in existing commitments made by MMSA. All skier service costs are therefore allocated to the ski area.

*Commuter Services*

MMSA staff indicates that the current commuter services are presently at capacity. Considering the increase in employee commuting that will be generated by Intrawest development and the limited available affordable housing in the community, it can be concluded that Intrawest development will trigger the need to add a second bus to both the Bishop and the June Lake services. While employees of future non-Intrawest projects will undoubtedly also ride this service, it is assumed that Intrawest is responsible for the costs associated with this service improvement.

*Airport Shuttle Services*

As it is assumed that passenger fares cover all operating costs for this service, there is no need to allocate subsidy requirements for the airport shuttle service.

*Community Services*

The most difficult allocation question is regarding the appropriate allocation of subsidy requirements for the Community Services. These services, which include evening service, off-season services and neighborhood services, are required to accommodate the overall reduction in auto use identified in the Town's Transportation Plan, and to provide the desired comprehensive transit services for destination visitors.

In theory, one means of identifying the transit responsibilities of a particular developer (such as Intrawest) would be to identify the specific level of transit ridership required to be served from the development, and to calculate the subsidy requirement necessary to serve this ridership. The detailed analysis required to identify this ridership level, however, has not been conducted, and would be difficult to identify. Rather, the RKJK studies have been based upon a *community-wide* level of transit ridership for all future and existing development, including the Intrawest developments. The transit elements included in this plan have been designed to meet this ridership level. However, it is not possible to specify exact operating levels required solely for Intrawest transit ridership.

Rather, this analysis identifies the proportion of total future increase in travel demand generated by the Intrawest projects, and uses this proportion to allocate Community Service subsidy. Built into this approach is the assumption that the transit "mode split" required of Intrawest development is identical to that required for all future development in Mammoth Lakes. Other considerations in this allocation procedure are as follows:

- As the proportion of total person-trips to be accommodated on transit services is assumed to be consistent across all future development, it is possible (and relatively straightforward) to base the allocation procedure on the future growth in person-trips. These figures can be calculated by applying the person-trip generation rates generated in previous transportation plans to the forecast development levels for both Intrawest and non-Intrawest development in the community.

- Allocation for the Community Services should be based upon transit trip production (generated by residence or lodging units), rather than the trip attraction (generated by commercial properties, public facilities, recreational facilities, etc.). This places the responsibility for transit improvement funding on those aspects of development that generate additional peak population in Mammoth Lakes. It should also be noted that assigning allocation responsibilities to commercial development would require evaluation of "double counting" of trips between lodging/residential units and commercial properties, and would also logically lead to the assignment of transit improvement costs for future public and educational facilities.

- Allocation should be based upon the relative growth in transit need, rather than the total future need (including existing transit need). This conclusion is based upon the fact that the Mammoth Lakes community does not *currently* require expanded transit services in order to accommodate current transportation needs. Rather, the need to expand transit service is in order to accommodate future growth in travel demand.

The quantitative analysis based upon this approach, as presented in Table 20, consists of the following steps:

**TABLE 20: Transit Demand Allocation**

| | Existing | Buildout | Growth | Peak Season Daily Person-Trips per Unit (1) | Fiscal Year 2000-01 | 2001-02 | 2002-03 | 2003-04 | 2004-05 | 2005-06 | 2006-07 | 2007-08 | 2008-09 | 2009-10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Total Development (2) | | | | | | | | | | | | | | |
| Residential - Single Family | 1,722 | 2,384 | 662 | 19 | | | | | | | | | | |
| Residential - Multiple Family | 5,179 | 7,050 | 1,871 | 17 | | | | | | | | | | |
| Residential - Mobile Home | 191 | 191 | 0 | 19 | | | | | | | | | | |
| Lodging Rooms | 997 | 4,967 | 3,970 | 16 | | | | | | | | | | |
| Intrawest Development (3) | | | | | | | | | | | | | | |
| Juniper – Lodging | | | 251 | 16 | 251 | 251 | 251 | 251 | 251 | 251 | 251 | 251 | 251 | 251 |
| Juniper – Multi-Family | | | 84 | 17 | 36 | 84 | 84 | 84 | 84 | 84 | 84 | 84 | 84 | 84 |
| Sierra Star – Lodging | | | 699 | 16 | 81 | 222 | 347 | 463 | 699 | 699 | 699 | 699 | 699 | 699 |
| Sierra Star – Multi-family | | | 384 | 17 | 126 | 156 | 198 | 276 | 312 | 348 | 384 | 384 | 384 | 384 |
| Gondola Village – Lodging | | | 755 | 16 | 261 | 261 | 438 | 611 | 755 | 755 | 755 | 755 | 755 | 755 |
| *Subtotal – Intrawest Lodging* | | | *1,705* | | *593* | *734* | *1,036* | *1,325* | *1,705* | *1,705* | *1,705* | *1,705* | *1,705* | *1,705* |
| *Subtotal – Intrawest MF* | | | *468* | | *162* | *240* | *282* | *360* | *396* | *432* | *468* | *468* | *468* | *468* |
| *Subtotal – Intrawest* | | | | | *755* | *974* | *1,318* | *1,685* | *2,101* | *2,137* | *2,173* | *2,173* | *2,173* | *2,173* |
| Development in Remainder of Mammoth Lakes (4) | | | | | | | | | | | | | | |
| Residential - Single Family | | | 662 | 19 | 44 | 88 | 132 | 177 | 221 | 265 | 309 | 353 | 397 | 441 |
| Residential - Multiple Family | | | 1,403 | 17 | 94 | 187 | 281 | 374 | 468 | 561 | 655 | 748 | 842 | 935 |
| Residential - Mobile Home | | | 0 | 19 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lodging Rooms | | | 2,265 | 16 | 151 | 302 | 453 | 604 | 755 | 906 | 1,057 | 1,208 | 1,359 | 1,510 |
| Daily Person-Trips | | | | | | | | | | | | | | |
| Growth – Non-Intrawest | | | | | 4,850 | 9,683 | 14,533 | 19,385 | 24,235 | 29,068 | 33,918 | 38,751 | 43,601 | 48,434 |
| Intrawest – Juniper | | | | | 4,628 | 5,444 | 5,444 | 5,444 | 5,444 | 5,444 | 5,444 | 5,444 | 5,444 | 5,444 |
| Intrawest – Sierra Star | | | | | 3,438 | 6,204 | 8,918 | 12,100 | 16,488 | 17,100 | 17,712 | 17,712 | 17,712 | 17,712 |
| Intrawest – Gondola Village | | | | | 4,176 | 4,176 | 7,008 | 9,776 | 12,080 | 12,080 | 12,080 | 12,080 | 12,080 | 12,080 |
| Intrawest – Total | | | | | 12,242 | 15,824 | 21,370 | 27,320 | 34,012 | 34,624 | 35,236 | 35,236 | 35,236 | 35,236 |
| Total Growth | | | | | 17,092 | 25,507 | 35,903 | 46,705 | 58,247 | 63,692 | 69,154 | 73,987 | 78,837 | 83,670 |
| Percent of Growth in Person-Trips: Intrawest | | | | | 71.62% | 62.04% | 59.52% | 58.49% | 58.39% | 54.36% | 50.95% | 47.62% | 44.69% | 42.11% |
| Percent of Growth in Person-Trips: Non-Intrawest | | | | | 28.38% | 37.96% | 40.48% | 41.51% | 41.61% | 45.64% | 49.05% | 52.38% | 55.31% | 57.89% |

Notes

1. Intrawest Master Plan Traffic Impact Analysis (LSA Associates, Inc., 1998), Table C, referencing Mammoth Master Transportation Plan Modeling Support (RKJK, 1998).
2. Town of Mammoth Lakes 1997 Development Impact Fee Calculation Report.
3. Project Sierra Development Calendar Summary, (Intrawest, received by Town on 1/5/00).
4. Assumed to occur on a straight-line basis, with buildout in 2015-16.

Mammoth Transit Plan.wb3

1. Total buildout development levels for the community as a whole were identified from the *Town of Mammoth Lakes 1997 Development Impact Fee Calculation Report.*

2. Year-by-year development levels in Intrawest projects were identified from the *Project Sierra Development Calender Summary* provided by Intrawest.

3. Total future non-Intrawest development levels were identified by subtracting the Intrawest development from total buildout development. This development was then used to estimate year-by-year future growth levels, by assuming a straight-line growth trend, with buildout in Fiscal Year 2015-2016.

4. Year-by-year figures for peak daily person-trips generated by both Intrawest and non-Intrawest development were identified by multiplying the person-trip generation rates identified in the *Intrawest Master Plan Traffic Impact Analysis* (which were also used in the *Mammoth Master Transportation Plan*) by the forecast level of development.

5. Finally, the proportion of total future increase in person-trips generated by Intrawest vs. non-Intrawest development was calculated.

As shown, the proportion of future growth in travel demand generated by Intrawest development is relatively high in the first few years of the plan (72 percent in the first year), reflecting the fact that Intrawest's development schedule is more aggressive than that foreseen for the community as a whole. Over the longer term, however, continued growth in other portions of the community combined with buildout of the Intrawest projects will reduce Intrawest's funding allocation proportion to42 percent in the last year of the 10-year planning period. These year-by-year proportions of future growth in travel demand are used to allocate Community Service subsidy requirements between Intrawest and the Town of Mammoth Lakes.

*Summary*

Including the effects of an assumed 3 percent annual rate of inflation, total operating subsidy responsibilities are calculated in the bottom portion of Table 19. These responsibilities can be summarized as follows:

- **Mammoth Mountain Ski Area** – $942,200 in FY 2000-01, rising to $1,335,900 in FY 2009-10.

- **Intrawest** – $88,444 in FY 2000-01, rising to $289,203 in FY 2009-10.

- **Town of Mammoth Lakes** (including fees assessed against future non-Intrawest development) – $26,006 in FY 2000-01, rising to $356,702 in FY 2009-10.

In addition, $200,000 in annual Transit Development Act funding (increasing with inflation) are assumed to be generated by the Town and Mono County.

**Allocation of Capital Subsidy Requirements**

A similar analysis can be performed to estimate the appropriate allocation of capital requirements. Assuming that federal funds will pay for a majority (80 percent) of most of the capital needs, the remaining 20 percent ($699,300) still needs to be allocated. As shown in Table 21, allocation of capital expenditures should be based upon the proportion each capital item that is utilized for the various services, as follows:

## TABLE 21: Allocation of Capital Requirements

| Capital Cost Item | Total Cost | Federal Funding (1) | Local Match (1) | MMSA (2) Percent | MMSA (2) Amount | Intrawest (3) Percent | Intrawest (3) Amount | Town of Mammoth Lakes (3) Percent | Town of Mammoth Lakes (3) Amount |
|---|---|---|---|---|---|---|---|---|---|
| Fleet Replacement | | | | | | | | | |
| Year 2000 Bus Replacement | $501,000 | $400,800 | $100,200 | 100% | $100,200 | – | $0 | – | $0 |
| Fleet Expansion | | | | | | | | | |
| Skier Shuttle Buses | $1,169,000 | $935,200 | $233,800 | 56.5% | $132,082 | 21.8% | $50,859 | 21.8% | $50,859 |
| Airport Shuttle Service | $334,000 | $267,200 | $66,800 | – | $0 | 50.0% | $33,400 | 50.0% | $33,400 |
| Evening Service Buses | – | – | – | – | $0 | – | $0 | – | $0 |
| Summer/Offseason Service Buses | – | – | – | – | $0 | – | $0 | – | $0 |
| Community Service Vans | $180,000 | $144,000 | $36,000 | – | $0 | 50.0% | $18,000 | 50.0% | $18,000 |
| Bus Shelters | $240,000 | $192,000 | $48,000 | 56.5% | $27,117 | 21.8% | $10,442 | 21.8% | $10,442 |
| Bus Benches/Signs | $10,000 | – | $10,000 | 56.5% | $5,649 | 21.8% | $2,175 | 21.8% | $2,175 |
| Transit Center | (Constructed as part of Gondola Village) | | | – | – | – | – | – | – |
| Vehicle Storage and Washing Facility | $1,062,500 | $850,000 | $212,500 | 56.5% | $120,049 | 21.8% | $46,225 | 21.8% | $46,225 |
| **TOTAL** | **$3,496,500** | **$2,789,200** | **$707,300** | – | **$385,098** | – | **$161,101** | – | **$161,101** |

Note 1: Where applicable, federal funding is assumed to be 80 percent. Local match is assumed to be 20 percent.

Note 2: Based on proportion of skier services vehicle-hours to systemwide total vehicle-hours.

Note 3: Remaining capital costs split 50/50 between Intrawest and theTown of Mammoth Lakes where appropriate. Based upon the average proportion of the 10-year percent of growth in person-trips, as shown in Table 20.

Mammoth Transit Plan.wb3

- Capital costs associated with the replacement of existing fleet vehicles used for skier services is allocated to MMSA.

- Capital costs associated with fleet expansion for skier services (7 buses), bus shelters, bus benches/signs and a vehicle storage facility are allocated to MMSA based upon the proportion of total skier services vehicle-hours to systemwide total vehicle-hours. This approach reflects the fact that skier shuttle vehicles and other capital items will also be used for community transit services. The remaining 44 percent is split equally between Intrawest and the Town of Mammoth Lakes. This 50/50 split is based upon the average proportion of total future increase in person-trips generated by Intrawest vs. non-Intrawest development over the life of capital items, as discussed above and shown in Table 20.

- Capital costs associated with fleet expansion for Airport Shuttle Services (2 buses) and Community Services (3 vans) are allocated equally between Intrawest and the Town of Mammoth Lakes. This 50/50 split is based upon the average proportion of total future increase in person-trips generated by Intrawest vs. non-Intrawest development. This assumes that over the life of the buses, 50 percent of the need for those buses is generated by Intrawest and 50 percent by non-Intrawest development.

As presented in Table 21, the"local match" totals $707,300. Of this amount, MMSA should be expected to pay $385,100, Intrawest should be expected to pay $161,100 and the Town of Mammoth Lakes should be expected to pay $161,100. These local funds will be used to leverage $2,789,200 of Federal capital funds.

## Institutional Plan

Transit services should be provided on a "contract" basis, with funding (generated as discussed above) flowing through the Town of Mammoth Lakes. Direct provision of transit services by a department of the Town of Mammoth Lakes is specifically *not* recommended. The provision of high-quality and efficient transit services requires a substantial level of knowledge and experience that the Town does not currently possess. In addition, there is a substantial "economy of scale" to public transit service, i.e., the cost per unit of service (such as the cost per vehicle-hour of service) is lower for a larger transit organization than for a smaller organization. As a result, the total costs associated with the Mammoth Lakes transit service can be expected to be lower if provided through a contract arrangement, rather than through direct provision. Both of these reasons indicate that contract with an established transit provider can better meet the goals of the transit program that would service through a department of the Town.

The scope of these contract services may well depend upon the outcome of the contracting process. There are two general approaches that should be considered:

- Transit services beyond the winter daytime service could be provided by the Mammoth Mountain Ski Area. Under this scenario, a contract would be negotiated between the Town and MMSA for the provision of summer and off-season services, the expansion of winter evening services beyond the level of service currently provided by MMSA, expansion of commuter service, provision of winter daytime community checkpoint service, and provision of airport shuttle service. In addition, this contract could include the provision of ADA service; alternatively, ADA service could be provided through a separate arrangement with IMDAR. MMSA would remain responsible for funding and provision of other winter daytime services, which would be funded directly by the ski area (rather than passing funding through the Town).

- Alternatively, all transit services – including the skier services – could be contracted to a private service provider. In recent years, the increased interest in contracted services has generated a number of well-established contract public transit service providers, including firms very experienced in the unique requirements of winter resort public transit service. Again, ADA services could be provided through this independent contractor, or through a separate arrangement with IMDAR.

Due to the need to coordinate between the skier and non-skier services, as well as the economies of scale, splitting the provision of skier and non-skier local fixed-route services is not recommended. It is, however, in the public's best interest for a range of potential service provision options to be considered, as competition for a contract results in a more responsive bid.

Even with provision of service by another organization, the need remains for a policy-making and monitoring organization. A "Transit Board" is recommended to provide policy direction for the expanded transit system. This board should be authorized under the powers of the Town of Mammoth Lakes. Responsibilities of this Board should consist of the following:

- Develop the contract for provision of the non-skier transit services.

- Make operational decisions regarding the non-skier services elements of the transit service plan, such as modifications to routes, stops, and schedules, and oversee the contract by which these services are provided.

- Monitor the winter daytime services to ensure that they meet or exceed the goals of this service, in terms of service levels and ridership to the ski area, as well as the convenience of these services for other transit passengers.

- Serve as a forum for public comments regarding existing and envisioned transit services.

The composition of the Transit Board should in part reflect the composition of funding for the contracted transit services. Representatives of the following interest groups should be considered:

- Business interests in the Old Town area
- Redevelopment
- MMSA
- Transit dependent groups, such as elderly or disabled.
- Town Planning Commission

Board members should be appointed by the Town Council. Town staff should be responsible for providing monitoring reports to the Transit Board, based on information provided by the service contractor, that provides information regarding service levels, ridership, accidents and incidents.