MAMMOTH LAKES

FIXED-ROUTE TRANSIT PLAN

Prepared for the

Town of Mammoth Lakes

Prepared by

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Executive Summary
Mammoth Lakes Fixed-Route Transit Plan

LSC Transportation Consultants, Inc. *and*
Sonja Brynelsen, Town of Mammoth Lakes Transportation Planner

This plan presents a first step in attaining the Town's long-held goals to expand public transit services. It focuses on filling the gaps in existing services, using local transit tax funding and shifting some of the resources currently used by Inyo Mono Transit (IMT) to operate the Mammoth Lakes Dial-A-Ride (DAR) service to a fixed route service. This new service would continue to be operated by IMT.

Existing Dial-A-Ride Service

The existing DAR service was initiated in 2001, serving the Town of Mammoth Lakes, Monday to Friday between the hours of 7:00 A.M. and 5:00 P.M. This door-to-door service functions on an on-call basis. It has recently been expanded to operate two vans, requiring roughly $202,000 in annual subsidy generated by Transportation Development Act 1/4-cent sales tax. Ridership has grown substantially since the route was initiated, and is estimated to attain 16,000 passengers in 2002. The service carries roughly 2.7 passenger-trips per vehicle-hour of service. Non-disabled adults generate the largest proportion (45.51 percent) of all ridership, followed by children (44.71), while Seniors and disabled persons generated only 3.54 and 6.41 percent, respectively. Roughly 40 percent of all trips are children traveling to and from Mammoth Lakes Elementary School. Passenger traveling along the Main Street and Old Mammoth corridors comprise 63 percent of all trips, followed by the Slopes area (10 percent). Ridership in other residential areas is relatively low.

Mammoth Lakes Demographics

A relatively small proportion of Mammoth Lakes residents are Seniors or disabled persons, while the number of low-income is relatively comparable with other areas.

Recommended Transit Plan

Based upon an analysis of a wide range of alternatives, the following transit plan was identified. Fixed route service should be initiated on weekdays in the Spring and Fall from 7:00 A.M. to 5:30 P.M., and 7 days a week 7:00 A.M. to 10:00 P.M. in the Summer.

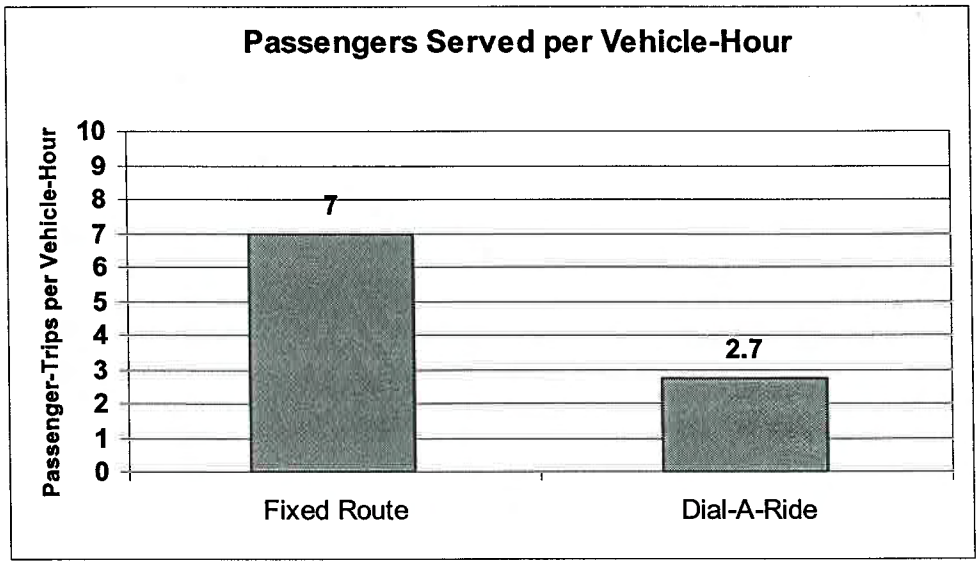
A one-way fare of $1.00 should be charged for the general public, and $0.50 for Seniors, children age 5 to 15, and disabled persons. Multi-ride and monthly passes should also be available at a discount.

The route should connect the North Village Transit Center with downtown, via Main Street and Old Mammoth Road, also serving Cerro Coso College, the schools, and the Hospital. It would operate every half-hour, with two way service on Main and Old Mammoth. The schedule allows approximately 10 minutes of layover time per half-hour period, which could be used to assist the Dial-A-Ride program or to continue to provide limited service to residences. (To extend the route into other residential areas with the single vehicle that is available under current funding levels would eliminate the ability to provide 30-minute service.)

At least initially, service should be operated using IMT cutaway vans, rather than a rubber-tired trolley vehicle. A trolley vehicle would not be able to deviate from a set fixed route, and would cost on the order of $240,000 versus $70,000. In addition, busstop signs will need to be installed at all fixed-route stops for the new service.

In order for the Town of Mammoth Lakes to be a qualified applicant for future grant applications, it will be important for the Town to become the direct applicant for Transportation Development Act (TDA) funding. The Town should request and receive TDA funds from the Mono County Transportation Commission and then contract with IMT to expend the funds on the provision of transit services. Town staff should be responsible for preparing funding requests, with input from and coordination with IMT staff, and IMT should provide a monthly service monitoring report. In the midterm, the Town should consider entering into a Joint Powers Agreement (JPA) to cooperatively expand public transit services to include commuter services outside of the Town limits.

A three-year analysis of funding indicates that this service can be funded through sources already in place: farebox revenues, TDA funds allocated by the Mono County Transportation Commission (at current levels, adjusted for inflation), and funds generated by the Town's Transit Tax on lodging and rental units. In fact, over this period, $176,000 in excess revenues would be generated, indicating that services could ultimately be expanded (such as to provide Town service in the Winter, or add an additional fixed route) and/or an additional vehicle purchases could be financed. As shown below, shifting the second DAR van from demand-response to fixed-route service would increase the number of passengers carried per hour from 2.7 to 7.0 – a 150 percent increase in effectiveness. Initiating this service is the logical next step in improving public transit services in Mammoth Lakes.



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Chapter 1
Introduction

Providing a year-round transit program in Mammoth Lakes has long been a goal of the Town. Many planning documents 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)*

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

This plan differs from other plans developed in recent years in that it focuses on filling the gaps in existing services, rather than replacing all existing services. The Mammoth Mountain Ski Area provides one of the best fixed route public transportation systems of any of the mountain resort systems in the US during the winter, and there is no need to recreate this system. Rather, this plan focuses on programs designed to meet other public transportation needs of the community, including services in the non-winter seasons, and demand-responsive services during the winter.

As operating a transit service absent the ski area services would not be cost-efficient for an outside contractor, the Town is left with providing transit services either directly with Town staff, or through Inyo-Mono Transit. As Inyo-Mono Transit has the expertise with regards to public transit services, and as public transit is less expensive to provide through a single larger organization rather than two smaller organizations, the more cost-effective strategy will be to provide expanded services through Inyo-Mono Transit.

This current plan focuses on a strategy for expanding public transit programs that does not include incorporating the Mammoth Mountain Ski Area services into the program. Rather, the Town will work with Inyo-Mono Transit to provide expanded services. It is assumed, per existing agreements, that the existing ski area services winter services will continue to be operated as at present. This document is intended to lay out a strategy for service, and recommended steps to implementing these improvements. This plan focuses on near-term, readily implementable improvements, which would lay the basis for additional expansion in services in the future.

Chapter 2
Review of Existing Dial-A-Ride Transit Service

Inyo-Mono Transit, and its predecessor the Inyo-Mono Area Agency on Aging, have been providing the two counties with regional transit services for many years. As of January 1, 2001, IMT service was expanded to service the Town of Mammoth Lakes, Monday to Friday between the hours of 7:00 a.m. and 5:00 p.m. This door-to-door service functions on an on-call basis.

Fares on the service are as follows:

- Adults pay a one-way fare of $1.25 to $2.00, depending upon zone.
- Seniors and Disabled pay a one way fare of $0.75 to $1.00, depending upon zone
- Children age 5 to 16 pay $0.75, regardless of zone
- Children under age 5 ride for free, but must be accompanied by an adult
- Wheelchair users pay a one-way fare of $0.75, regardless of zone.

In addition, passes are available. A 10-ride punch pass costs $13.50 for adults, and $9.00 for children, elderly and disabled persons. A monthly pass is available for $55.00 for adults, and $35.00 for children, elderly and disabled persons. Over the first six months of operation, 60 passes have been issued in total. As the total number of Dial-a-Ride trips utilizing passes over this time period was 455, the average pass is used 7.58 times and overall pass ridership constitutes 38% of total rides. Seventy percent of passes issued by Dial-a-Ride operators are purchased by social service agencies

Ridership

Table 1 presents extensive data regarding ridership, by type of passenger, for every day of operation from the beginning of the service through April 2002. Figure 1 presents a graph of monthly ridership. As shown, there has been an impressive history of growth on the service, increasing from a level of rough 220 passenger-trips per month over the first few months to a high of 1,379 in March 2002. While the April 2002 figures indicate a reduction in monthly ridership, this can be explained by both the relatively low skier activity in this month, as well as the fact that Spring Break reduced ridership generated by school children (which comprise a substantial proportion of overall ridership). This figure also shows that most of the growth in ridership has been generated by growth in child passengers (age 15 or less), followed to a lesser extent by growth in general public (non-disabled persons age 16 to 59) ridership.

Figure 2 presents a summary of passengers by type since the inception of the program. As shown, non-disabled non-Senior adults (over age 16) generate the largest proportion (45.51 percent) of all ridership, followed by children (in total), which generated 44.71 percent of all ridership. Non-disabled Seniors generated only 3.54 percent of all ridership, while disabled persons generated 6.41 percent.

TABLE 1: Mammoth DAR Daily Ridership by Type

Day of Week	M	T	W	Th	F	M	T	W	Th	F	M	T	W	Th	F	M	T	W	Th	F	M	T	W	Th	F	Total By Type #	Total By Type %	Avg Psgrs per Day
JANUARY																												
Adult	--	2	4	4	4	3	11	8	2	4	14	0	9	6	3	1	2	8	3	8	1	4	5	--	--	106	53%	
Disabled	--	0	3	1	2	5	3	4	0	2	3	2	4	0	1	4	5	5	2	2	0	0	1	--	--	49	24%	
Wheel Chair	--	0	0	0	0	0	0	0	0	0	0	2	0	2	2	0	2	0	0	0	2	2	2	--	--	14	7%	
Child	--	0	0	0	0	0	0	1	0	1	0	0	1	0	0	0	0	0	0	1	0	0	0	--	--	4	2%	
Child - 5	--	0	0	0	0	1	3	2	0	0	0	0	0	3	2	0	0	0	4	0	2	0	0	4	--	--	21	10%	
Senior	--	0	0	0	0	0	3	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	--	--	7	3%	
Total/Day	--	2	7	5	6	9	20	19	2	7	17	4	17	10	6	5	9	17	5	13	3	6	12	--	--	**201**		9.1
FEBRUARY																												
Adult	--	--	--	--	6	6	5	1	8	10	9	5	5	1	7	6	9	15	11	2	0	10	--	--	--	116	52%	
Disabled	--	--	--	--	2	2	0	4	1	2	1	4	0	0	0	1	2	0	3	0	5	4	--	--	--	31	14%	
Wheel Chair	--	--	--	--	2	1	2	2	2	2	0	0	2	0	0	0	2	2	2	2	2	2	--	--	--	27	12%	
Child	--	--	--	--	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	--	--	--	1	0%	
Child - 5	--	--	--	--	0	0	2	0	1	3	7	3	2	0	0	3	3	13	9	0	0	4	--	--	--	50	22%	
Senior	--	--	--	--	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	--	--	--	0	0%	
Total/Day	--	--	--	--	10	9	9	7	12	17	19	12	7	3	7	10	16	30	26	4	7	20	--	--	--	**225**		12.5
MARCH																												
Adult	--	--	--	6	11	9	16	--	--	--	12	12	17	5	12	9	5	10	12	7	7	6	7	6	11	180	50%	
Disabled	--	--	--	9	4	2	1	--	--	--	0	2	4	4	2	0	2	4	4	5	4	4	4	0	0	55	15%	
Wheel Chair	--	--	--	2	2	0	2	--	--	--	2	2	1	2	2	2	2	2	2	2	2	2	2	2	2	35	10%	
Child	--	--	--	0	1	0	0	--	--	--	0	1	0	0	1	0	0	0	1	0	0	0	0	0	0	4	1%	
Child - 5	--	--	--	4	5	0	9	--	--	--	3	6	11	3	9	3	3	5	4	1	4	7	4	2	4	87	24%	
Senior	--	--	--	0	1	0	0	--	--	--	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	2	1%	
Total/Day	--	--	--	21	24	11	28	--	--	--	17	23	33	14	26	14	13	21	22	16	17	19	17	10	17	**363**		19.1
APRIL																												
Adult	10	11	14	14	9	11	13	27	8	6	6	6	4	13	5	9	5	4	5	5	4	--	--	--	--	189	47%	
Disabled	2	2	1	3	2	2	2	1	4	3	2	5	3	0	5	6	6	2	5	2	--	--	--	--	--	59	**15%**	
Wheel Chair	1	2	2	2	2	2	2	2	3	2	0	0	0	0	2	2	2	2	2	2	2	--	--	--	--	34	**8%**	
Child	0	1	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	--	--	--	--	4	**1%**	
Child - 5	3	4	11	10	9	2	7	17	7	3	0	0	0	5	13	2	3	4	4	6	2	3	--	--	--	115	**29%**	
Senior	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	--	--	--	1	**0%**	
Total/Day	16	20	28	29	23	17	24	48	19	15	9	8	14	29	9	19	16	17	15	14	11	--	--	--	--	**402**		19.1
MAY																												
Adult	--	8	11	0	11	7	18	16	8	--	8	14	9	10	11	8	11	18	7	15	--	14	14	9	--	227	47%	
Disabled	--	3	0	0	2	1	8	4	2	--	5	3	4	7	0	3	3	0	5	5	--	5	7	8	--	75	16%	
Wheel Chair	--	2	2	2	2	2	2	1	2	--	0	2	2	2	1	1	2	2	2	2	--	0	2	2	--	35	7%	
Child	--	0	0	0	0	1	0	0	2	--	0	0	1	0	0	0	3	2	0	1	--	3	0	1	--	14	3%	
Child - 5	--	4	7	0	3	6	13	12	4	--	3	12	7	2	5	1	6	12	2	7	--	10	6	2	--	124	26%	
Senior	--	0	0	0	0	0	0	0	0	--	0	0	0	0	0	0	2	0	0	0	--	0	3	0	--	5	1%	
Total/Day	--	17	20	2	18	17	41	33	18	--	16	31	23	21	17	13	27	34	16	30	--	32	32	22	--	**480**		22.9
JUNE																												
Adult	--	--	--	--	5	15	17	13	22	16	7	24	--	12	7	13	14	14	10	14	8	7	10	17	15	260	37%	
Disabled	--	--	--	--	5	5	3	7	3	5	0	7	--	1	0	0	1	3	5	2	1	8	9	4	5	74	11%	
Wheel Chair	--	--	--	--	2	2	2	2	2	1	1	2	--	1	1	0	0	0	0	0	1	1	1	2	1	22	3%	
Child	--	--	--	--	2	0	1	3	1	4	0	1	--	0	2	31	30	23	8	14	9	12	27	34	21	223	32%	
Child - 5	--	--	--	--	6	7	10	6	13	2	5	9	--	5	0	0	0	3	3	0	3	4	2	5	2	85	12%	
Senior	--	--	--	--	0	1	3	3	2	1	1	5	--	2	0	3	2	3	4	1	2	5	2	0	0	40	6%	
Total/Day	--	--	--	--	20	30	36	34	43	29	14	48	--	21	10	47	47	46	30	31	24	37	51	62	44	**704**		35.2
JULY																												
Adult	27	11	--	22	7	16	17	12	11	7	9	16	14	8	--	--	3	12	10	17	9	7	--	--	--	228	43%	
Disabled	0	0	--	0	4	0	0	0	0	0	0	0	0	0	--	--	0	0	9	0	0	0	--	--	--	13	2%	
Wheel Chair	2	1	--	2	1	2	1	1	2	1	1	1	0	2	--	--	0	0	3	0	2	0	--	--	--	22	4%	
Child	20	19	--	6	17	16	18	17	14	21	0	6	6	4	--	--	2	5	2	3	4	4	--	--	--	180	34%	
Child - 5	10	7	--	8	2	3	1	1	0	0	0	0	6	3	--	--	2	7	2	5	0	0	--	--	--	57	11%	
Senior	0	2	--	6	0	4	3	2	0	0	1	0	0	0	--	--	2	4	3	0	2	1	--	--	--	29	5%	
Total/Day	59	40	--	44	31	41	40	33	27	29	11	23	26	17	--	--	9	28	29	25	17	12	--	--	--	**529**		27.8
AUGUST																				sc								
Adult	--	--	14	6	10	8	7	11	14	9	14	18	11	13	15	3	14	8	11	16	12	13	8	16	20	271	48%	
Disabled	--	--	1	0	3	2	0	1	1	7	0	4	0	1	0	0	2	2	0	3	3	2	2	3	0	37	7%	
Wheel Chair	--	--	0	1	0	1	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	2	2	2	3	13	2%	
Child	--	--	0	4	4	4	3	2	8	6	3	4	9	5	12	6	9	5	2	1	0	5	2	1	3	98	17%	
Child - 5	--	--	0	0	1	0	0	3	3	0	8	12	5	1	10	2	0	2	5	0	6	11	3	6	13	91	16%	
Senior	--	--	4	1	0	0	4	2	2	2	1	5	0	2	3	7	3	0	0	1	2	3	3	3	7	55	10%	
Total/Day	--	--	19	12	18	15	14	19	28	24	26	43	25	23	40	18	28	17	19	21	23	36	20	31	46	**565**		24.6
SEPTEMBER																												
Adult	--	15	20	15	23	15	12	14	16	17	16	14	20	17	19	17	11	17	25	19	--	--	--	--	--	322	46%	
Disabled	--	2	3	3	3	0	2	2	3	3	4	7	4	3	6	5	0	1	2	6	--	--	--	--	--	59	8%	
Wheel Chair	--	2	2	2	1	2	2	1	2	2	2	2	2	2	2	2	2	2	2	2	--	--	--	--	--	36	5%	
Child	--	9	7	10	6	3	8	6	11	2	5	7	6	9	11	4	10	12	9	6	--	--	--	--	--	141	20%	
Child - 5	--	5	3	5	9	7	4	4	3	7	4	5	8	4	5	5	1	8	7	4	--	--	--	--	--	98	14%	
Senior	--	7	4	0	5	3	0	7	2	5	2	3	2	3	0	2	0	0	0	4	--	--	--	--	--	49	7%	
Total/Day	--	40	39	35	47	30	28	34	37	36	33	38	42	38	43	35	24	40	45	41	--	--	--	--	--	**705**		37.1
OCTOBER																												
Adult	13	20	18	21	21	16	23	12	14	24	21	13	26	19	26	42	26	24	25	20	--	--	23	--	--	447	46%	
Disabled	2	5	3	2	3	0	4	8	1	6	3	3	2	7	4	4	5	5	5	3	--	--	4	--	--	79	8%	
Wheel Chair	1	2	2	2	2	1	0	2	2	2	2	2	2	2	2	2	1	1	1	--	--	0	--	--	33	3%		
Child	3	9	2	11	11	2	5	6	9	11	7	12	6	6	7	8	12	4	8	7	--	--	13	--	--	159	17%	
Child - 5	8	4	11	3	12	4	4	3	5	15	8	6	14	4	9	15	4	14	6	7	--	--	12	--	--	168	17%	
Senior	2	6	5	0	2	4	1	7	1	11	1	4	3	5	2	2	6	3	4	5	--	--	3	--	--	77	8%	
Total/Day	29	46	41	39	51	27	37	38	32	69	42	40	53	43	50	73	55	51	49	43	--	--	55	--	--	**963**		45.9
NOVEMBER																												
Adult	--	--	--	17	29	23	22	27	30	39	--	17	24	11	8	20	12	18	--	--	18	21	28	15	24	403	49%	
Disabled	--	--	--	2	2	1	3	6	7	1	--	1	2	0	0	0	2	2	--	--	2	1	2	1	3	38	5%	
Wheel Chair	--	--	--	1	0	0	0	0	0	0	--	0	0	0	0	0	0	0	--	--	0	0	0	0	1	2	0%	
Child	--	--	--	14	9	9	12	12	9	14	--	16	14	4	5	4	8	6	--	--	12	7	6	5	5	171	21%	
Child - 5	--	--	--	4	8	6	5	10	5	11	--	6	13	2	2	5	2	11	--	--	6	20	10	2	8	136	16%	
Senior	--	--	--	1	5	4	4	3	2	2	--	3	5	8	1	7	8	6	--	--	5	3	3	4	1	75	9%	
Total/Day	--	--	--	39	53	43	46	58	53	67	--	43	58	25	16	36	32	43	--	--	43	52	49	27	42	**825**		43.4
DECEMBER																												
Adult	20	20	25	14	39	37	19	22	10	30	30	21	30	20	19	20	--	20	12	32	12	--	--	--	--	452	48%	
Disabled	2	1	0	1	1	2	2	6	1	2	1	2	4	2	1	0	--	0	0	3	0	--	--	--	--	31	3%	
Wheel Chair	0	0	1	0	1	0	3	0	2	0	2	2	0	0	3	2	--	0	2	0	2	--	--	--	--	20	2%	
Child	9	10	8	12	8	9	8	8	7	14	12	15	11	14	5	0	--	0	5	9	4	--	--	--	--	168	18%	
Child - 5	11	6	12	4	23	23	14	11	5	16	13	9	18	6	11	3	--	8	2	15	6	--	--	--	--	216	23%	
Senior	4	1	5	0	2	0	1	0	0	2	2	5	7	4	3	2	--	3	0	4	0	--	--	--	--	45	5%	
Total/Day	46	38	51	31	74	71	47	47	25	64	60	54	70	46	42	27	--	31	21	63	24	--	--	--	--	**932**		46.6
JANUARY																												
Adult	--	--	19	23	--	--	18	30	14	27	26	8	33	21	30	23	22	29	14	31	23	27	39	26	--	483	47%	
Disabled	--	--	2	0	--	--	2	1	2	1	0	3	1	0	2	0	5	2	4	1	1	0	1	1	--	29	3%	
Wheel Chair	--	--	2	0	--	--	0	2	0	2	2	3	2	2	2	2	0	4	0	4	2	0	2	1	--	32	3%	
Child	--	--	0	7	--	--	20	9	13	13	9	16	14	12	11	2	18	21	12	15	13	12	27	21	--	265	26%	
Child - 5	--	--	5	7	--	--	9	11	7	10	9	3	15	4	14	9	10	8	6	14	10	9	16	5	--	181	18%	
Senior	--	--	4	0	--	--	3	4	4	4	4	1	1	2	0	1	4	2	3	1	0	6	0	0	--	44	4%	
Total/Day	--	--	32	37	--	--	52	57	40	57	50	34	66	41	59	37	59	66	39	66	49	54	85	54	--	**1034**		51.7
FEBRUARY																												
Adult	--	--	--	--	30	21	19	24	25	12	27	26	21	23	22	--	23	36	17	31	28	24	26	22	--	457	47%	
Disabled	--	--	--	--	2	1	0	1	2	0	2	2	1	0	0	--	1	0	0	0	0	1	2	0	--	15	2%	
Wheel Chair	--	--	--	--	2	3	0	1	0	2	2	2	0	2	2	--	2	0	0	0	2	0	0	1	--	21	2%	
Child	--	--	--	--	20	4	12	10	14	17	14	20	23	17	26	--	9	10	7	5	10	19	17	18	--	272	28%	
Child - 5	--	--	--	--	14	10	5	9	6	10	7	12	8	8	10	--	7	9	4	18	10	8	15	8	--	178	18%	
Senior	--	--	--	--	2	0	1	1	0	5	3	0	0	2	4	--	0	1	1	1	0	0	0	1	--	22	2%	
Total/Day	--	--	--	--	70	39	37	46	47	46	55	62	53	52	64	--	42	56	29	55	50	52	60	50	--	**965**		50.8
MARCH																												
Adult	--	--	--	--	30	21	21	21	24	29	22	27	44	23	45	45	18	33	21	37	19	35	24	21	36	596	43%	
Disabled	--	--	--	--	3	2	1	1	0	1	2	0	1	1	0	3	3	1	1	1	4	3	5	4	1	38	3%	
Wheel Chair	--	--	--	--	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	4	0%	
Child	--	--	--	--	20	21	20	23	20	22	23	17	31	12	17	43	15	30	19	18	20	4	22	8	12	417	30%	
Child - 5	--	--	--	--	20	14	12	8	7	20	6	10	21	9	23	17	11	13	7	24	10	16	10	5	16	279	20%	
Senior	--	--	--	--	1	1	5	2	1	0	3	0	0	1	4	4	5	1	4	4	1	2	1	1	4	45	3%	
Total/Day	--	--	--	--	74	59	59	55	52	72	56	54	97	46	89	112	52	78	52	84	54	60	62	41	71	**1379**		65.7
APRIL																												
Adult	--	--	28	--	38	42	15	30	14	29	30	15	29	14	36	38	17	25	--	30	27	19	--	--	--	476	46%	
Disabled	--	--	5	--	4	3	4	4	0	2	5	4	2	3	2	1	7	4	--	2	6	4	--	--	--	62	6%	
Wheel Chair	--	--	0	--	2	0	0	0	0	3	0	0	0	0	0	0	0	0	--	0	0	0	--	--	--	5	0%	
Child	--	--	27	--	28	28	18	22	14	14	4	8	17	14	5	15	16	20	--	21	22	24	--	--	--	317	30%	
Child - 5	--	--	6	--	10	16	4	10	1	14	7	2	11	3	12	14	3	11	--	14	8	3	--	--	--	149	14%	
Senior	--	--	1	--	1	3	1	1	0	1	1	1	6	3	3	5	1	2	--	0	4	3	--	--	--	37	4%	
Total/Day	--	--	67	--	83	92	42	67	29	63	47	30	65	37	58	73	44	62	--	67	67	53	--	--	--	**1046**		58.1

Figure 1

Mammoth Dial-A-Ride Monthly Ridership

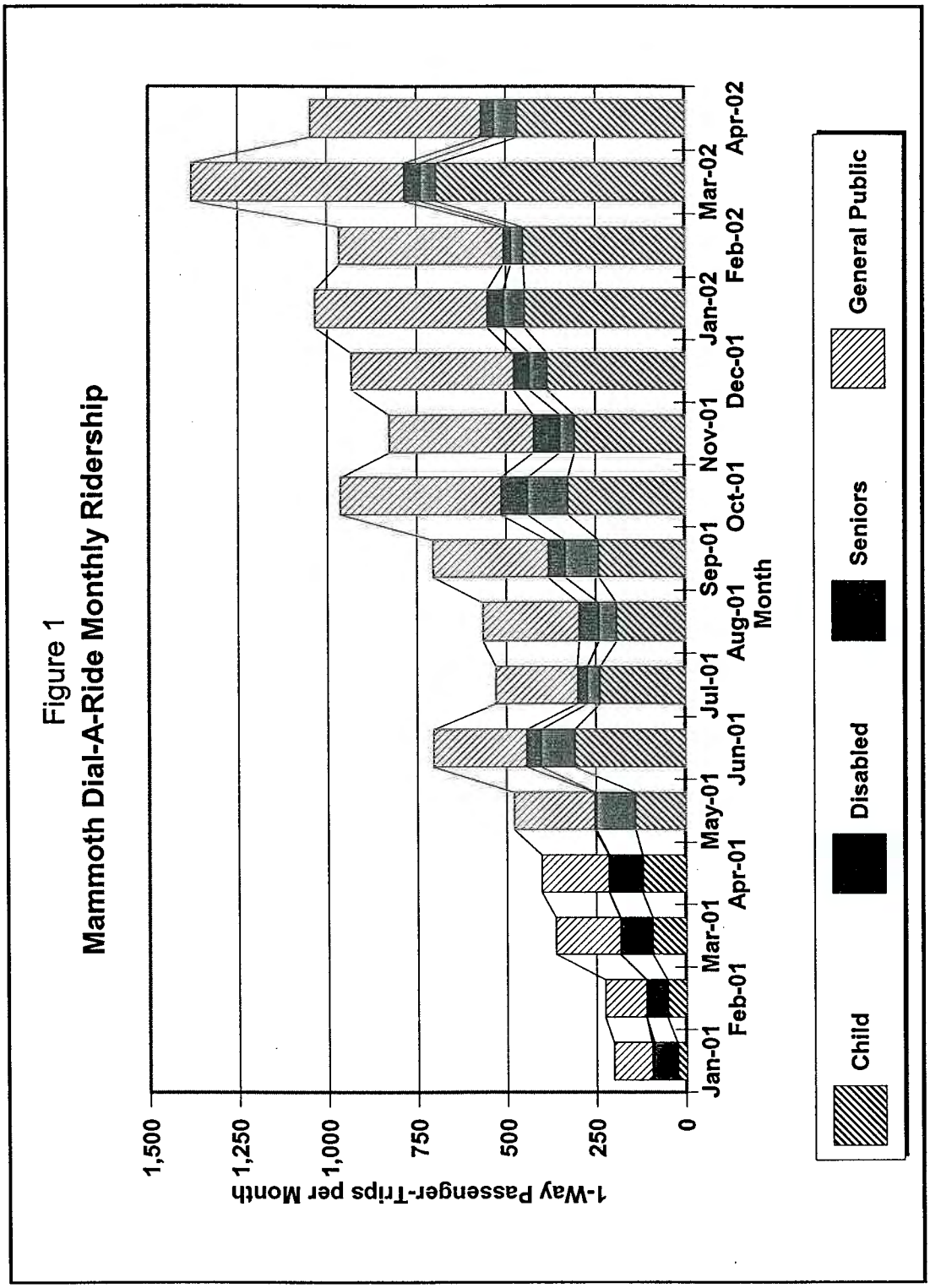
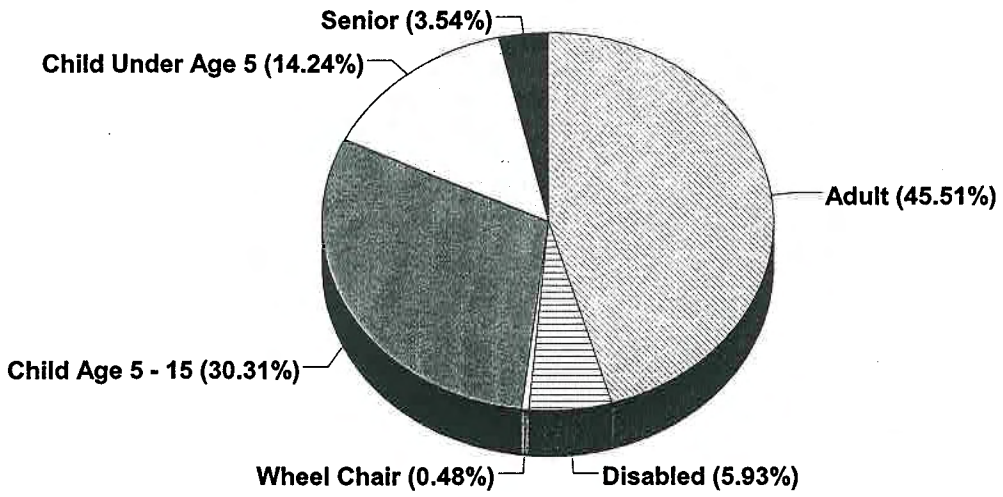


Figure 2

Passengers by Type



Ridership in 15 minute periods over a week in March is presented in Figure 3. This data is also presented in tabular form in Appendix A. As indicated, overall ridership is reasonably consistent over the course of the service day, with peaks occurring around 9:00 A.M., 3:00 P.M., and 5:00 P.M. The data for the week in April reflects the fact that this was Spring Break week for the Mammoth public schools, which reduced ridership. As a result, service levels were also reduced.

Service Levels

As also reflected in the tables in Appendix A, during school days, one van is typically in service from 7:00 A.M. through 5:00 P.M., while the second is in operation from 8:00 A.M. through 5:30 P.M. In total, approximately 19 vehicle-hours are operated over the course of a school day. On non-school days, vehicle-hours of service dropped to approximately 15 per day. While monthly capacity is to a degree a function of ridership patterns, experience with capacity problems when there was only one vehicle providing service indicates that the monthly capacity of the current service plan is approximately 2,000 passenger-trips per month.

Ridership Trip Origin and Destination

Existing trip patterns around the community are a very important consideration with regards to potential fixed route service. A review of passenger trip origins and destinations was conducted on ridership data for typical weeks of service over the first six months of service, using the zone system shown in Figure 4.

Figure 3

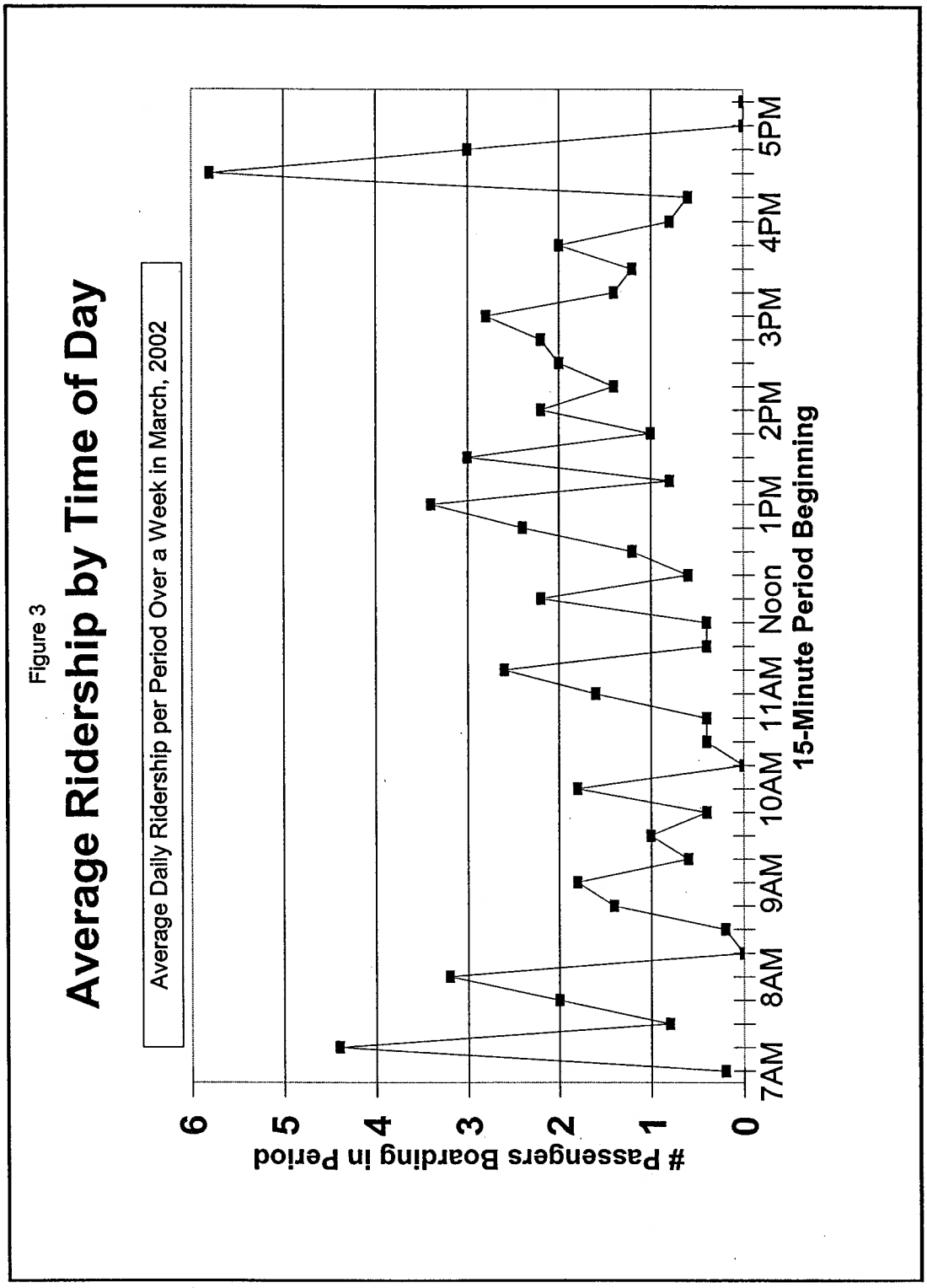
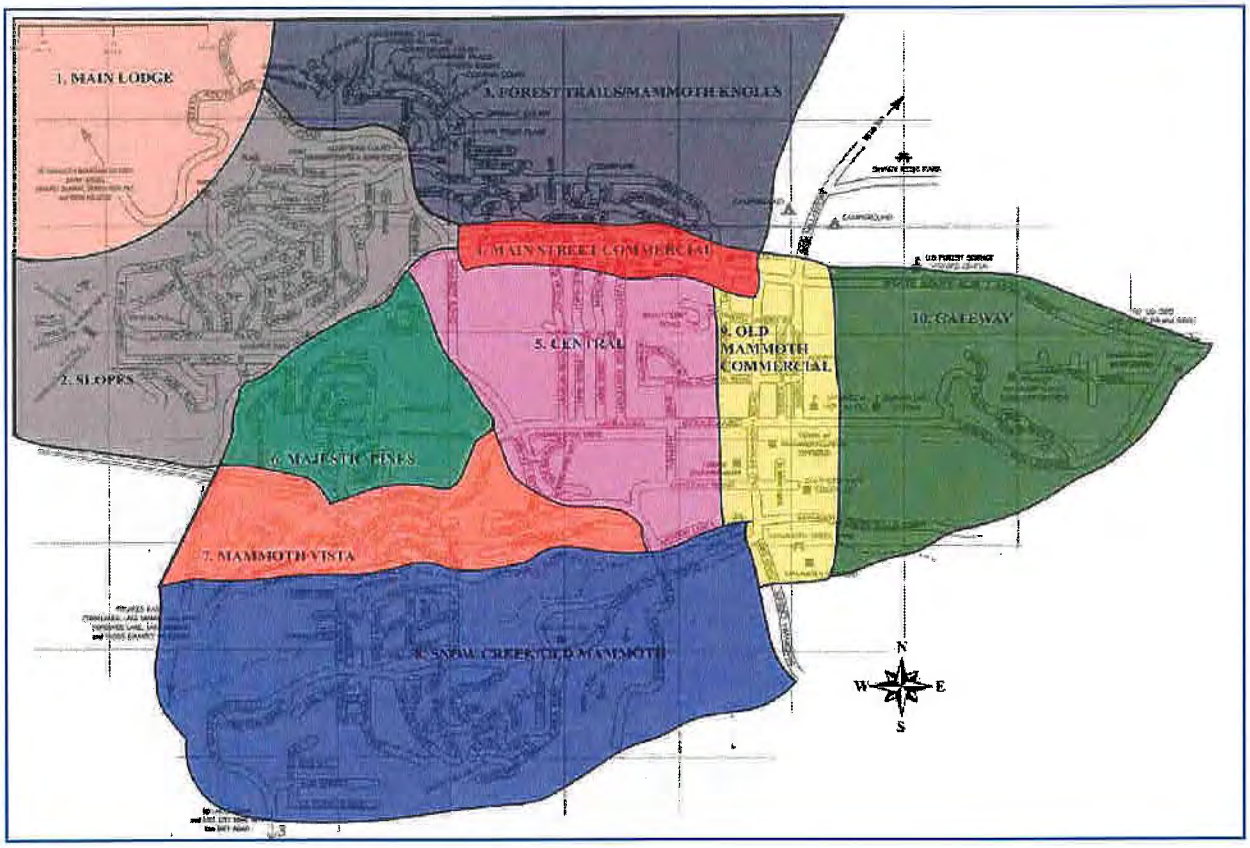

Average Ridership by Time of Day
Average Daily Ridership per Period Over a Week in March, 2002
Passengers Boarding in Period
0
1
2
3
4
5
6
7AM
8AM
9AM
10AM
11AM
Noon
1PM
2PM
3PM
4PM
5PM
15-Minute Period Beginning

Figure 4: Passenger Origin/Destination Zones



The number of passenger-trip origins and destinations are presented graphically in Figures 5 and 6, respectively. In total, this review indicates that the following proportion of all passenger activity occurs in each zone:

Zone 1: Main Lodge	0 percent
Zone 2: Slopes	10 percent
Zone 3: Forest Trail/Mammoth Knolls	0 percent
Zone 4: Main Street Commercial	25 percent
Zone 5: Central	5 percent
Zone 6: Majestic Pines	3 percent
Zone 7: Mammoth Vista	2 percent
Zone 8: Snowcreek/Old Mammoth	8 percent
Zone 9: Old Mammoth Commercial	38 percent
Zone 10: Gateway	7 percent

Figure 5

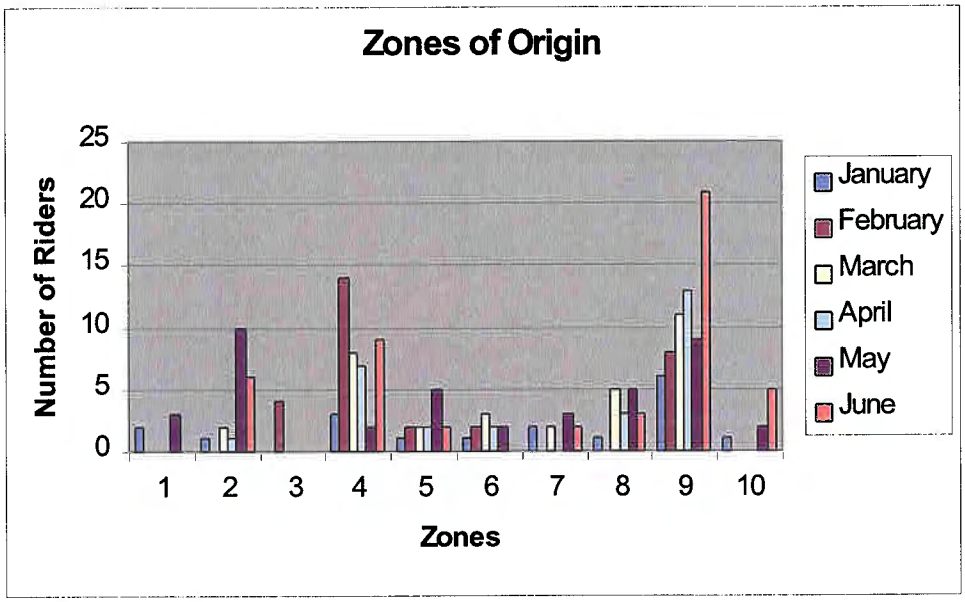
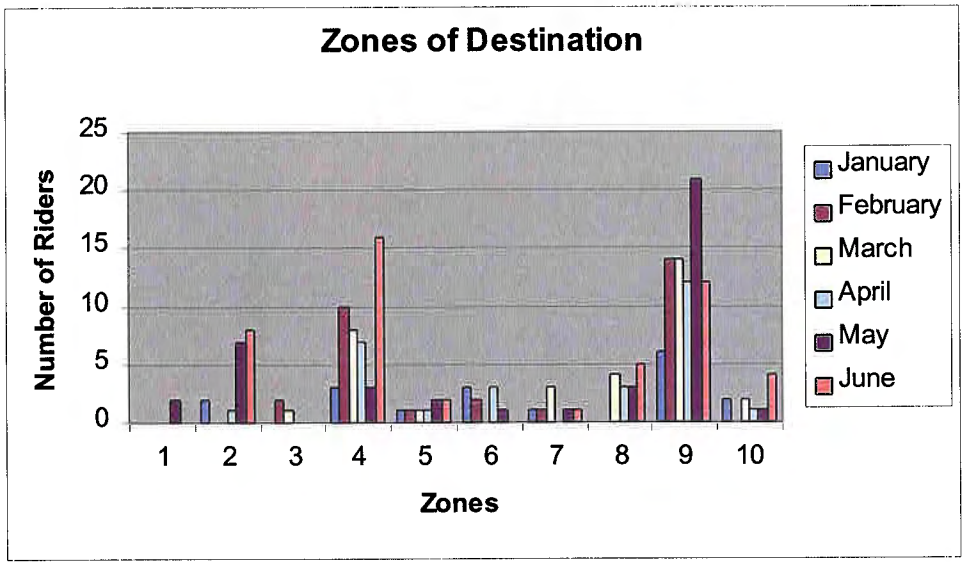


Figure 6



As indicated, the largest proportions of Dial-A-Ride trips were to/from the Main Street and Old Mammoth commercial districts (with 25 and 38 percent of all trips, respectively) followed by the Slopes area (10 percent). Snowcreek/Old Mammoth and Gateway generated 8 percent and 7 percent of the ridership, respectively, while the other five zones only generated 10 percent of the ridership in total.

Social Service Programs Currently Served by the Dial-A-Ride Service

A key element of existing Dial-A-Ride ridership is generated by social service programs (including schools). It is important to review this ridership, and to ensure that future services (including the fixed-route service) can serve the needs of these organizations and their attendees as much as possible.

Great Steps Ahead

Located at the intersection of Tavern and Sierra Park, this is a service for children under the age of three who require special care. The organization uses the service Mondays and Wednesdays, requiring service for an average of eight children a day. Service entails picking up either the care giver, or transporting the child from their house to Great Steps Ahead for a two-hour therapy appointment, after which they are returned. In total each child requires two full round trips. Service is needed between 9:00 A.M. and 3:00 P.M.

Community Connection for Children: Salvation Army

This service uses the transit program by purchasing a block of approximately 150 bus passes and about a half a dozen monthly passes each quarter, which are handed out to those in need on a case-by-case basis. They are distributed to persons looking for work, or needing temporary help with transportation for other purposes, such as shopping. The resulting trips are made at various times, to various locations.

Eastern Sierra Counseling and Recovery

Of all social service providers, clients of this organization are heavily dependent on Dial-A-Ride to get to various meetings and perform their daily chores. Clients live at a residence located at 71 Davison. Passengers are generally ambulatory, and could make good use of a fixed-route service, so long as it served the residence near Davison and Lake Mary. A survey of ridership from this location, conducted from June 24 to July 10, 2002, indicated an average of three rides per day. Of these trips, 89% could make use of a fixed route system that run from Davison and Lake Mary, along Main Street and Old Mammoth Road to Vons. Trips over the survey period were made throughout the day, with concentrations in the 8:00 A.M. and 3:00 P.M. hours.

IMACA Head Start

This is an educational program that operates during the school months only, for children between the ages of three and five. While in Bishop they have a contract to transport kids to the school, in Mammoth individuals book and pay for the service themselves. Children are required to have an adult ride the bus with them. The program operates between 7:45 A.M. and 2:30 P.M., providing both half-day and full day programs. A review of ridership logs indicates that only one or two passengers per week are served by Dial-a-Ride.

Mono County Alcohol & Drug

Mono County Alcohol and Drug provides counseling services for adults, who access the program once a week for appointments. Roughly three patients a week utilize the Dial-a-Ride service, paying the fare out of their pocket. This program is located in the Sierra Center Mall across from Vons; therefore this program could be serviced by a fixed route system that runs along Old Mammoth Road.

Husky Club at the Elementary School

The Husky Club is an after school care center for elementary school aged children. The Dial-a-Ride service picks the children up from this program at 4:30 P.M. and brings them to their place of residence. Six children ride the Dial-A-Ride service every day (Monday through Friday), with their parents paying for their passes.

Mammoth Elementary School

Mammoth Elementary School operates over the following schedule:

Kindergarten:	8:00 A.M. to 11:00 A.M., and 11:20 to 2:30
Grades 1-2:	8:00 A.M. to 1:30 P.M.
Grades 3-5:	8:00 A.M. to 2:30 P.M.

(In addition, the nearby Middle School and High School operate from 7:35 A.M. to 2:30 P.M.)

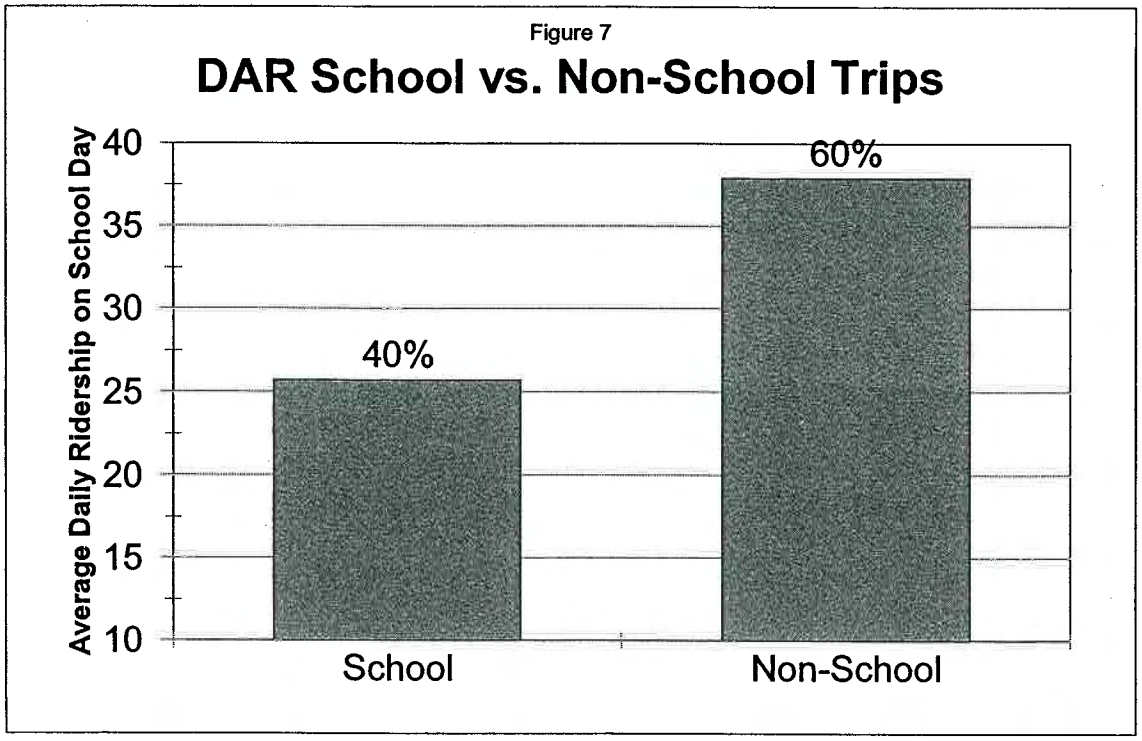
A review of ridership logs for the days of April 3, 5, 8, 9, 10, 11, and 12 indicates that the elementary school is a primary destination of Dial-a-ride vehicles. Trips to and from the school (including the Husky Club, as discussed above) comprise a full 40 percent of all Dial-A-Ride passenger-trips, on the survey days in which the school was in session.

Passenger-trips generated by the school over the study period occurred at the following times of day: As shown, there is substantial overall ridership from 7:00 A.M. through 5:00 P.M., with peaks occurring between 7:00 A.M. and 9:00 A.M., between 11:00 A.M. and 2:00 P.M., and between 4:00 P.M. and 5 P.M.

Time	From the School	To the School
7-8	0	19
8-9	3	23
9-10	0	6
10-11	0	10
11-12	25	2
12-1	0	1
1-2	23	0
2-3	7	6
3-4	10	2
4-5	41	2

Based upon this data, the proportion of total Dial-A-Ride ridership carried to and from Mammoth Elementary School can be identified. On a day in which school is in session, average one-way trips to and from the school is 26, while the total ridership is approximately 64 one-way trips. As shown in Figure 7, this indicates that trips to and from the elementary school consist of roughly 40 percent of all Dial-A-Ride passengers on a school day.

Figure 7



The School District provides bus service to serve all school bell times, operating along major roadways such as Main Street, Minaret Road, Meridian Boulevard, Canyon Drive, and Old Mammoth Road. Children living in the neighborhood along Joaquin Road, Lupin Street, Mono Street and Manzanita Way must walk out to either Meridian Boulevard or Main Street, which is reflected in the concentration of Dial-A-Ride pick-ups and drop-offs in the central portion of this neighborhood around the bell times.

Existing Costs

Inyo-Mono Transit has developed a budget for the Mammoth Lakes Dial-A-Ride program that budgets for the following costs:

- **Operational Costs** are budgeted at $125,890. This figure is based upon a total of 5,890 vehicle-hours of service, which includes the hours budgeted for the planned expansion to Saturday service. It is further based upon the need for two full-time driver and one part-time (4 hours per day) driver for the weekday Dial-A-Ride service, and the planned employment of an additional part-time driver for Saturday service. It also includes workers' compensation and unemployment insurance costs, driver training costs, driver and vehicle licensing/certification costs, vehicle and uniform costs, and insurance.

- **Administration Costs** are budgeted at $76,212. This figure includes 80 percent of the costs associated with the IMT dispatcher working out of Mono County's Mammoth Lakes offices (the other 20 percent is allocated to the Mono County services, based upon the estimated proportion of time that will be expended on each of these two programs). In addition, the Mammoth Lakes Dial-A-Ride program is allocated 19 percent of IMT's overall administrative costs, based upon the proportion of Mammoth Lakes operational costs to total IMT operational costs.

In total, the Mammoth Lakes Dial-A-Ride is budgeted to cost $202,102 in Fiscal Year 2002-03. A reasonable conservative estimate, based upon existing ridership levels and trends and the plan to expand to Saturday service, is that the service will carry at least 16,000 passengers over the coming year. This reflects a subsidy per passenger-trip of roughly $12.60. Dividing the planned vehicle-hours of service by this rough forecast of ridership indicates that the service will carry on the order of 2.7 passenger-trips per vehicle-hour of service.

Chapter 3
Analysis of Service Alternatives and Recommended Initial Plan

Mammoth Lakes Demographics

A good basis for any transit or transportation plan is a review of the demographic characteristics of the service area. In particular, an evaluation of a shift in transit services from a demand-response service (which is particularly beneficial for elderly and disabled persons) to a fixed-route service (which is particularly beneficial for low-income households without easy access to a private automobile) warrants a review of elderly and disabled characteristics.

Table 2 presents a comparison of demographic characteristics of Mammoth Lakes residents with the characteristics of Mono County as a whole, Inyo County, the State of California, the Western U.S. states, and the nation as a whole. This comparison of U.S. Census figures yields the following findings:

- With an elderly (age 60 and above) population of 217 (comprising only 3.1 percent of total Town-wide population), Mammoth Lake's population has a substantially lower elderly proportion than the other areas.

- Similarly, Mammoth Lake's 42 mobility limited residents comprise 0.6 percent of total population. In comparison, this figure is 2.8 percent for the state as a whole, and 3.2 percent for the nation as a whole.

- In comparison, Mammoth Lake's low income population is closer to the proportions found in other areas. Of total Town population, 599 or 8.4 percent of residents live in households below the poverty level. In comparison, the figure is 9.7 percent for Mono County as a whole, 12.2 percent for the state, and 12.8 percent for the nation.

This review indicates that there is not as much need to focus on elderly and disabled transportation in Mammoth Lakes as there is in other portions of the state or the country.

Requirements of the Americans With Disabilities Act

In developing transit options and plans, it is also worthwhile to review the requirements that the Americans with Disabilities Act (ADA) places on public transit services. The ADA is a comprehensive piece of civil rights legislation, administered by the US Department of Justice, that prohibits discrimination and ensures equal opportunity for persons with disabilities in employment, State and local government services, public accommodations, commercial facilities, and transportation.

TABLE 2: Town of Mammoth Lakes 2000 U.S. Census Demographic Comparison

	Total		Elderly Persons (Aged 60 and Over)		Mobility Limited Persons (1,2)		Persons Below Poverty Status (1)	
Location	Population	Households	#	%	#	%	#	%
Nation	281,421,906	105,480,101	26,250,948	9.3%	9,125,256	3.2%	35,917,904	12.8%
Western Region	63,197,932	22,444,733	5,110,120	8.1%	1,713,357	2.7%	7,772,735	12.3%
State of California	33,871,648	11,502,870	2,682,520	7.9%	963,796	2.8%	4,128,770	12.2%
Inyo County	17,945	7,703	2,368	13.2%	453	2.5%	2,089	11.6%
Mono County	12,853	5,137	694	5.4%	120	0.9%	1,248	9.7%
Town of Mammoth Lakes	7,093	2,814	217	3.1%	42	0.6%	599	8.4%

Note 1: 2000 U.S. Census figures are currently only available for population, age and household characteristics. Thus, 1990 U.S. Census percentages for mobility-limited and poverty status applied to 2000 data.

Note 2: Mobility Limited figures include persons over the age of 16.

Source: 1990 and 2000 U.S. Census Bureau.

As required by the ADA, fixed-route services must be accompanied by "complementary paratransit" (demand response) service to provide equal access to transportation service to those persons unable to access or use the fixed-route service. This service must be offered during the same service hours and days as the fixed-route service, and it must accommodate all trip requests made from one day in advance up to 14 days in advance. The minimum service area is a 3/4 mile area around each fixed-route. It must be available to all persons (residents and visitors) traveling within this service corridor who are identified as "ADA eligible" due to disability. Note that the ADA does not require service to be provided to others (such as Seniors) who do not have an ADA eligible disability.

All vehicles used for public transportation must be accessible to persons with transportation disabilities. Accessibility features include accommodations for boarding and securing wheelchairs, discernible interior colors, legible interior and exterior information signs, and public address systems. In addition, all marketing materials (schedules, maps, etc.) must indicate the availability of complementary paratransit services, and provide a phone number for reservations. TTY/TTD service must also be provided to provide phone access by the deaf.

Transit Cost Equation

Before service alternatives can be evaluated, it is necessary to develop a "cost equation" to be used to forecast operating costs. The costs associated with the Mammoth transit program, assuming that Inyo-Mono Transit would operate a fixed-route service, can be estimated by developing a cost allocation equation. This equation was developed based on the following:

- ❑ The existing IMT budget for the Mammoth Lake Dial-A-Ride service was reviewed to identify estimated FY 2002-03 costs in various categories.

- FY 2002 mileage related costs per mile can be estimated by dividing the vehicle costs ($15,750) by the estimated total vehicle mileage (30,000).

- Subtracting these vehicle costs from the total operating costs ($125,890) identifies the operational costs that would vary by vehicle-hour of service ($110,140). Dividing by the estimated annual vehicle-hours of service yields the hour-related operating cost per hour.

- An additional $1,500 in operational costs is included to reflect additional insurance costs associated with fixed-route service.

- Administration costs are comprised of two elements. One element – $30,000 estimated for the Mammoth IMT dispatcher position – would not vary with service level. The remainder of FY 2002-03 administrative costs – $46,212 – is a function of total operational costs, as these costs are estimated based upon the proportion of Mammoth operational costs to total IMT operational costs. Dividing this cost by the total operating cost (and adding 1) yields a factor that can be used to reflect this variable administrative costs.

- All cost factors (other than the additional insurance costs) were then increased by 3 percent for inflation, to yield an estimated FY 2002-03 cost equation.

The resulting cost equation for the Mammoth transit program, including fixed-route service, is as follows:

Annual Total Cost = $30,900 +
1.408 X ($19.26 X Annual Vehicle-Hours +
$0.541 X Annual Vehicle-Miles + $1,500)

The fixed costs (dispatcher and insurance) would not change by relatively minor modifications in the fixed route service plan (such as evening or weekend service). For these alternatives, the cost equation would be

Annual Total Cost = 1.408 X ($19.26 X Annual Vehicle-Hours +
$0.541 X Annual Vehicle-Miles)

Recommended Fixed Route Fares

For all of the various fixed-route alternatives, the following fare schedule is assumed and recommended:

One-Way General Public (Age 16 to 60) Fare	$1.00
Senior (Over 60), Child (Age 5 to 15), Disabled Fare	$0.50
Children Under Age 5, With Adult Only	Free
Ten-ride Punch Pass (Adult)	$9.00
Ten-ride Punch Pass (Senior/Child/Disabled)	$4.50
Monthly Pass (Adult)	$40.00
Monthly Pass (Senior/Child/Disabled)	$20.00

In addition, passes sold for Dial-A-Ride service would be honored on the fixed-route services, though at no discount.

Another option would be to provide the fixed-route services at no fare to the passenger. This would require that a funding source other than the Transportation Development Act funds be found to cover at least 10 percent of the costs of the program, as the TDA requires a minimum 10 percent non-TDA revenues. Experience in other communities indicates that ridership on a free system would boost ridership levels over that of a fare system on the order of 50 percent. However, the loss in farebox revenue could well limit the ability of the Town to expand the scope of transit services. Other communities, moreover, have found that a free transit service can lead to misuse of the service, such as "joy riding" by youths.

Service Alternatives

A wide range of potential service alternatives has been developed for fixed-route service options. The alternatives discussed below incorporate the following assumptions:

- IMT will provide the services, and no additional administrative staff will be required over and above the Mammoth dispatcher already assumed in the budget.

- The Dial-A-Ride program will be scaled back from two vehicles to one vehicle. To a degree, the resulting reduction in the number of passengers that can be served with the Dial-A-Ride will be addressed by passengers choosing to shift to the fixed-route service. In addition, as capacity of the Dial-A-Ride program to handle the peaks in passenger demand will be limited, it will probably not be possible to serve some existing passengers as conveniently as is now possible during peak times (such as when trips to and from the Elementary School peak). To evaluate this impact, the data regrading average daily ridership per day in 15 minute increments was reviewed (as depicted in Figure 3, above). Considering the number of "group" trips and the size of the service area, a reasonable maximum capacity of a single Dial-A-Ride van would be 2 passengers per 15-minute period. Adding all ridership above this capacity, and assuming that 40 percent would shift to fixed-route service, approximately 7 existing passenger-trips would not be served by either the Dial-A-Ride or the fixed route service.

- Mammoth Mountain Ski Area will continue to run free winter daytime and evening services.

- At least in the near term, it is realistic to assume that only one vehicle can be funded for the fixed route service.

A recommended schedule for the new fixed route service is shown in Table 3. This schedule provides easily-remembered departures from North Village at the top and bottom of the hour, and also provides students at the schools with time to walk to and from the bus stop both before and after the school bell times.

TABLE 3: Recommended Fixed Route Schedule		
	Minutes Past the Hour	
Depart North Village Transit Center	:00	:34
Village Center	:03	:33
Gateway Center	:04	:34
Rodeway Inn	:05	:35
Sierra Center Mall	:06	:26
Mammoth Creek Park	:07	:37
Minaret Village Mall	:08	:38
Cerro Coso College	:10	:40
Elementery School	:11	:41
High School/Middle School	:12	:42
Mammoth Hospital/Medical Center	:13	:43
Main/Old Mammoth	:14	:44
Motel 6 / Post Office	:15	:45
Main/Minaret	:16	:46
Arrive North Village Transit Center	:17	:47
Layover / Assist DAR Service	:20 to :30	:50 to :00

- ❑ Depart the North Village Transit Center via Canyon, Hillside, Forest Trail, and Minaret southbound.
- ❑ East on Main Street and south on Old Mammoth Road to a turnaround at Mammoth Creek Park.
- ❑ North on Old Mammoth Road and east on Meridian Boulevard to a turnaround at Cerro Coso College.
- ❑ West on Meridian Boulevard with a stop at the Elementary School.
- ❑ North on Sierra Park Road with stops at the High School and Hospital, then return south on Sierra Park Road.
- ❑ West on Meridian Boulevard and north on Old Mammoth Road.
- ❑ West on Main Street and north on Canyon Blvd. to the transit center.

The route is designed to provide two-way service along both Main Street from Minaret to Old Mammoth, and along Old Mammoth from Main to Meridian.

The schedule is designed to avoid needing to stop the bus in mid-route when traffic and passenger activity is light. In other times, the route would operate a few minutes behind this schedule. Before the schedule is finalized, it should be adjusted to reflect a survey of actual running times, as well as to reflect any scheduled times (such as school bell times).

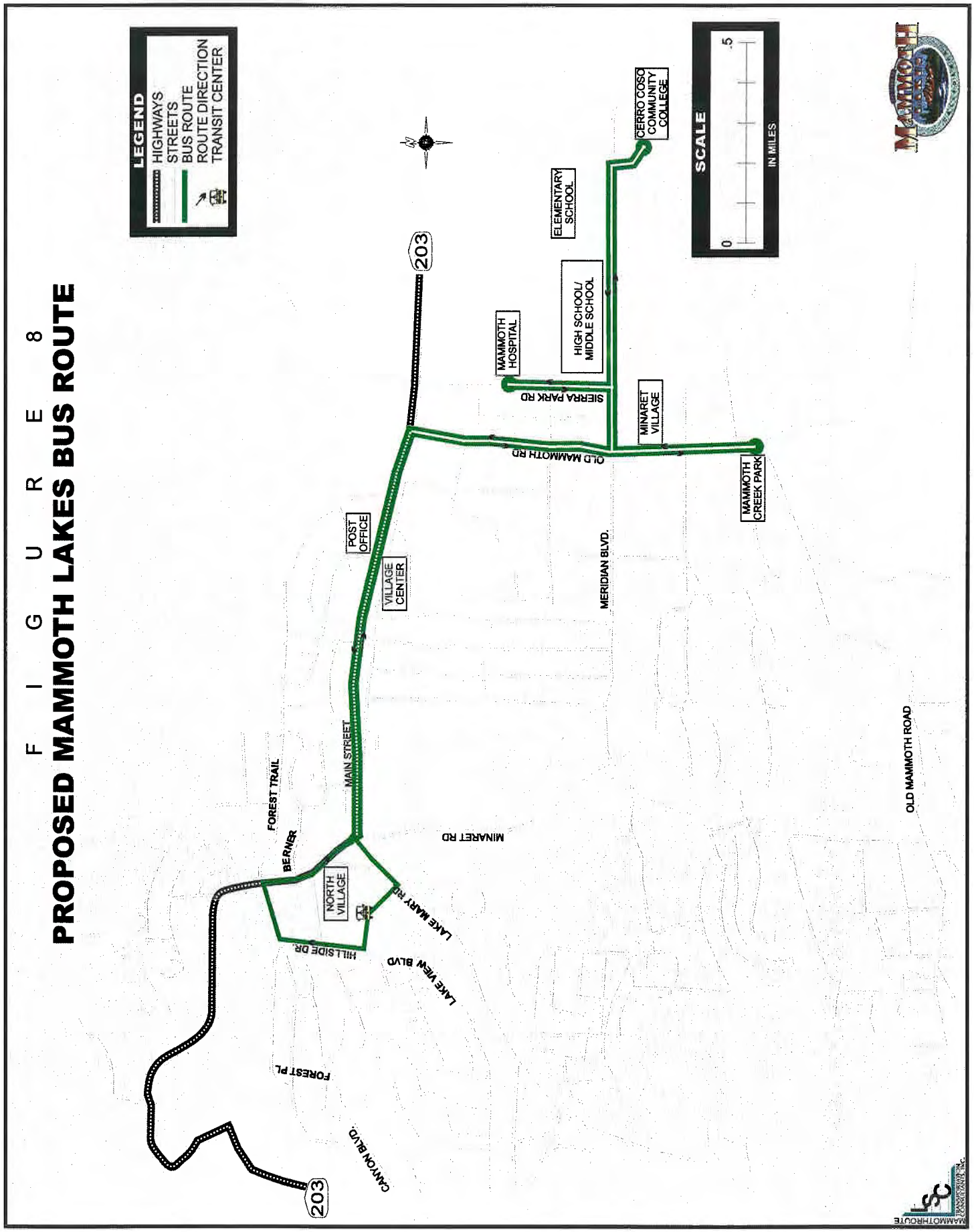


FIGURE 8
PROPOSED MAMMOTH LAKES BUS ROUTE
LEGEND
HIGHWAYS
STREETS
BUS ROUTE
ROUTE DIRECTION
TRANSIT CENTER
SCALE
0
.5
IN MILES
CERRO COSO COMMUNITY COLLEGE
ELEMENTARY SCHOOL
HIGH SCHOOL/ MIDDLE SCHOOL
MAMMOTH HOSPITAL
MINARET VILLAGE
MAMMOTH CREEK PARK
SIERRA PARK RD
OLD MAMMOTH RD
MERIDIAN BLVD.
OLD MAMMOTH ROAD
POST OFFICE
VILLAGE CENTER
MAIN STREET
MINARET RD
FOREST TRAIL
BERNER
NORTH VILLAGE
HILLSIDE DR.
LAKE MARY RD
LAKE VIEW BLVD
FOREST PL
CANYON BLVD.
203
203

As shown, the schedule allows approximately 10 minutes of layover time per half-hour period. This time could potentially be used to assist the Dial-A-Ride program, so long as the van is able to return to the North Village Transit Center in time to start the route on schedule. For instance, if the fixed route vehicle picks up school children at the school at the end of the day, these 10 minutes could be used to drop them at their door. At other times, the Dial-A-Ride dispatcher could assign the fixed route van to pick up and drop off passengers located near North Village. In this way, the Dial-A-Ride and fixed route services could work together to maximize mobility in the community.

The proposed route, of course, would not serve all of the residential neighborhoods in Mammoth Lakes. This is proposed as part of the initial service, for several reasons:

- The route serves the large majority of the community's lodging, commercial, and institutional activity centers.

- The route serves the large majority (roughly 75 percent) of the areas that generate passenger boardings and deboarding on the existing Dial-A-Ride system, which is the single best indicator of the need for local transit service.

- To extend the route into other residential areas, with the single vehicle that is available under current funding levels, would eliminate the ability to provide 30-minute service. As consistent service times are a key element in providing a convenient service, this would effectively reduce service to once every 60 minutes, which would in turn substantially reduce the convenience of service in the key corridors. On balance, it is strongly recommended that the service area be limited to allow 30 minute headway service.

It should also be considered that this limited initial service is only a first step toward a larger, community-wide year-round service. As ridership and Transient Occupancy Tax revenues grow, it will be financially feasible to expand services to additional areas of the community.

As shown in Table 4, the alternatives have been developed and analyzed.

- Spring / Summer / Fall Weekday Fixed-Route Service – This service element would be the core of the fixed route service plan. It would operate in parallel with the Dial-A-Ride service, from 7:00 A.M. through 6:00 P.M., except that it would not operate on Saturdays (as the Dial-A-Ride is planned to do) or when the MMSA winter services are operating.

- Summer Saturday Daytime Fixed-Route Service – This option would extend the fixed-route service period to include service from 7:00 A.M. through 6:00 P.M. on Saturdays in the summer (mid-June through Labor Day weekend). Provision of this service would allow the Dial-A-Ride program to be reduced to a single vehicle operating over this period.

TABLE 4: Mammoth Lakes Community Fixed RouteTransit Alternatives Ridership and Cost Analysis

	No Fixed Route Service	Total Mammoth Program With Spring / Summer / Fall Weekday FR Service	Marginal Impact of Additional Fixed-Route Services on Total Mammoth Transit Program: Summer Saturday Daytime Service	Summer Sunday Daytime Service	Summer Evening Service (7 Days/Week)	Spring / Fall Weekday Evening Service	Spring / Fall Saturday Service	Spring / Fall Sunday Service	Winter Daytime Service (7 Days/Week)	
DIAL-A-RIDE SERVICE										
Annual Operating Days	302	302	11	11	--	--	11	11	17	
Daily Vehicle-Hours	19.5	11.5/19.5 (1)	-8	11.5	--	--	-8	11.5	3.5	(2)
Annual Vehicle-Hours of Service	5,890	4,658	-88	126.5	--	--	-88	126.5	60	
Annual Vehicle-Miles of Service	30,000	23,700	-400	600	--	--	-400	600	300	
Annual Ridership	16,000	11,443	(140)	330	--	--	(170)	290	460	
Estimated Farebox Revenue	$20,000	$14,300	($175)	$410	--	--	($212)	$360	$580	
FIXED ROUTE SERVICE										
Days / Week of Service	--	M - F	Sa	Su	Su – Sa	M - F	Sa	Su	Su - Sa	
Annual Operating Days	--	154	11	11	75	79	24	24	120	
Hours of Service										
Time Service Starts	--	07:00 AM	07:00 AM	07:00 AM	05:30 PM	05:30 PM	07:00 AM	07:00 AM	07:00 AM	
Time Service Ends	--	05:30 PM	05:30 PM	05:30 PM	10:00 PM	10:00 PM	05:30 PM	05:30 PM	05:30 PM	
Daily Vehicle-Hours	--	11	11	11	4.5	4.5	11	11	11	
Annual Vehicle-Hours of Service	--	1,771	127	127	375	395	276	276	1,380	
Annual Vehicle-Miles of Service	--	21,252	1,518	1,518	4,500	4,740	3,312	3,312	16,560	
Ridership										
Average Day	--	80	64	61	29	16	35	24	40	
Annual	--	12,320	704	669	2,160	1,274	836	585	4,800	
Annual Farebox Revenue		$8,600	$500	$500	$1,500	$900	$600	$400	$3,400	
TOTAL SERVICE										
Total # of Vehicles In Operation (3)	2	2	0	0	0	0	0	0	0	
Annual Vehicle-Hours of Service	5,890	6,429	39	253	375	395	188	403	1,440	
Annual Vehicle-Miles of Service	30,000	44,952	1,118	2,118	4,500	4,740	2,912	3,912	16,860	
Estimated Annual Cost	$209,600	$237,100	$1,900	$8,300	$13,300	$14,000	$7,200	$13,600	$50,800	
Annual Ridership	16,000	23,763	564	999	2,160	1,274	666	875	5,260	
Annual Farebox Revenue	$20,000	$22,900	$325	$910	$1,500	$900	$388	$760	$3,980	
Annual Subsidy Required	$189,600	$214,200	$1,575	$7,390	$11,800	$13,100	$6,812	$12,840	$46,820	
Impact of Alternative										
Vehicle-Hours of Service	--	539	39	253	375	395	188	403	1,440	
Ridership	--	7,763	564	999	2,160	1,274	666	875	5,260	
Subsidy Required	--	$24,600	$1,575	$7,390	$11,800	$13,100	$6,812	$12,840	$46,820	
Alternative Performance										
Marginal Trips per Marginal Veh-hour	2.72	14.40	14.65	3.95	5.76	3.23	3.54	2.17	3.65	
Marginal Subsidy per Marginal Trip	$11.85	$3.17	$2.79	$7.40	$5.46	$10.28	$10.24	$14.68	$8.90	

Note 1: 11.5 vehicle-hours on days that fixed-route service is provided, 19.5 vehicle-hours on other days Dial-A-Ride service is provided.

Note 2: Net impact of reducing Saturday service by 8 vehicle-hours per day, but increasing Sunday service by 11.5 hours per day.

Note 3: Excluding backup vehicles needed to accommodate repairs and scheduled maintenance, which are assumed to be provided by IMT.

- Summer Sunday Daytime Fixed-Route Service – This option would provide fixed-route service on summer Sundays from 7:00 A.M. through 6:00 P.M., with an important distinction from the previous alternatives. Specifically, the Americans with Disabilities Act (ADA) requires that "complementary paratransit service" (i.e., Dial-A-Ride service) be available to all ADA-eligible residents and visitors within a 3/4 mile distance of a local fixed route, except if the scheduled service is offered on a route deviation basis. It is expected that the demand for Dial-A-Ride service on a summer Sunday would be sufficient that deviating the fixed-route vehicle to serve the required deviations would not be operationally feasible. Therefore, one Dial-A-Ride van would also need to be operated on summer Sundays, with fares and service criteria consistent with the existing weekday Dial-A-Ride service. As the schools and social service programs are not operating on a summer Sunday, demand for this service (ADA eligible and otherwise) could be accommodated with only one vehicle operating over the service day.

- Summer Evening Service (7 Days a Week) – Under this option, the summer fixed-route service period would be extended until 10:00 P.M. at night. Given the pattern of activity in Mammoth Lakes in the summer (with more visitors in the area on weekends), evening service every day of the week is the only reasonable alternative. Experience in other resort communities (such as Aspen and Tahoe) indicates that the demand for transit service falls off substantially after 10:00 P.M., and is not cost-effective to serve. Rather than operating a separate Dial-A-Ride van, this service should be operated as a "route deviation service," deviating up to 3/4 of a mile to provide door-to-door service for ADA-eligible passengers only. The level of demand for this limited passenger clientele is expected to be sufficiently small that the scheduled service can operate on schedule without incurring the need for the additional Dial-A-Ride van. The availability of this service for ADA-eligible passengers would need to be clearly identified on schedules and other marketing materials.

- Spring / Fall Weekday Evening Service – In the Spring and Fall off-seasons, it is reasonable to only consider evening service during the work week. As with the previous alternative, this service would be operated from 6:00 P.M. until 10:00 P.M., as a route-deviation service.

- Spring / Fall Saturday Service – This option would provide Saturday service on the 24 Saturdays per year in the Spring and Fall, from 7:00 A.M. through 6:00 P.M. As with the Summer Saturday service, it would allow the Dial-A-Ride program to be reduced to a single vehicle.

- Spring / Fall Sunday Service – This option would provide Saturday service on the 24 Saturdays per year in the Spring and Fall, from 7:00 A.M. through 6:00 P.M. A single Dial-A-Ride vehicle would also be required to provide complementary paratransit service.

- Winter Daytime Service (7 Days a Week) – This option would extend the Spring / Summer / Fall service discussed above to year-round service. Due to the high potential demand for Saturday and Sunday fixed-route service, this option would

also include service on these days as well as weekdays. Initiating this service would allow Saturday Dial-A-Ride service to be reduced to a single vehicle, but would also require that Dial-A-Ride service be provided on Sundays using a single vehicle, in order to provide ADA complementary paratransit service. This service would be operating concurrently with the MMSA free skier transit services, which would attract some of the potential ridership from the fare Town transit service. As a result, ridership on this service would be relatively low. However, it may be worthwhile to provide this service if the fixed route service in the other season attracts a ridership base that cannot be well served by the MMSA services (such as school children), and if available funding allows.

A key service and financial factor in developing plans for a fixed-route service is the proportion of existing Dial-A-Ride ridership that would shift over to use of the fixed route service. Town staff has invested considerable time in reviewing ridership data, riding the service, and interviewing IMT staff and passengers to evaluate this shift in transit use. It is conservatively estimated based upon this review that 40 percent of Dial-A-Ride ridership would shift to the fixed-route service described above, during the period in which the fixed route service is in operation.

Based upon this estimate, the cost equation discussed above, and the characteristics of the various service alternatives, Table 4 presents the analysis of potential costs and ridership of each alternative. This analysis is conducted for Fiscal Year 2003-04 conditions. As shown in the second column of this table, the "no change" alternative of continued Dial-A-Ride service (including service on Saturdays) would require a subsidy of approximately $189,600 per year.

Due to the specific manner in which costs for Mammoth Lakes services are estimated by IMT, as well as to reflect the impact that the fixed route options have on the need for Dial-A-Ride service, it is necessary to estimate impacts of the "base case" fixed route service (weekday Spring / Summer / Fall service) for the Town's service as a whole (both fixed route and Dial-A-Ride). This ensures that the fixed costs associated with fixed-route service are properly calculated. As shown, providing this base fixed-route service would increase the subsidy requirements of the Mammoth Lakes transit program to $214,200, or a $24,600 increase over no-change Dial-A-Ride subsidy requirements. While the number of vehicles in operation would not change, the fact that the second vehicle would operate Total ridership (including both new fixed-route ridership as well as the reduction in Dial-A-Ride ridership) is forecast to increase by 7,763 passenger-trips per year, equivalent to a 49 percent increase over expected no-change Dial-A-Ride ridership.

The other fixed-route alternatives can be evaluated in terms of marginal impact on the base-case fixed-route alternative. As shown, the impact of these additional alternatives ranges from a low of $1,575 for the Summer Saturday Daytime Service, to a high of $46,820 for the Winter Daytime Service. Ridership impact is forecast to range from a low of 564 passenger-trips for Summer Saturday Daytime Service, to a high of 5,260 for Winter Daytime Service. These cost and ridership figures include consideration of impact on Dial-A-Ride figures, and also are impacted by the days per year each

alternative would operate. Figure 9 presents a graph of estimated ridership for the various alternatives.

The bottom portion of Table 4 presents a performance analysis of the various service alternatives, as measured in two important indicators:

- The effectiveness of the various alternatives can be measured in units of **passenger-trips per vehicle-hour**. As also shown in Figure 10, the Summer Saturday Daytime Service and the Spring / Summer / Fall Weekday Service are substantially more effective than the other alternatives, at a marginal ridership per marginal vehicle-hour of 14.65 and 14.40, respectively. At the other extreme, Spring / Fall Sunday Service would be relatively ineffective, followed by Winter Daytime Service. It should be noted that these figures include the impact of the various alternatives on ridership and vehicle-hours of the Dial-A-Ride service.

- The financial efficiency of the various alternatives is measured in units of **subsidy per passenger-trip**. This is probably the most important single performance indicator, as it directly relates the key service "input" (public funding) with the key service "output" (ridership). Of course, a lower figure (lower subsidy per passenger) reflects a more efficient alternative than a higher figure. As also shown in Figure 11, the Summer Saturday Daytime Service and the Spring / Summer / Fall Weekday Service alternatives are the most efficient, at $2.79 and $3.17 of public subsidy per passenger-trip, respectively. At the other extreme, the least efficient of the alternatives are the Spring / Fall Sunday Service, the Spring / Fall Saturday Service, and the Winter Daytime Service alternatives.

Figure 12 provides a simple comparison of the relative effectiveness of fixed-route service in Mammoth Lakes versus that of demand-response service. Considering only the hourly ridership on the Spring/Summer/Fall weekday fixed-route service versus that of the "no-change" Dial-A-Ride service, conversion of the second Dial-A-Ride van from demand-response to fixed-route operation would increase the number of passengers carried per hour from 2.7 to 7.0 – a 150 percent increase in effectiveness.

Recommended Transit Plan

Based upon the results of the service alternatives analysis presented above, the goals for the Town's transit program, and discussions with Town staff, the following transit plan is recommended.

Service Plan

Fixed route service should be initiated on weekdays in the Spring and Fall from 7:00 A.M. to 5:30 P.M., and 7 days a week 7:00 A.M. to 10:00 P.M. in Summer, following the route and schedule presented above. At least initially, fixed-route service should not be provided in the winter when MMSA is operating free daytime and evening services. Instead, in the winter the existing two Dial-A-Ride vehicles should operate the full 19.5 vehicle-hours of service per day. While it would be good from the perspective of providing a consistent service to also operate the fixed-route service in the winter,

Figure 9

Annual Ridership by Alternative

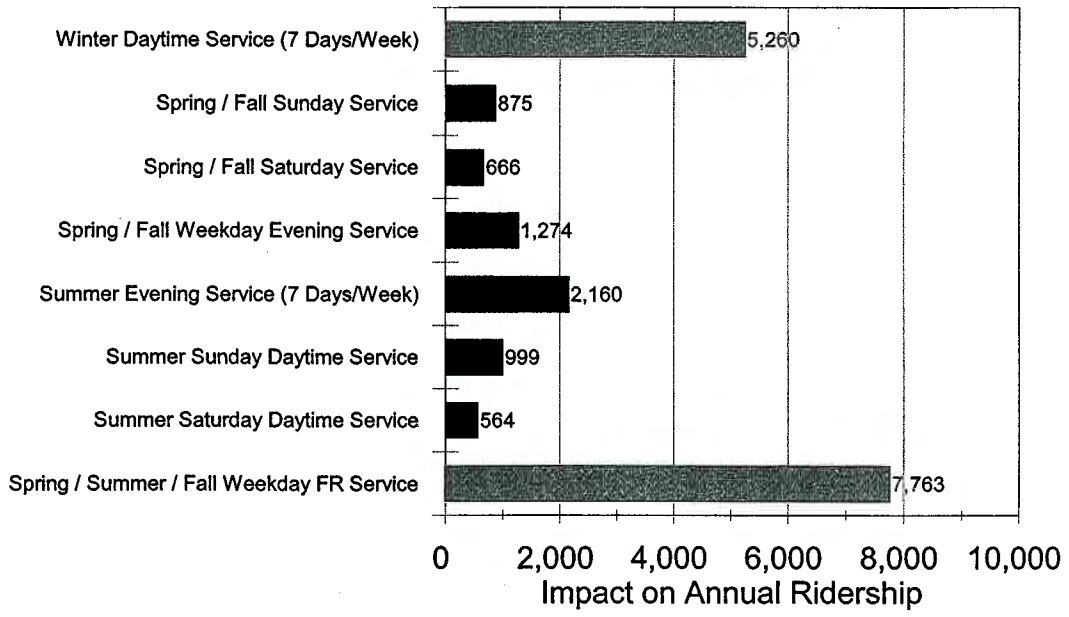


Figure 10

Marginal Passengers per Vehicle-Hour

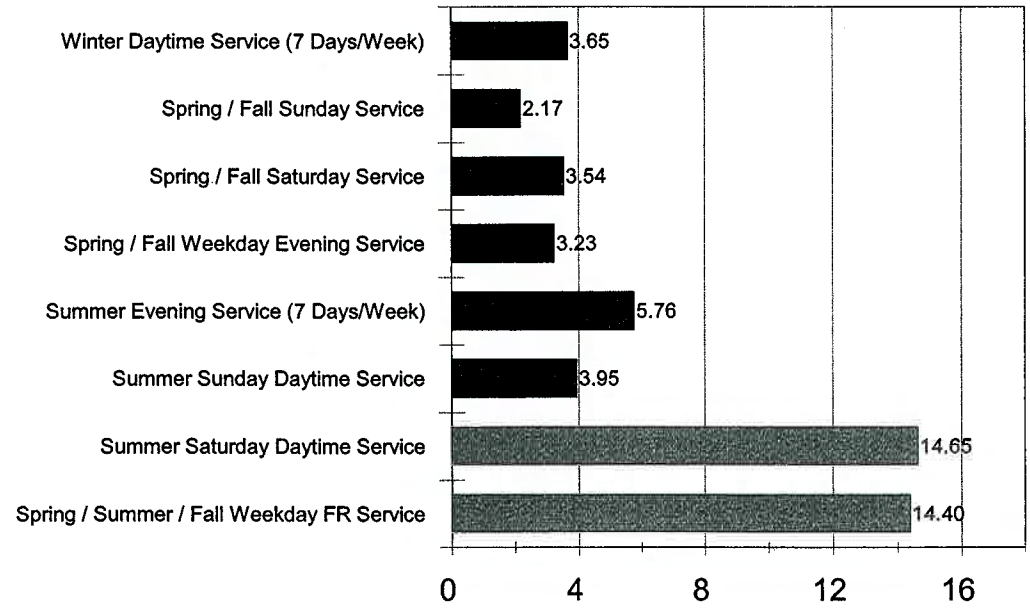


Figure 11

Alternative Subsidy Per Passenger

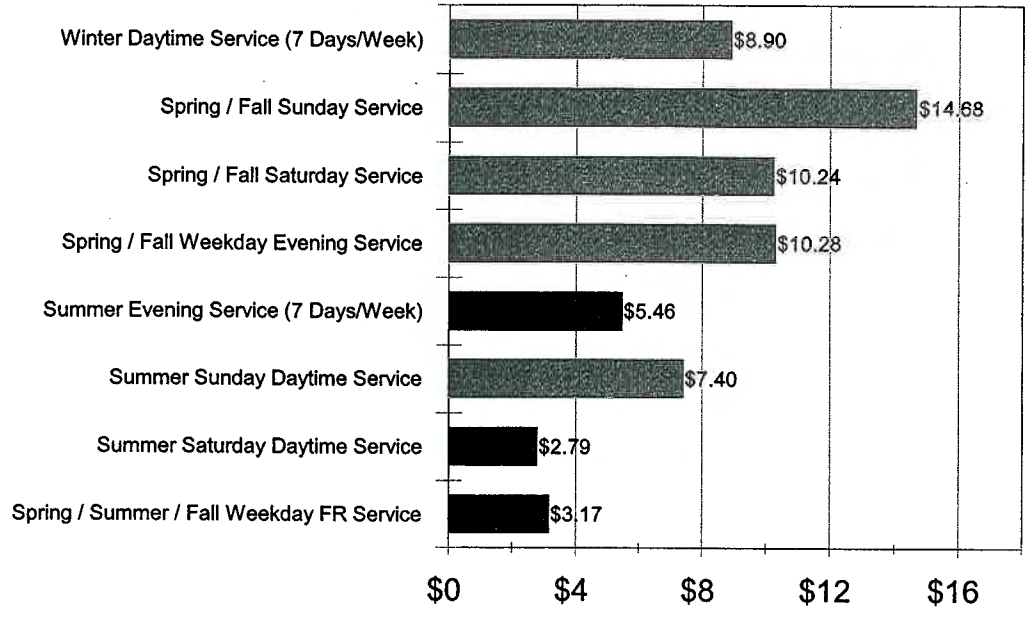
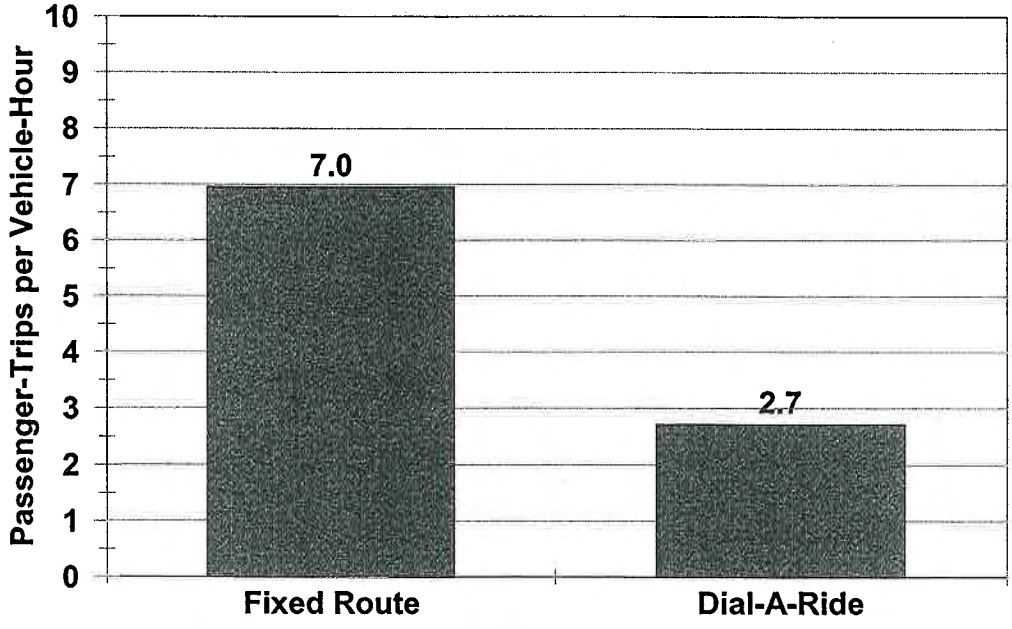


Figure 12

Passengers Served per Vehicle-Hour



ridership on this service would be relatively low (as it would be effectively competing against the free MMSA services), and the roughly $47,000 in annual subsidy that would be required to operated fixed-route service in the winter can be better spent on providing service in other seasons.

Capital Plan

At least initially, service should be operated using IMT cutaway vans, rather than a rubber-tired trolley vehicle. As a larger vehicle, it would be difficult for a trolley vehicle to deviate from a set fixed route, as recommended in the service plan to assist the Dial-A-Ride program and to provide ADA deviations during the summer evening service. A quality trolley vehicle providing a comfortable and quiet ride for the passengers is also substantially more expensive than a cutaway van (on the order of $240,000 versus $70,000). Instead, IMT vehicles should be provided with distinctive signage and/or paint, indicating use on a general public scheduled local shuttle service. After the fixed route service has proven to be successful for a year or two, the question of a rubber-tired trolley vehicle could be revisited. This new vehicle could be used to augment service (such as to provide transit service to the Lakes Basin), rather than to replace the cutaway van.

In addition, bus stop signs will need to be installed at all fixed-route stops for the new service. Capital funding will also be needed for signs and/or repainting of an IMT vehicle.

Institutional Plan

In order for the Town of Mammoth Lakes to be a qualified applicant for future grant applications, it will be important for the Town to become the direct applicant for Transportation Development Act funding. Rather than IMT requesting and receiving TDA funds directly from the Mono County Transportation Commission, the Town should request and receive these funds, and then contract with IMT to expend the funds on the provision of transit services. This will ensure that the Town is considered the operator of the transit service, which happens to be provided through an independent service contract (in this case, IMT). Town staff will be responsible for preparing funding requests, with input from and coordination with IMT staff. As part of this arrangement, IMT will be required to provide simple monthly monitoring reports to the Town, presenting the following information:

- ❑ Total fixed route ridership by day, and Dial-A-Ride ridership by day.
- ❑ Daily vehicle-hours and vehicle-miles of service, for fixed-route and for Dial-A-Ride service.
- ❑ Farebox revenues by service.
- ❑ Daily number of service refusals on demand response services.
- ❑ Ridership by passenger type by service (general public, senior, disabled, youth, wheelchair).
- ❑ Any departures from the North Village Transit Center occurring 5 or more minutes behind schedule, by day and time of day.

- ❑ Any incidents or interruptions in service, such as vehicle breakdowns, passenger incidents or accidents, etc.

In the midterm, the Town should consider entering into a Joint Powers Agreement (JPA) to cooperatively expand public transit services to include commuter services outside of the Town limits, such as to Crowley Lake and June Lake. This would allow funding sources not available to the County program to help fund these additional services. As the new fixed route services recommended in this plan are wholly within the Town, however, a JPA is not necessary to meet the immediate goals of the transit improvement program.

Financial Plan

The financial plan for the next three fiscal years supporting the service and capital plans is presented in Table 5. As shown, revenues will be generated from three sources: farebox revenues, Transportation Development Act (TDA) funds allocated by the Mono County Transportation Commission, and funds generated by the Town's Transit Tax on lodging and rental units. As indicated, revenues each year are expected to exceed total costs. Over these three fiscal years, $175,975 in excess revenues would be generated, indicating that services could be expanded (such as to provide Town service in the Winter, or add an additional fixed route) and/or an additional vehicle purchases could be financed.

TABLE 5: Mammoth Lakes Transit Financial Plan

	Fiscal Year		
	03-04	04-05	05-06
Costs			
- Total Operating Cost (1)	$260,600	$268,400	$276,500
- Bus Stop Improvements	$2,000	$2,000	$2,000
- Marketing	$10,000	$5,000	$5,000
- TOTAL COSTS	$272,600	$275,400	$283,500
Revenues			
- Farebox Revenues (2)	$25,635	$25,635	$25,635
- TDA Revenues (1)	$218,545	$225,102	$231,855
- Development Generated Transit Tax (3)	$42,955	$90,266	$121,847
- TOTAL REVENUES	$287,135	$341,003	$379,337
Annual Funding Balance	$14,535	$65,603	$95,837

Note 1: Assuming 3 percent annual inflation
Note 2: Conservatively assumed to not increase in future years.
Note 3: Based upon transit tax of $121.00 per year per hotel/motel/rental condo unit.
Source: Town of Mammoth Lakes

Appendix A

Dial-A-Ride Ridership Data by Time of Day

TABLE A-1: Mammoth Dial-A-Ride Ridership by Time of Day – 1 Week in March

15-Min Period	Day	25-Mar		26-Mar		27-Mar		28-Mar		29-Mar		Total Ridership by Day					
Beginning	vehicle	665	644	665	644	644	665	644	665	644	665	25-Mar	26-Mar	27-Mar	28-Mar	29-Mar	Average
06:45 AM																	
07:00 AM		0		0			1		0		0	0	0	1	0	0	0.2
07:15 AM		4		6			2		6		4	4	6	2	6	4	4.4
07:30 AM		1		0			0		0		3	1	0	0	0	3	0.8
07:45 AM		1		3			3		0	0	3	1	3	3	0	3	2.0
08:00 AM		3	0	3	0	0	4	0	2	3	1	3	3	4	2	4	3.2
08:15 AM		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
08:30 AM		0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0.2
08:45 AM		0	1	0	1	1	1	2	1	0	0	1	1	2	3	0	1.4
09:00 AM		0	0	0	0	2	0	1	0	6	0	0	0	2	1	6	1.8
09:15 AM		0	0	0	3	0	0	0	0	0	0	0	3	0	0	0	0.6
09:30 AM		0	0	0	1	0	0	3	0	1	0	0	1	0	3	1	1.0
09:45 AM		0	0	0	0	1	0	1	0	0	0	0	0	1	1	0	0.4
10:00 AM		2	2	2	1	0	2	0	0	0	0	4	3	2	0	0	1.8
10:15 AM		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
10:30 AM		0	0	0	0	0	2	0	0	0	0	0	0	2	0	0	0.4
10:45 AM		1	0	0	0	1	0	0	0	0	0	1	0	1	0	0	0.4
11:00 AM		0	1	1	0	1	0	0	1	3	1	1	1	1	1	4	1.6
11:15 AM		3	3	3	0	1	3	0	0	0	0	6	3	4	0	0	2.6
11:30 AM		0	0	0	0	0	0	0	0	2	0	0	0	0	0	2	0.4
11:45 AM		0	0	1	0	0	1	0	0	0	0	0	1	1	0	0	0.4
12:00 PM		0	0	0	1	3	2	1	0	4	0	0	1	5	1	4	2.2
12:15 PM		0	0	0	0	0	2	0	0	1	0	0	0	2	0	1	0.6
12:30 PM		0	0	1	1	1	2	0	0	1	0	0	2	3	0	1	1.2
12:45 PM		0	1	0	1	3	0	3	3	1	0	1	1	3	6	1	2.4
01:00 PM		2	0	2	1	3	2	1	0	6	0	2	3	5	1	6	3.4
01:15 PM		0	0	0	1	0	0	3	0	0	0	0	1	0	3	0	0.8
01:30 PM		2	2	2	0	0	0	5	2	0	2	4	2	0	7	2	3.0
01:45 PM		0	1	0	0	0	0	1	0	3	0	1	0	0	1	3	1.0
02:00 PM		0	1	1	4	0	3	0	0	2	0	1	5	3	0	2	2.2
02:15 PM		1	1	0	1	2	0	2	0	0	0	2	1	2	2	0	1.4
02:30 PM		1	0	1	3	1	0	1	1	1	1	1	4	1	2	2	2.0
02:45 PM		1	5	2	1	1	0	0	0	1	0	6	3	1	0	1	2.2
03:00 PM		0	2	0	6	0	0	1	0	0	5	2	6	0	1	5	2.8
03:15 PM		0	0	0	4	0	0	0	0	3	0	0	4	0	0	3	1.4
03:30 PM		0	2	0	1	0	0	0	0	0	3	2	1	0	0	3	1.2
03:45 PM		0	4	0	6	0	0	0	0	0	0	4	6	0	0	0	2.0
04:00 PM		0	0	0	0	1	2	1	0	0	0	0	0	3	1	0	0.8
04:15 PM		2	0	0	0	1	0	0	0	0	0	2	0	1	0	0	0.6
04:30 PM		3	0	4	2	2	4	0	4	4	6	3	6	6	4	10	5.8
04:45 PM		1	3	1	3	3	1	1	0	1	1	4	4	4	1	2	3.0
05:00 PM		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
05:15 PM			0		0	0		0		0		0	0	0	0	0	0.0
05:30 PM																	
Total		28	29	33	42	28	37	28	20	43	30	57	75	65	48	73	63.6

TABLE A-2: Mammoth Dial-A-Ride Ridership by Time of Day – 1 Week in April

15-Min Period	Day	15-Apr		16-Apr		17-Apr		18-Apr		19-Apr		Total Ridership by Day					
Beginning	vehicle	644	665	665	644	644	665	644	665	644	665	15-Apr	16-Apr	17-Apr	18-Apr	19-Apr	Average
07:00 AM												0	0	0	0	0	0.0
07:15 AM												0	0	0	0	0	0.0
07:30 AM							0				0	0	0	0	0	0	0.0
07:45 AM					0		1		1		1	0	0	1	1	1	0.6
08:00 AM		3			1		1		1		0	3	1	1	1	0	1.2
08:15 AM		0			1		0		0		0	0	1	0	0	0	0.2
08:30 AM		0			0		2		1		0	0	0	2	1	0	0.6
08:45 AM		1			5		2		3		2	1	5	2	3	2	2.6
09:00 AM		3			0		1		1		0	3	0	1	1	0	1.0
09:15 AM		1			0		0		0		0	1	0	0	0	0	0.2
09:30 AM		0			0		0		0		0	0	0	0	0	0	0.0
09:45 AM		0			1		0		4		0	0	1	0	4	0	1.0
10:00 AM		0			0		0		1		3	0	0	0	1	3	0.8
10:15 AM		0			0		0		0		0	0	0	0	0	0	0.0
10:30 AM		2			0		5		0		2	2	0	5	0	2	1.8
10:45 AM		1			0		0		0		5	1	0	0	0	5	1.2
11:00 AM		3			0		0		0		3	3	0	0	0	3	1.2
11:15 AM		4			0		0		0		4	4	0	0	0	4	1.6
11:30 AM		1			0		0		1		0	1	0	0	1	0	0.4
11:45 AM		1	0		1		2		0		2	1	1	2	0	2	1.2
12:00 PM		0	2	3	0	0	0	2	0	3	0	2	3	0	2	3	2.0
12:15 PM		0	2	0	0	0	0	0	0	3	0	2	0	0	0	3	1.0
12:30 PM		0	1	0	0	3	0	0	0	1	0	1	0	3	0	1	1.0
12:45 PM		0	0	0	0	7	0	0	0	0	0	0	0	7	0	0	1.4
01:00 PM		2	0	0	0	0	4	0	0	8	0	2	0	4	0	8	2.8
01:15 PM		0	0	4	1	0	2	0	0	0	0	0	5	2	0	0	1.4
01:30 PM		1	0	0	1	0	0	0	0	0	2	1	1	0	0	2	0.8
01:45 PM		0	0	0	1	0	0	0	1	0	0	0	1	0	1	0	0.4
02:00 PM		1	4	0	1	5	0	0	0	0	0	5	1	5	0	0	2.2
02:15 PM		2	CHART	0	1	0	0	1	4	0	2	2	1	0	5	2	2.0
02:30 PM		1	ER TO	1	0	0	0	1	0	2	2	1	1	0	1	4	1.4
02:45 PM		1	LEE	0	0	0	0	0	1	0	1	1	0	0	1	1	0.6
03:00 PM		1	VINING	0	0	3	6	2	2	5	0	1	0	9	4	5	3.8
03:15 PM		2		0	0	2	1	0	0	0	0	2	0	3	0	0	1.0
03:30 PM		0		0	0	0	1	0	0	0	4	0	0	1	0	4	1.0
03:45 PM		2		0	4	1	0	0	1	0	1	2	4	1	1	1	1.8
04:00 PM		1		0	0	2	2	0	0	0	1	1	0	4	0	1	1.2
04:15 PM		3		0	0	0	0	0	2	0	1	3	0	0	2	1	1.2
04:30 PM		0		3	0	6	0	4	0	0	0	0	3	6	4	0	2.6
04:45 PM		1		0	0	0	1	2	1	1	0	1	0	1	3	1	1.2
05:00 PM		0		0	1	0		0	0	0	0	0	1	0	0	0	0.2
05:15 PM		0			0				0			0	0	0	0	0	0.0
05:30 PM																	
Total		38	9	11	19	29	31	12	25	23	36	47	30	60	37	59	46.6