Eastern Sierra Transit Authority
Short Range Transit Plan

Final Plan

Prepared for

Eastern Sierra Transit Authority

Prepared by

LSC Transportation Consultants, Inc.

EASTERN SIERRA TRANSIT AUTHORITY
SHORT RANGE TRANSIT PLAN 2015

Final Plan

Prepared for

Eastern Sierra Transit Authority
703 B Airport Road
Post Office Box 1357
Bishop, CA 93515
760 • 872-1901

Prepared by

LSC Transportation Consultants, Inc.
2690 Lake Forest Road, Suite C
P.O. Box 5875
Tahoe City, California 96145
530 • 583-4053

April 13, 2016

LSC #157190

TABLE OF CONTENTS

APPENDIX E: Caltrans Agreement

LIST OF TABLES

LIST OF FIGURES

This page left intentionally blank.

Chapter 1
Introduction

Transportation considerations play a key role in the quality of life provided by any community. Access to social services, medical services, employment opportunities, educational resources and basic necessities are topics of universal concern, as they have a strong impact on the economy, ease of movement, and quality of life for residents. In addition to providing mobility to residents without access to a private automobile, transit services can provide a wide range of economic development and environmental benefits.

The Eastern Sierra Transit Authority, aware of the importance of transportation issues, has retained LSC Transportation Consultants, Inc. to prepare a five-year Transit Plan for the region. This Short Range Transit Plan (SRTP) study was conducted to assess transit and related transportation issues in the two counties and to provide a "road map" for improvements to the public transit program over the upcoming five years. The intent of this study was to evaluate the specific needs for transit services, as well as to develop plans for improvements and service revisions. This has been accomplished through the review of existing transit conditions and evaluation of operations, as well as through public outreach via onboard surveys and community-based meetings. A wide range of alternatives were then evaluated. Additionally, an important element of this study was to identify stable funding sources for operations and capital improvements of transit services. As a whole, this study provides a comprehensive strategy of short-range service, capital, and institutional improvements, with a supporting financial and implementation plan.

This document first presents and reviews the setting for transportation services, including demographic factors and the recent operating history of the public transit service supplied by Eastern Sierra Transit Authority. A wide range of service, capital, institutional, management and financial alternatives are then discussed. Finally, the resulting plan is presented, including year-by-year implementation and financial strategies.

This page left intentionally blank.

STUDY AREA

Geography of Inyo and Mono Counties

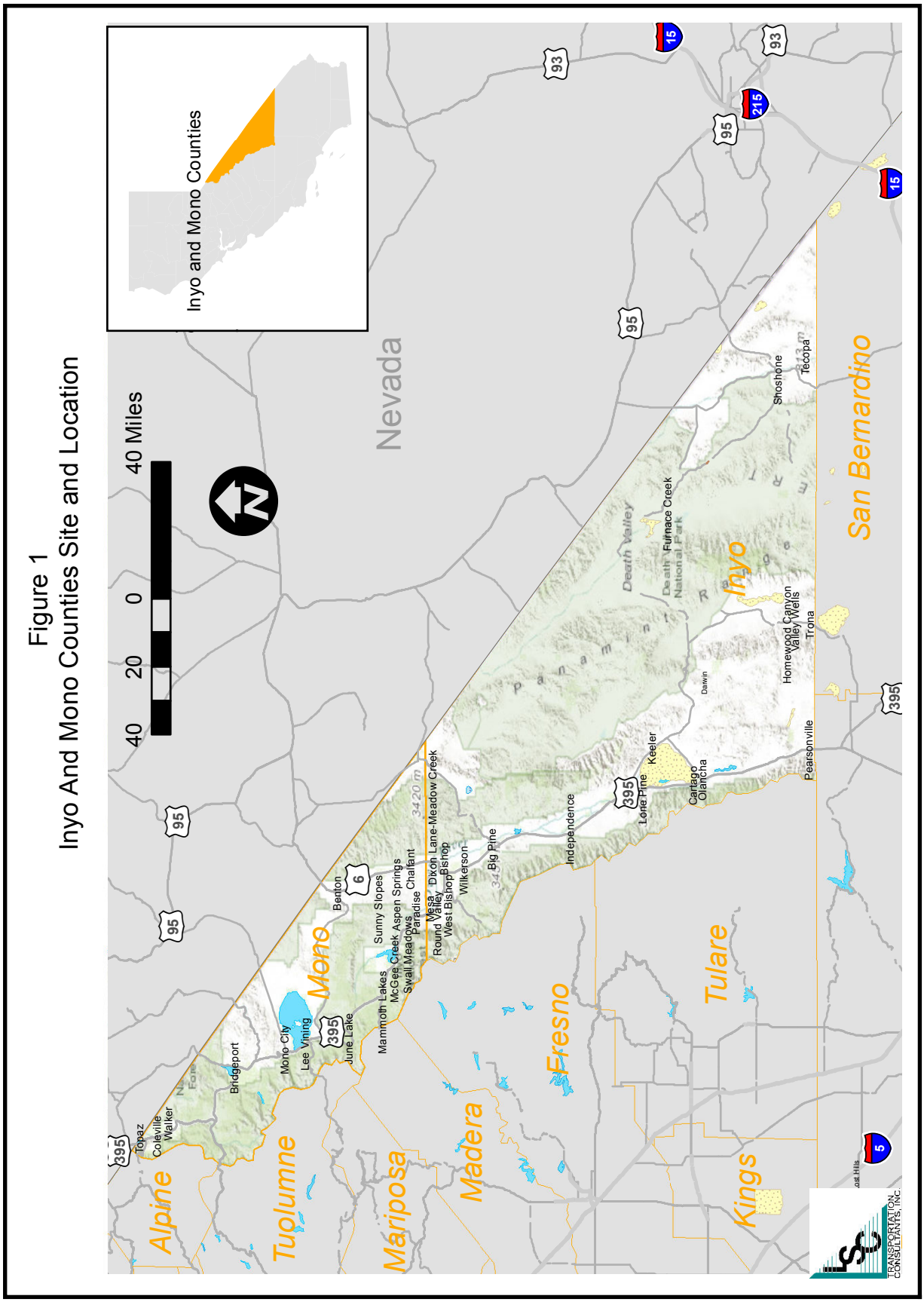
Inyo County and Mono County are located in easternmost portion of central California (as shown in Figure 1) and generally span the eastern length of Sierra Nevada Mountains between Monitor Pass on the north and just north of Walker Pass on the south. Both counties are bordered to the east by the State of Nevada. The geography in the two counties range from low elevation desert to ski resort communities, yet they share the same public transit operator. The areas served cover 13,170 square miles, consisting of some of the most rural, isolated and varied terrain in California. Inyo County's landscape includes the low desert of Death Valley, the high desert of the Owens Valley and the rapid ascension into the Eastern High Sierra including Mt. Whitney at an elevation of 14,495 feet. Mono County varies between high desert in the east and extreme mountainous terrain. This poses several challenges in terms of public transit, such as: providing effective transit service to such a large area and maintaining a vehicle fleet which can handle snow as well as long distance highway driving.

US 395 is the primary roadway that runs north to south connecting the counties with the urban areas of Reno, Nevada to the north and the greater Los Angeles area to the south. The only state highways in the study area that traverse the Sierras west to destinations in the California Central Valley (SR 89 over Monitor Pass, SR 108 over Sonora Pass and SR 120 over Tioga Pass) are only open seasonally. Other highways travelling east toward Nevada are SR 190, SR 168, US 6, SR 182, and SR 167.

Both Inyo and Mono counties encompass large extents of land owned by federal land management agencies, such as the US Forest Service, National Park Service and the Bureau of Land Management. A significant amount of land is also owned by the Los Angeles Department of Water and Power. The study area also includes Mono Lake, the eastern entrance to Yosemite National Park, Death Valley National Park and the tallest mountain in the continental US (Mt. Whitney).

Limited by public lands and geography, the developed areas of the two counties consist largely of small communities along the US 395 corridor. There is one incorporated city in Inyo County (the City of Bishop) and one incorporated city in Mono County (the Town of Mammoth Lakes). Tourism and recreation are the major industries in the region. Approximately 3 million people visit the Eastern Sierra annually. Many visitors are retirees or disabled individuals who may require transportation during their stay. Although beautiful, the extensive natural areas and long travel distances create challenges when it comes to providing transportation and to connecting area residents with needed services. For reference, maps of ESTA's total routes, winter routes, and summer routes can be found in Figures 2-4.

Figure 1
Inyo And Mono Counties Site and Location



Population

General Population Trends: Historic and Projected Population

Table 1 and Figure 5 illustrate the population and projected population in Inyo and Mono County from 1970 through 2035. Per Table 1 and Figure 5, the population in Inyo County increased by 1.5 percent from 2000 to 2010. This population change is significantly lower than the 10 percent population growth rate in California during the same period. The Mono County population has grown at a similar rate as the rest of the state between 2000 and 2010. Within the Study Area of the combined Mono and Inyo Counties, the population is expected to increase by 7.1 percent between the years 2010 to 2020, and 13.7 between 2010 and 2035. Overall, California is projected to outpace the growth rate in the combined study area, resulting in a population in 2035 that is 24 percent greater than in 2010.

Transit Dependent Population

Nationwide, transit system ridership is drawn largely from various groups of persons who make up what is often called the "transit dependent" population. This category includes older adults, persons with disabilities, low-income persons, and members of households with no available vehicles. There is considerable overlap among these groups.

Transit dependent population data was obtained from the US Census 2010 and American Community Survey (ACS). ACS is an ongoing statistical survey which represents a small sample of the population. As such, statistical errors can be quite high for some of the smaller communities in the region, higher than a 100 percent margin of error in some cases. Nevertheless, the American Community Survey has the most comprehensive data available which provides a picture of demographic conditions in Inyo and Mono counties.

Table 2 presents the transit dependent population by Census Designated Place in Inyo and Mono Counties, which includes older adults, youth, disabled persons, low income persons, and households without access to a vehicle. As presented in the table, the Inyo County population in 2010 was 18,457 and Mono County was 14,016 per Census data. Both Inyo and Mono counties have a relatively high number of census places with very low population. For example, only 32 people live in Darwin in Inyo County and 75 people live in Topaz in Mono County. The larger communities are the Bishop area (9,658 residents) and Mammoth Lakes (8,081 residents). Geographically, the Bishop Area includes the Census Places: Bishop (city), Dixon-Lane Meadow Creek, and West Bishop. For reference the "Total Bishop Area" is listed in Table 2 in addition to the Census Designated Places.

Elderly

There are an estimated 4,996 persons aged 65 or over residing in the study area (or 15.4 percent of the total study area population). Overall, Inyo County has a higher percentage of older adults (20.2 percent) than Mono County (9.0 percent). The Inyo County communities with the highest proportion of persons 65 and older are the small communities of Keeler (69.3 percent) and Tecopa (61.2 percent). In Mono County, 85 percent of the residents of McGee Creek and 67.1 percent of Benton residents are over the age of 65. In terms of number of

Figure 2
ESTA Transit Services and Activity Centers

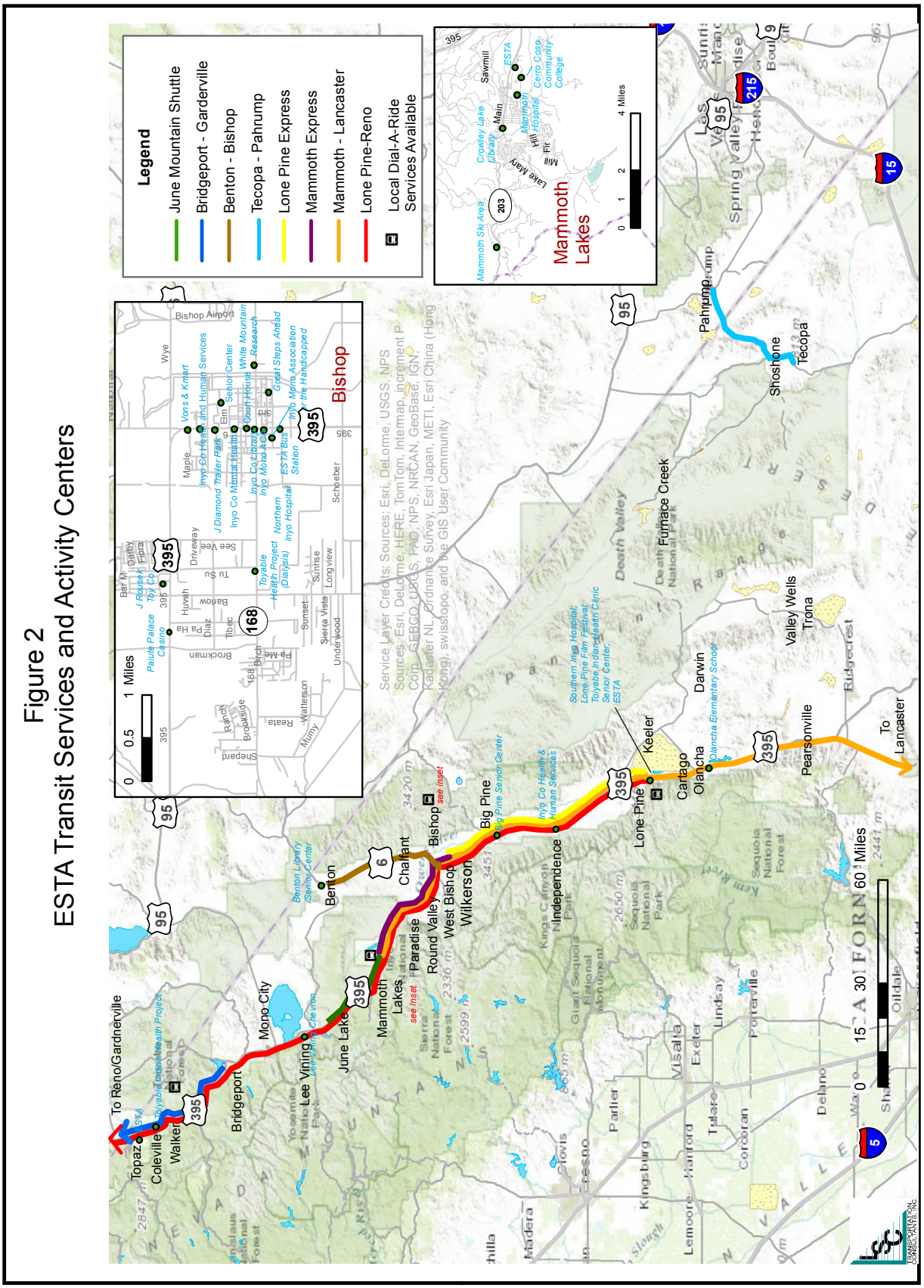


Figure 3
Mammoth Winter Routes

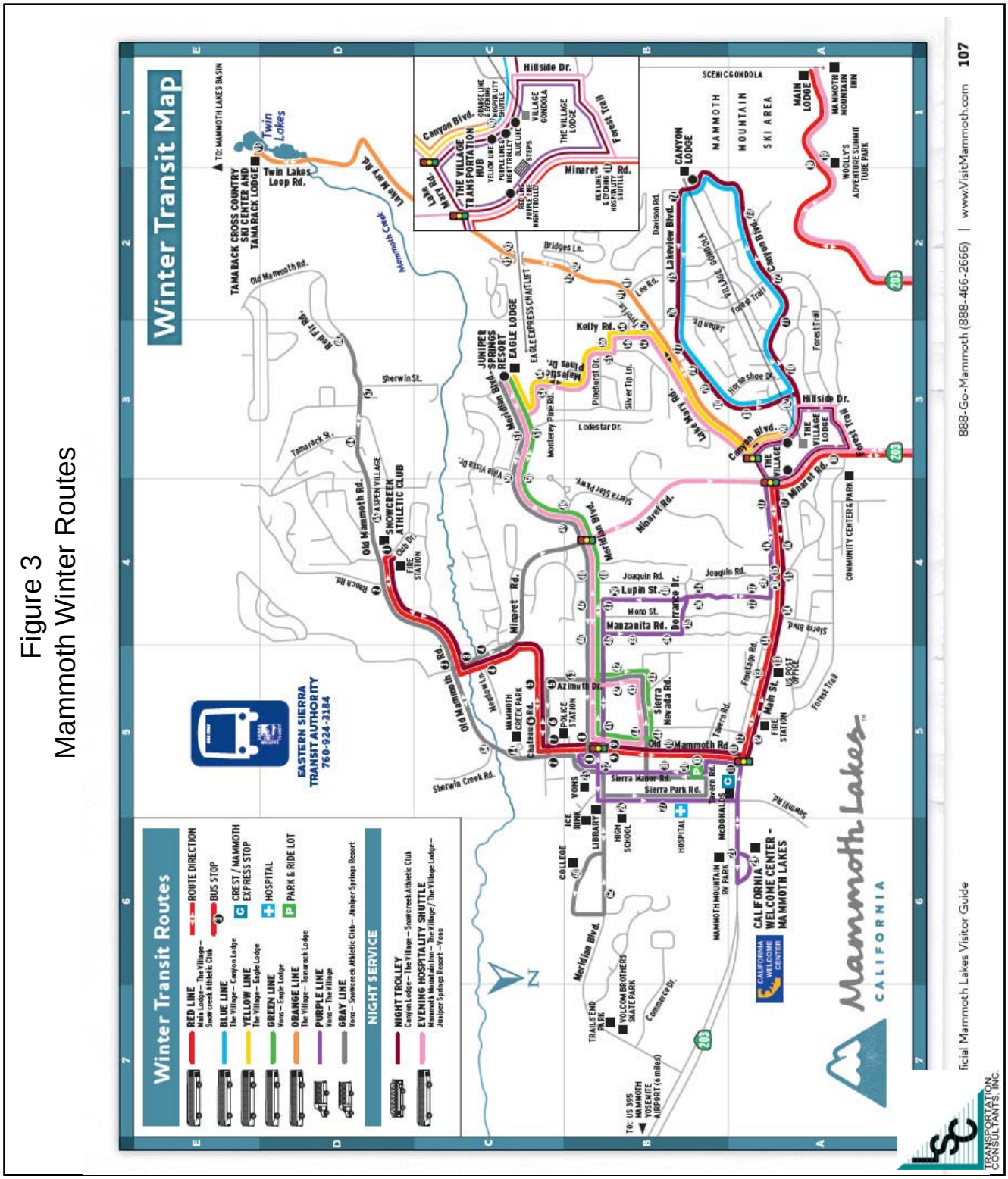


Figure 4
Mammoth Summer Routes

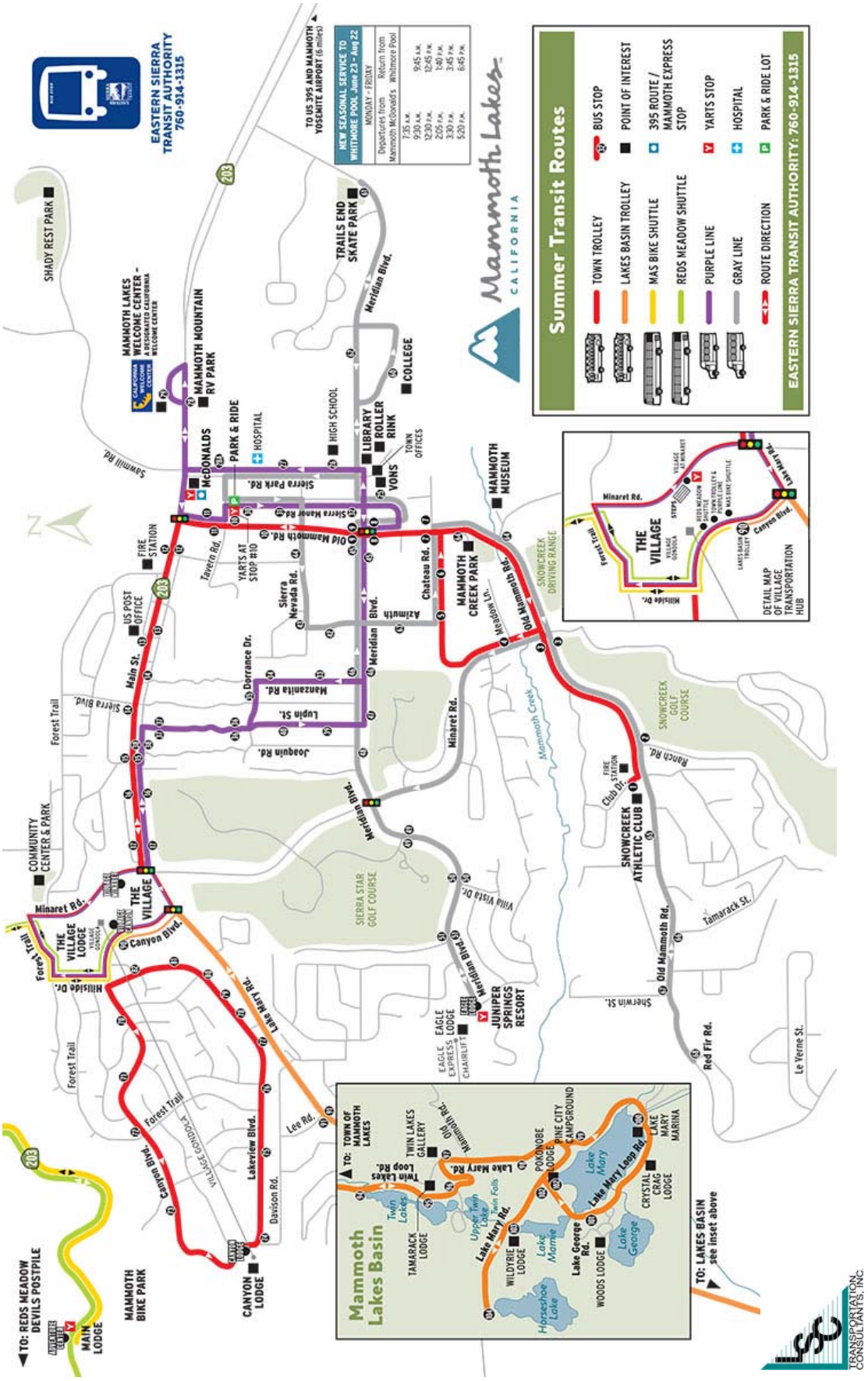


TABLE 1: Historic and Projected Populations of Inyo and Mono Counties

	1970	1980	1990	2000	2010	2020	2030	2035
Inyo County	15,571	17,895	18,198	18,193	18,457	19,622	20,211	20,235
Annual Percent Growth	--	1.4%	0.2%	0.0%	0.1%	0.6%	0.3%	0.0%
Over Previous Period	--	14.9%	1.7%	0.0%	1.5%	6.3%	3.0%	0.1%
Mono County	4,016	8,577	10,078	12,806	14,016	15,147	16,252	16,671
Annual Percent Growth	--	7.6%	1.6%	2.4%	0.9%	0.8%	0.7%	0.3%
Over Previous Period	--	113.6%	17.5%	27.1%	9.4%	8.1%	7.3%	2.6%
Study Area	19,587	26,472	28,276	30,999	32,473	34,769	36,463	36,906
Annual Percent Growth	--	3.0%	0.7%	0.9%	0.5%	0.7%	0.5%	0.1%
Over Previous Period	--	35.2%	6.8%	9.6%	4.8%	7.1%	4.9%	1.2%
California Population	19,953,134	23,667,902	29,760,021	33,871,648	37,253,956	40,643,643	44,085,600	46,083,482
Annual Percent Growth	--	1.7%	2.3%	1.3%	1.0%	0.9%	0.8%	0.4%
Over Previous Period	--	18.6%	25.7%	13.8%	10.0%	9.1%	8.5%	4.5%

Source: California Demographic Research Unit

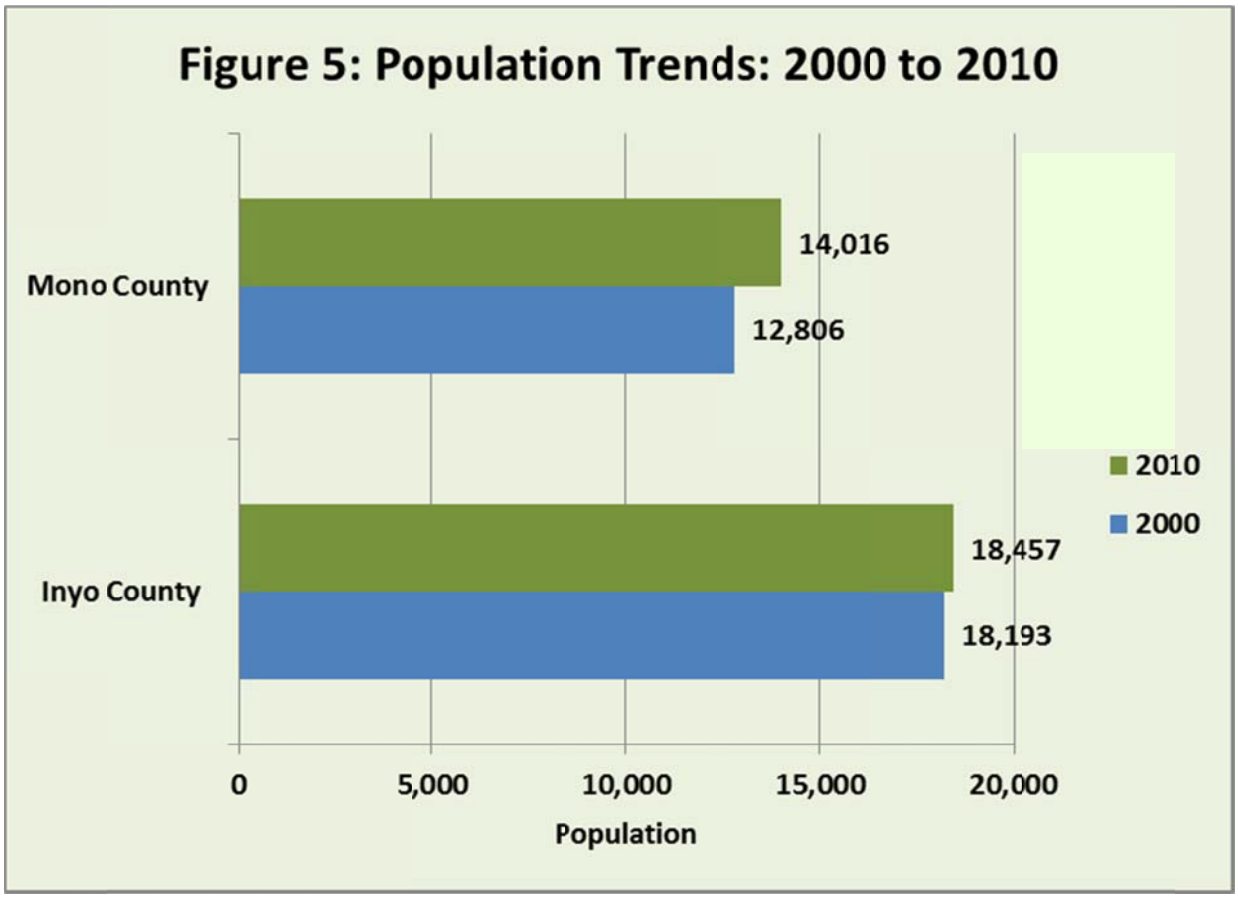


TABLE 2: Inyo/Mono Counties Transit Dependent Population by Place

Community	Total Population	Households	Land Area (sq.mi.)	Youth			Older Adults (age 65+)			Persons Living Below Poverty Status			Households by Number of Vehicles					Residents with Disabilities[1]	
				Total	Percent of Community Population	Density (persons/ sq.mi.)	Total	Percent of Community Population	Density (persons/ sq.mi.)	Total	Percent of Community Population	Density (persons/ sq.mi.)	Zero	Percent of Community Households	12:00 AM	12:00 AM	3 or more	Total	Percent of Community Population
Inyo County																			
Total Bishop Area	9658	4218	14	2057	21.3%	146.9	2002	20.7%	143.0	963	10.0%	68.8	376	8.9%	1364	1597	599	1,252	13.0%
Bishop	*3839*	*1876*	*2.0*	*910*	*23.7%*	*454.9*	*637*	*16.6%*	*318.5*	*501*	*13.2%*	*250.5*	*313*	*16.7%*	*746*	*592*	*144*	*518*	*13.5%*
Dixon Lane-Meadow Creek	*2800*	*1120*	*3.0*	*622*	*22.2%*	*207.2*	*680*	*24.3%*	*226.7*	*223*	*8.1%*	*74.3*	*54*	*4.8%*	*420*	*392*	*172*	*465*	*16.6%*
West Bishop	*3019*	*1222*	*9.0*	*525*	*17.4%*	*58.4*	*685*	*22.7%*	*76.1*	*239*	*7.9%*	*26.6*	*9*	*0.7%*	*198*	*613*	*283*	*269*	*8.9%*
Big Pine	1756	871	3.0	341	19.4%	113.7	345	19.6%	115.0	130	7.4%	43.3	5	0.6%	138	324	238	253	14.4%
Cartago	84	55	1.0	17	20.8%	17.5	18	21.4%	18.0	0	0.0%	0.0	0	0.0%	12	29	14	11	12.8%
Darwin	32	44	1.0	0	0.0%	0.0	13	40.6%	13.0	0	0.0%	0.0	5	11.4%	20	11	8	0	0.0%
Furnace Creek	115	43	31.0	10	8.3%	0.3	23	20.0%	0.7	17	14.8%	0.5	7	16.3%	36	0	0	7	6.0%
Homewood Canyon	100	21	53.0	7	6.9%	0.1	57	57.0%	1.1	61	77.2%	1.2	0	0.0%	16	5	0	--	--
Independence	520	276	5.0	77	14.8%	15.4	149	28.7%	29.8	45	8.9%	9.0	17	6.2%	76	120	43	49	9.4%
Keeler	88	52	1.0	12	13.5%	11.9	61	69.3%	61.0	0	0.0%	0.0	0	0.0%	15	28	9	27	30.7%
Lone Pine	2076	823	19.0	500	24.1%	26.3	336	16.2%	17.7	389	19.8%	20.5	37	4.5%	307	272	169	249	12.0%
Mesa	442	177	4.0	58	13.2%	14.6	69	15.6%	17.3	30	6.8%	7.5	1	0.6%	20	64	40	38	8.7%
Olancha	245	87	8.0	31	12.6%	3.9	30	12.2%	3.8	0	0.0%	0.0	0	0.0%	36	44	7	0	0.0%
Round Valley	396	159	14.0	57	14.4%	4.1	13	3.3%	0.9	20	5.5%	1.4	0	0.0%	26	51	47	65	16.3%
Shoshone	36	14	29.0	3	9.7%	0.1	9	25.0%	0.3	0	0.0%	0.0	0	0.0%	0	10	4	8	22.2%
Tecopa	98	70	19.0	12	12.7%	0.7	60	61.2%	3.2	13	13.3%	0.7	6	8.6%	20	8	10	46	47.2%
Wilkerson	484	224	6.0	86	17.8%	14.4	79	16.3%	13.2	22	4.5%	3.7	3	1.3%	21	65	62	36	7.5%
Balance of County	2327	776	9972.0	471.63	20.3%	0.05	471	20.2%	0.0	437	18.8%	0.0	56	7.2%	408	365	639	294	12.7%
Subtotal Inyo County	**18,457**	**7,910**	**10,180**	**3,741**	**20.3%**	**0.37**	**3,735**	**20.2%**	**0.4**	**2,127**	11.5%	**0.2**	**513**	**6.5%**	**2,515**	**2,993**	**1,889**	**2,335**	**12.7%**
Mono County																			
Benton	76	66	29	15	19.4%	0.5	51	67.1%	1.8	43	56.6%	1.5	5	7.6%	50	11	0	23	30.8%
Bridgeport	456	176	22	94	20.7%	4.3	67	14.7%	3.0	55	13.1%	2.5	4	2.3%	70	46	11	132	28.9%
Chalfant	749	339	28	151	20.2%	5.4	131	17.5%	4.7	101	13.5%	3.6	0	0.0%	77	104	104	185	24.7%
Coleville	652	196	14	220	33.7%	15.7	9	1.4%	0.6	0	0.0%	0.0	0	0.0%	10	93	62	57	8.8%
Crowley Lake	496	253	3	119	24.0%	39.7	13	2.6%	4.3	79	15.9%	26.3	0	0.0%	92	99	12	31	6.2%
June Lake	406	230	9	75	18.4%	8.3	0	0.0%	0.0	25	6.2%	2.8	53	23.0%	106	71	0	22	5.5%
Lee Vining	406	115	5	103	25.4%	20.6	0	0.0%	0.0	0	0.0%	0.0	20	17.4%	31	0	64	0	0.0%
Mammoth Lakes	8081	2807	25	1681	20.8%	67.2	550	6.8%	22.0	1058	13.1%	42.3	75	0.9%	1303	1064	288	356	4.4%
McGee Creek	107	58	4	0	0.0%	0.0	91	85.0%	22.7	0	0.0%	0.0	0	0.0%	0	0	58	7	6.8%
Mono City	126	67	5	30	23.8%	6.0	0	0.0%	0.0	0	0.0%	0.0	0	0.0%	11	56	0	0	0.0%
Paradise	383	149	4	48	12.5%	12.0	36	9.4%	9.0	5	1.3%	1.3	0	0.0%	20	58	51	37	9.7%
Sunny Slopes	149	73	2	23	15.3%	11.4	0	0.0%	0.0	0	0.0%	0.0	0	0.0%	0	19	0	19	12.6%
Swall Meadows	461	209	4	76	16.4%	18.9	23	5.0%	5.8	0	0.0%	0.0	0	0.0%	51	33	88	10	2.1%
Topaz	75	41	4	17	22.0%	4.1	0	0.0%	0.0	0	0.0%	0.0	0	0.0%	41	0	0	0	0.0%
Walker	750	319	18	128	17.1%	7.1	181	24.1%	10.1	186	24.8%	10.3	43	13.5%	85	90	60	125	16.6%
Balance of County	643	318	2872	134	20.8%	0.0	110	17.1%	0.0	2	0.3%	0.0	18	2.8%	34	121	554	48	7.5%
Subtotal Mono County	**14,016**	**2,291**	**155**	**2,913**	**20.8%**	**18.8**	**1,261**	**9.0%**	**8.1**	**1,554**	**11.1%**	**10.0**	**125**	**0.9%**	**644**	**680**	**510**	**1,052**	**7.5%**
Total Study Area	**32,473**	**10,201**	**10,335**	**6,653**	**20.5%**	**0.6**	**4,996**	**15.4%**	**0.5**	**3,681**	**11.3%**	**0.4**	**638**	**2.0%**	**3,159**	**3,673**	**2,399**	**3,387**	**10.4%**

Source: Census 2010 and American Community Survey

Note 1: Disability status by Census Place is taken from the 2009 - 2013 Community Survey 5-Year Estimates

people in Inyo County, the Total Bishop Area has the greatest number of residents over age 65 (637 in Bishop, 685 in West Bishop, 680 in Dixon Lane-Meadow Creek). Similarly, the greatest number of persons over age 65 within Mono County live in Mammoth Lakes (550 residents). The population over 65 within the study area is presented graphically in Figure 6.

Table 2 also displays population density of older adults for both Inyo and Mono County. This is an important consideration in terms of how cost effective it is to provide transit service to a new area. In Inyo County, the greatest population density of older adults is found in the Total Bishop Area, with 143 persons over age 65 per square mile. In Mono County, the McGee Creek area has the greatest older adult population density with 22.7 seniors per square mile.

Poverty

The number of low-income persons, another likely market for transit services, is measured by the number of persons living below the federal poverty level. As shown in Table 2, an estimated 3,681 people live below the poverty level within the study area, representing 11.3 percent of the total population (compared to 14.5 percent statewide). The percentage of those persons living below poverty status is highest in Homewood Canyon in Inyo County (77.2 percent) and Benton in Mono County (56.6 percent). In terms of number of people, Mammoth Lakes has the greatest number of persons living below the poverty level in Mono County (1,058 people). As a ski resort town, Mammoth Lakes attracts a large number of seasonal workers. In Inyo County, Bishop (census place) has the greatest number of people below the poverty level (501 persons), followed by Lone Pine (389 persons). The areas with the greatest density of low income individuals in Inyo County are found in the Bishop Area (68.8 per square mile) and Big Pine (43.3 per square mile). The areas with the greatest density of low income individuals in Mono County are found in Mammoth Lakes (42.3 per square mile) and Crowley Lake (26.3 per square mile). See Figure 7 for low-income population details within the study area.

Zero-Vehicle Households

One of the strongest indicators of transit dependency is the number of households without a vehicle available. In the two counties, there are an estimated total of 638 households without a vehicle, as presented in the Table 2. This represents 2.0 percent of the total households in the area (compared with 7.8 percent statewide). Over 300 of these zero vehicle households are located in the City of Bishop census place, 75 are in Mammoth Lakes and 53 are in June Lake. This is presented graphically in Figure 8.

Disability

Individuals with disabilities are often transit dependent. Disability data by place is available from the 2009 – 2013 5-Year Census Estimates. All types of disabilities are taken into account, both cognitive and physical. As shown in Table 2, roughly 10.4 percent or 3,387 residents with disabilities live in the study area. While Inyo County has 12.7 percent (totaling 2,335) disabled residents, Mono County only has 7.5 percent (totaling 1,052) disabled residents. Tecopa has the highest proportion of disabled residents within Inyo County, which make up nearly half (47.2 percent) of the total residents. Benton has the highest proportion of disabled persons (30.8 percent) in Mono County. This is presented graphically in Figure 9.

Figure 6
Inyo Mono Counties Older Adults (65+) Population

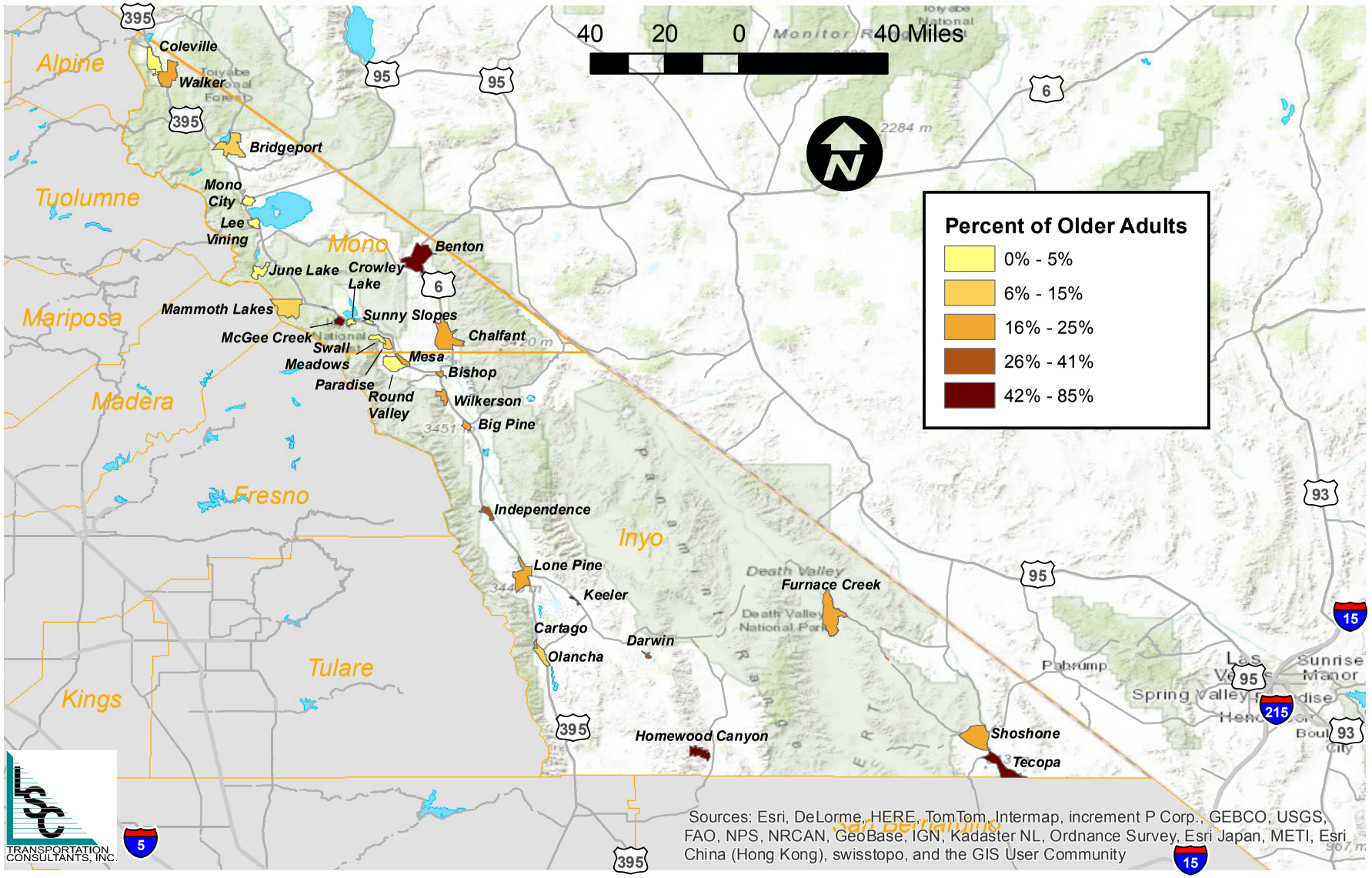


Figure 7
Inyo Mono Counties Persons Living Below Poverty Status

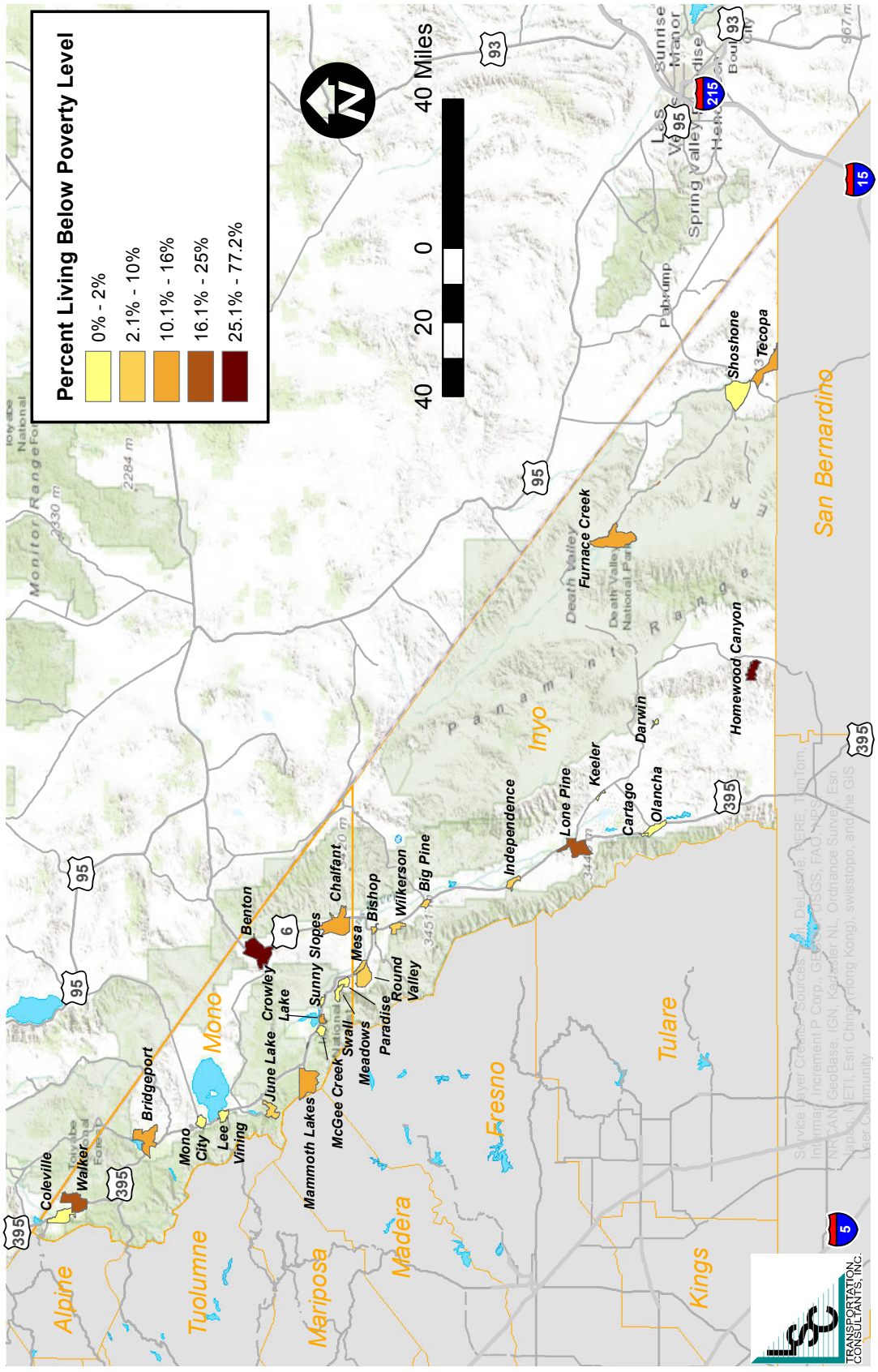


Figure 8
Inyo Mono Counties Zero Vehicle Households

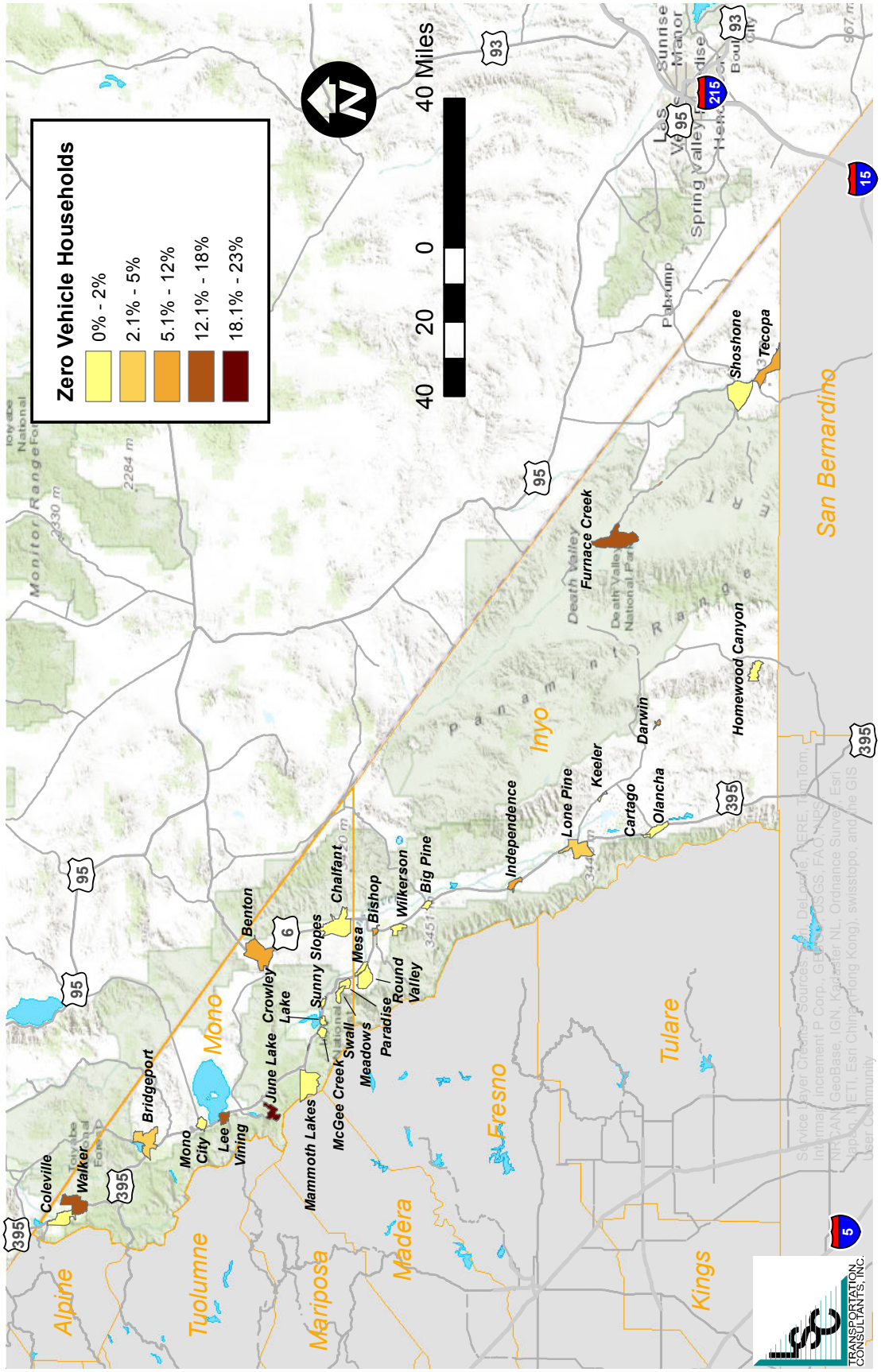
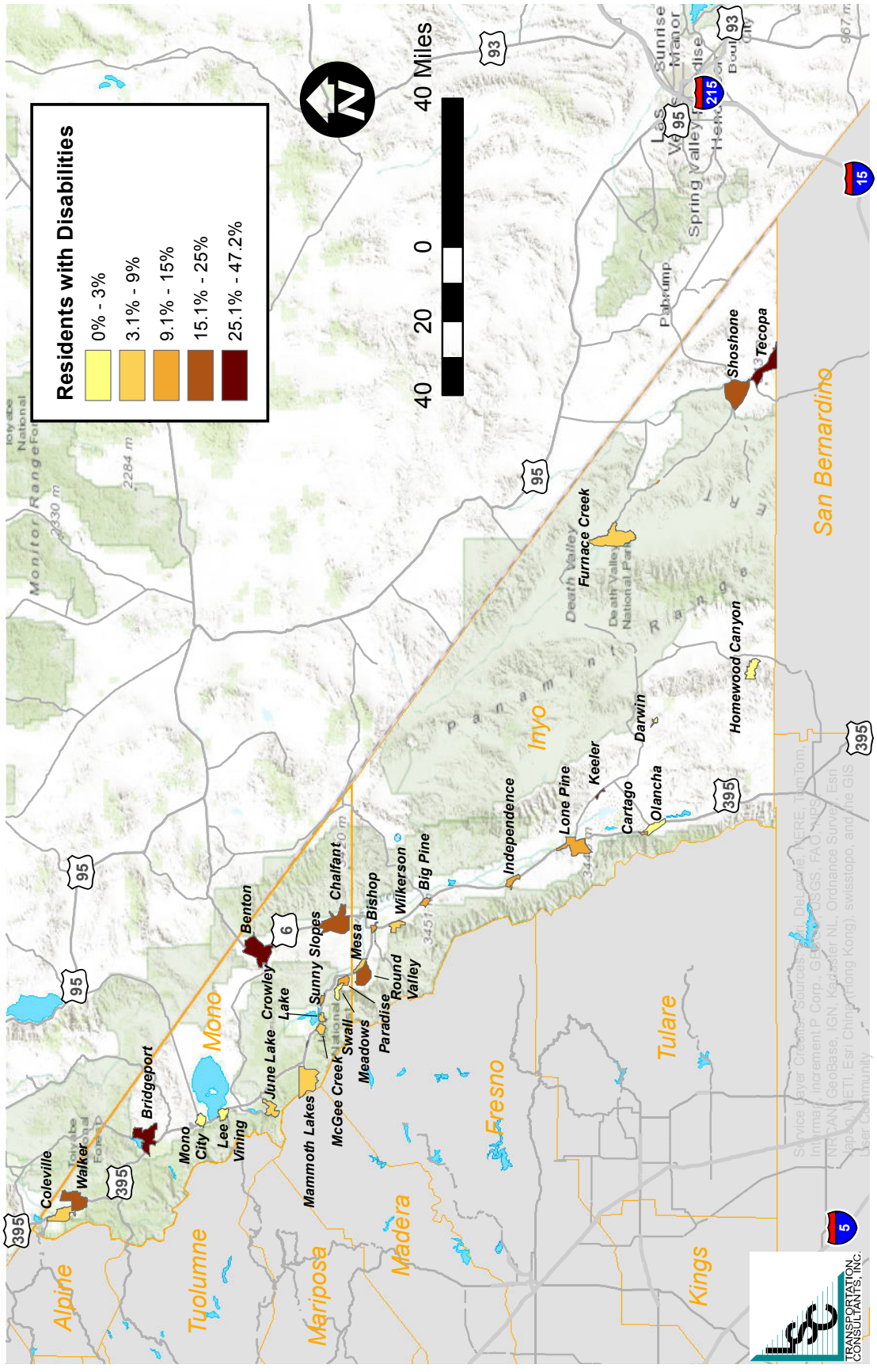


Figure 9
Inyo Mono Counties Residents with Disabilities



Youths

Youth ages 17 and under constitute a transit dependent population because they are often unable to drive themselves. As shown in Table 2, this age bracket makes up a significant 20.5 percent of the population within the study area. The youth population accounts for 20.3 percent of Inyo County and 20.8 percent in Mono County. Within Mono County, the community of Coleville has the highest proportion of youths, with 33.7 percent of the total population ages 17 and under. In Inyo County, Lone Pine youths make up 24.1 percent of the population, which is the highest proportion of youths in all Inyo communities. The areas with the greatest density of individuals 17 and under are found in the Bishop Area (146.9 per square mile), Big Pine (113.7 per square mile), Mammoth Lakes (67.2 per square mile), and Crowley Lake (39.7 per square mile). A large contributor to the high density of youth in the Bishop area is the City of Bishop census place at 454.9 youths per square mile. This is presented graphically in Figure 10.

Projections of Population by Age

Table 3 illustrates population projections by age group between the years of 2010 and 2030, as estimated by the California Department of Demographic Research. This data grants insight into the future population trends of transit-dependent youth and elderly groups. Per Table 3, the elderly populations are expected to significantly increase by the years 2020 and 2030 in both Inyo and Mono counties. From 2010 to 2030, the population of retirees (ages 62 through 84) is expected to rise by 77 percent in Inyo County, 163 percent in Mono County, and 103 percent in the combined study area. During this period, the population of seniors (ages 85 or more) is projected to grow by 61 percent in Inyo County, 412 percent in Mono County, and 111 percent in the combined study area. These substantial growth rates suggest an increased need for public transit options in the coming decades. Table 3 indicates that the School Age (ages 5-17) population is expected to slightly decrease by 2.2 percent between the years of 2010 and 2030 within the combined study area of Inyo and Mono Counties. Figure 11 illustrates the trends in population growth for the elderly and youth groups.

Visitor Population

The Town of Mammoth Lakes is a centralized year-round resort community. The majority of visitors travel by auto from the greater Los Angeles area, although the outdoor activities in the high sierras and Yosemite Valley also attract tourists from far away locations. Due to the convenience and fare-free nature of some of ESTA's routes, many visitors opt to use public transit as their primary mode of travel with in the Mammoth Lakes area. Further, in order to visit Devils Postpile Monument and access hiking/backpacking in the Reds Meadow area, visitors and residents must ride the ESTA Reds Meadow Shuttle route during peak season and hours. As such visitors are an important sector of ridership on ESTA services.

According to the 2009-2013 American Community Survey, over 60 percent of the 9,433 housing units in the Mammoth Lakes census place are occupied only seasonally. The Mammoth Mountain Ski Area sees over 1 million skier visits per season and was considered the third most popular ski resort in 2015 by popular internet media. According to National Visitor Use Monitoring (NVUM) FY 2006 surveys conducted in Inyo National Forest, which spans the sierras from Mt. Whitney to Mono Lake, there were roughly 3.9 million total estimated national forest visits.

Figure 10
Inyo Mono Counties Youth Population

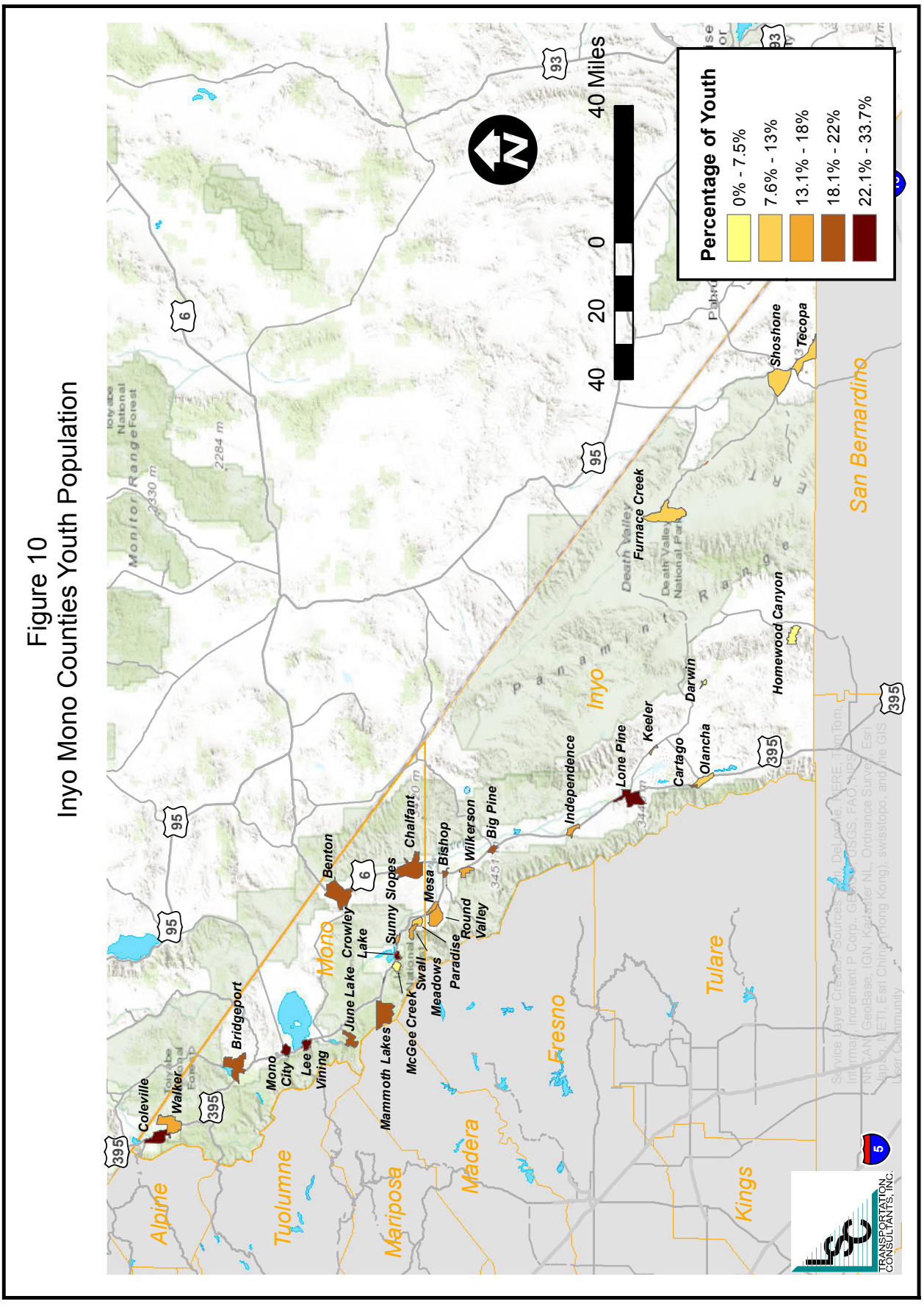
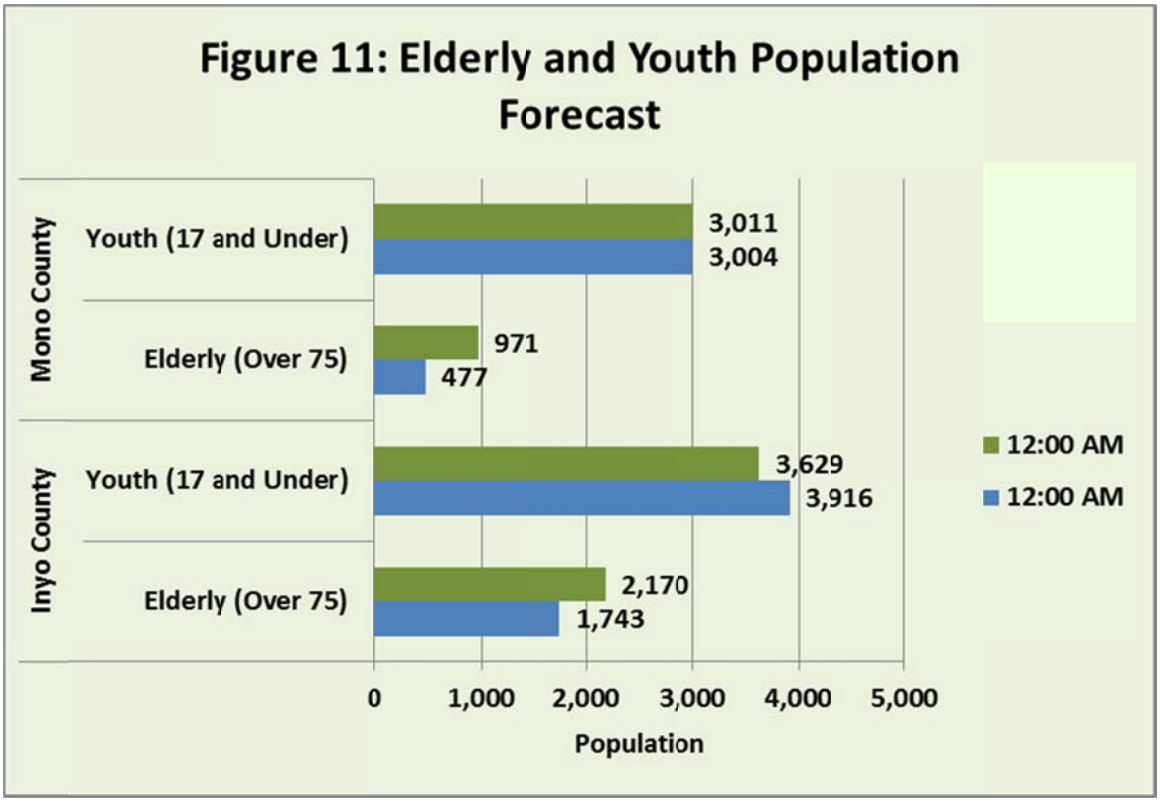


TABLE 3: Population Projections by Age Groups for Inyo and Mono Counties

Year	Total (All ages)	Preschool Age (0-4 years)	School Age (5-17 years)	College Age (18-24 years)	Working Age (25-61 years)	Young Retirees (62-74 years)	Mature Retirees (75-84 years)	Seniors (85 or more)
Inyo County								
2010	18,823	1,071	2,845	1,260	10,051	1,853	1,204	539
2020	19,622	958	2,671	1,550	9,367	2,906	1,463	707
2030	20,211	945	2,550	1,496	8,938	3,123	2,290	869
2010-20 Change								
#	799	-113	-174	290	-684	1,053	259	168
%	4%	-11%	-6%	23%	-7%	57%	22%	31%
2010-30 Change								
#	1,388	-126	-295	236	-1,113	1,270	1,086	330
%	7%	-12%	-10%	19%	-11%	69%	90%	61%
Mono County								
2010	14,338	888	2,116	1,448	8,457	952	388	89
2020	15,147	838	2,173	1,192	8,307	1,666	733	238
2030	16,252	764	2,157	1,297	8,053	2,177	1,348	456
2010-20 Change								
#	809	-50	57	-256	-150	714	345	149
%	6%	-6%	3%	-18%	-2%	75%	89%	167%
2010-30 Change								
#	1,914	-124	41	-151	-404	1,225	960	367
%	13%	-14%	2%	-10%	-5%	129%	247%	412%
Total Study Area								
2010	33,161	1,959	4,961	2,708	18,508	2,805	1,592	628
2020	34,769	1,796	4,844	2,742	17,674	4,572	2,196	945
2030	36,463	1,709	4,707	2,793	16,991	5,300	3,638	1,325
2010-20 Change								
#	1,608	-163	-117	34	-834	1,767	604	317
%	5%	-8%	-2%	1%	-5%	63%	38%	50%
2010-30 Change								
#	3,302	-250	-254	85	-1,517	2,495	2,046	697
%	10%	-13%	-5%	3%	-8%	89%	129%	111%

Source: California Demographic Research Unit



Economy

Inyo County and Mono County both rely on a mixed-industry economy, which includes hospitals, schools, entertainment facilities, government entities, and building production/supply sectors. Table 4 lists the major employers in Inyo County and Mono County, drawn from the California Employment Development Department's 2015 Labor Market Information System. Two of the top major employers in Inyo County are both situated within Death Valley. In Mono County, most jobs are within the tourism sector, related to the ski resort or in county government. As shown, the Death Valley National Park Service, Furnace Creek Ranch, and Northern Inyo Hospital are the largest employers within Inyo County. The largest employers in Mono County include: Mammoth Mountain Ski Area, Mammoth Mountain Resort, Mammoth Hospital, and Mammoth Unified School District.

Labor Force

The American Community Survey (ACS), conducted by the US Census, provides data on the number of individuals in the labor force and employment rates. According to the ACS 2013 5-year estimates, there are 15,080 individuals over the age of 16 in Inyo County, of which 63.3 percent are in the labor force. Of the 11,439 individuals over the age of 16 in Mono County, an estimated 77.3 percent are in the labor force. The unemployment rate is 8.7 percent in Inyo County and 10.3 percent in Mono County. These unemployment rates are slightly higher than the statewide rate of 8.2 percent in 2013.

TABLE 4: Major Employers in the Study Area

Inyo County			Mono County		
Major Employers	**Location**	**# Employees**	**Major Employers**	**Location**	**# Employees**
Death Valley National Park Svc	Death Valley	250-499	Mammoth Mountain Ski Area	Mammoth Lakes	1000-4999
Furnace Creek Ranch	Death Valley	250-499	Mammoth Mountain Resort	Mammoth Lakes	1000-4999
Northern Inyo Hospital	Bishop	250-499	Mammoth Hospital & Sierra Park	Mammoth Lakes	250-499
Bishop Paiute Gaming	Bishop	100-249	Mammoth Unified School District	Mammoth Lakes	250-499
County Courthouse	Independence	100-249	June Mountain Ski Area	June Lake	100-249
Department of Water & Power	Independence	100-249	Juniper Springs Resort	Mammoth Lakes	100-249
Elm Street Elementary School	Bishop	100-249	Mono County Public Works Dept.	Bridgeport	100-249
Southern Inyo Hospital	Lone Pine	100-249	Village Lodge Mammoth	Mammoth Lakes	100-249
Toiyabe Indian Health Project	Bishop	100-249	Vons	Mammoth Lakes	100-249
Transportation Department	Bishop	100-249	Westin-Monache Resort	Mammoth Lakes	100-249
US Forestry Dept.	Bishop	100-249	Chart House Restaurant	Mammoth Lakes	50-99
Vons	Bishop	100-249	Coleville High School	Coleville	50-99
Aqueduct System	Bishop	50-99	Double Eagle Resort	June Lake	50-99
Bishop Care Center	Bishop	50-99	Mammoth Elementary School	Mammoth Lakes	50-99
Death Valley Unified School Dist.	Shoshone	50-99	Mammoth Lakes Fire Dept.	Mammoth Lakes	50-99
High Country Lumber	Bishop	50-99	Mammoth Mountain Inn	Mammoth Lakes	50-99
Inyo County Sheriff	Independence	50-99	Mammoth Pacific LP	Mammoth Lakes	50-99
Kmart	Bishop	50-99	Mammoth Ranger District Center	Mammoth Lakes	50-99
Lo-Inyo Elementary School	Lone Pine	50-99	Mammoth Reservation	Mammoth Lakes	50-99
Lone Pine School District Office	Lone Pine	50-99	Mono County Office of Edu	Bridgeport	50-99
Los Angeles Operation & Maintenance	Independence	50-99	Mono County Office-Emergency	Bridgeport	50-99
Los Angeles Water & Power Dept.	Bishop	50-99	Sheriff Office-Finance	Bridgeport	50-99
Los Angeles Water Supply Div.	Bishop	50-99	Tamarack Lodge & Resort	Mammoth Lakes	50-99
Stovepipe Wells Village	Death Valley	50-99	Annett's Mono Village Inc.	Bridgeport	20-49
C G Roxane Water Co	Olancha	50-99	Sierra Star Golf Course	Mammoth Lakes	20-49

Source: California Employment Development Department, America's Labor Market Information System

Income and Public Assistance

The American Community Survey 2013 5-year estimates collected by the US Census provide insight into the household income and public assistance within Inyo and Mono Counties. The mean household income in Inyo County is $61,137. Roughly 21.3 percent of Inyo County households receive Supplemental Social Security Income, cash public assistance, or Food Stamps/SNAP benefits. In Mono County, the mean household income is $68,616. Around 8.8 percent of households receive Supplemental Social Security, cash public assistance, or Food Stamps/SNAP benefits.

Commute Patterns

County to County Commute Patterns

Information on commute patterns for 2011 was obtained through the US Census Bureau Longitudinal Employer-Household Dynamics dataset and presented in Tables 5 and 6. In reviewing this data, it is important to consider that it includes data for employees that do not necessarily report to work on a daily or consistent basis, and can include persons who have a permanent resident in one location, but stay elsewhere during their work week. Nevertheless, it provides the best available picture of commuting patterns.

At the county level, just over 700 Inyo County residents commute to Mono County while around 600 Mono County residents commute to Inyo County. More specifically, out of roughly 7,400 employed Inyo County residents, 37.2 percent or 2,749 residents report that their work location is in the Bishop area. The next largest Census Place of work for residents employed in Inyo County is Mammoth Lakes (449 workers or 6.1 percent), followed by Lone Pine (365 workers or 4.9 percent). In terms of commute flow into Inyo County, the largest groups of commuters

come from within Inyo County (Bishop Area, Big Pine and Lone Pine). Other common inter-county commuter groups come from Pahrump, NV (145 workers or 2.1 percent) and Ridgecrest (133 workers or 1.9 percent). It should be noted that this data reflects all persons reporting their work location, regardless of how often they commute.

In Mono County (Table 6), nearly 40 percent of Mono County employed residents or 2,027 people stay within the county and work in Mammoth Lakes. Another 622 or 11.3 percent work in nearby Crowley Lake. Around 385 Mono County residents or 7.0 percent commute to the Bishop area in Inyo County and another 292 or 5.3 percent commute to Bridgeport, the County seat. Just under one-quarter of Mono County workers or 1,557 people live in Mammoth Lakes. Just fewer than seven percent or 424 workers commute from the Bishop area. Another 317 workers or 5.0 percent live in Crowley Lake.

A more detailed look at commute patterns between the major Inyo/Mono communities is displayed in Table 7. Just over half of Mammoth Lakes employed residents work in Mammoth Lakes. Almost three-quarters of Mammoth Lake's employees live outside of Mammoth. Common commuting patterns are from the Bishop Area (7.4 percent), Crowley Lake (4.3 percent), Chalfant on Highway 6 (3.3 percent) and June Lake (3.0 percent). Over 50 percent of the employed residents in Bishop Area (including Dixon Lane-Meadow Creek and West Bishop)

commute, of which the largest group travels to Mammoth Lakes (7.2 percent). Nearly half of Bishop Area workers live in the Bishop area. Others commute in from Big Pine, Wilkerson, and Round Valley. Roughly two-thirds of Lone Pine residents commute outside of the community. Top destinations are Independence (4.2 percent), Bishop (3.6 percent), Crowley Lake (3.3 percent) and Ridgecrest (3.3 percent). The greatest number of commuters into Lone Pine travel from Ridgecrest (102 workers or 10.3 percent), followed by Pahrump, NV (68 workers, 6.8 percent), and Bishop Area (46 workers, 4.6 percent). Only 15.8 percent of Lone Pine workers live in Lone Pine.

In summary, Mammoth Lakes and the Bishop Area have the largest employment centers and as such there is a relatively high level of commuting between the two areas. LEHD data demonstrates a greater number of commuters travelling from Bishop to Mammoth than the reverse. Common employment destinations for Bishop commuters are the ski area, hospital and Vons. Table 7 also demonstrates that there is a significant level of commuting to/from Lone Pine and the workers travel to/from a variety of destinations.

TABLE 5: Inyo County Commute Patterns - 2011

Where Inyo County Residents Work			Where Inyo County Workers Live		
Census Place	**# of Jobs**	**% of Total**	**Census Place**	**# of Jobs**	**% of Total**
Total Bishop Area[(1)]	2749	35.0%	Total Bishop Area[(1)]	2,429	32.9%
Mammoth Lakes	449	5.7%	Big Pine	269	3.6%
Lone Pine	365	4.6%	Lone Pine	253	3.4%
Fresno	225	2.9%	Pahrump, NV	145	2.0%
Independence	161	2.0%	Wilkerson	136	1.8%
Big Pine	156	2.0%	Ridgecrest	133	1.8%
Crowley Lake	156	2.0%	Independence	112	1.5%
Sacramento	129	1.6%	Round Valley	90	1.2%
Bakersfield	127	1.6%	June Lake	83	1.1%
Ridgecrest	73	0.9%	Mammoth Lakes	81	1.1%
San Jose	72	0.9%	Chalfant	79	1.1%
All Other Locations	2725	34.7%	All Other Locations	3,046	41.2%
Total	**7,863**		**Total**	**7,394**	

Note 1: Includes City of Bishop, Dixon Lane-Meadow Creek, and West Bishop

Note: LEHD figures represent estimates of commute patterns, synthesized from several sources of US Census residential location, business location, and commute data. These figures exclude Federal, railroad and self-employed employees, and include trips that are not made each workday. As such, this data should be considered to only provide a general commuting pattern.

Source: US Census LEHD OntheMap application, 2011 data.

TABLE 6: Mono County Commute Patterns - 2011

Where Mono County Residents Work			Where Mono County Workers Live		
Census Place	**# of Jobs**	**% of Total**	**Census Place**	**# of Jobs**	**% of Total**
Mammoth Lakes	2027	36.9%	Mammoth Lakes	1,557	24.7%
Crowley Lake	622	11.3%	Total Bishop Area[(1)]	424	6.7%
Total Bishop Area[(1)]	385	7.0%	Crowley Lake	317	5.0%
Bridgeport	292	5.3%	Chalfant	230	3.7%
Fresno	88	1.6%	June Lake	206	3.3%
Sacramento	78	1.4%	Walker	135	2.1%
San Francisco	73	1.3%	Los Angeles	128	2.0%
Lone Pine	68	1.2%	Bridgeport	112	1.8%
San Jose	60	1.1%	Benton	100	1.6%
June Lake	50	0.9%	Coleville	90	1.4%
Independence	41	0.7%	Bakersfield	79	1.3%
Reno , NV	40	0.7%	Swall Meadows	75	1.2%
Ridgecrest	39	0.7%	Sunny Slopes	67	1.1%
Bakersfield	34	0.6%	Big Pine	61	1.0%
Big Pine	33	0.6%	Mono	50	0.8%
Oakland	28	0.5%	Paradise	42	0.7%
Benton	26	0.5%	Lee Vining	38	0.6%
Merced	25	0.5%	Fresno	36	0.6%
Stockton	24	0.4%	San Diego	33	0.5%
Visalia	22	0.4%	Newport Beach	32	0.5%
Walker	22	0.4%	Wilkerson	31	0.5%
Salinas	18	0.3%	Round Valley	30	0.5%
Clovis	17	0.3%	San Jose	29	0.5%
All Other Locations	1386	25.2%	All Other Locations	2,396	38.0%
Total	**5,498**		**Total**	**6,298**	

Note: LEHD figures represent estimates of commute patterns, synthesized from several sources of US Census residential location, business location, and commute data. These figures exclude Federal, railroad and self-employed employees, and include trips that are not made each w orkday. As such, this data should be considered to only provide a general commuting pattern.

Source: US Census LEHD OntheMap application, 2011 data.

TABLE 7: Inyo/Mono Major Community Commute Patterns

Where Residents Work			Where Workers Live		
Census Place	**# of Jobs**	**% of Total**	**Census Place**	**# of Jobs**	**% of Total**
Mammoth Lakes			**Mammoth Lakes**		
Mammoth Lakes	1,144	52.1%	Mammoth Lakes	1,144	27.7%
Crowley Lake	293	13.3%	Bishop Area[(1)]	304	7.4%
Bishop	33	1.5%	Crowley Lake	176	4.3%
Bridgeport	33	1.5%	Chalfant	138	3.3%
San Francisco	32	1.5%	June Lake	124	3.0%
Lone Pine	25	1.1%	Los Angeles	86	2.1%
Ridgecrest	25	1.1%	Benton	61	1.5%
June Lake	24	1.1%	Bakersfield	56	1.4%
Fresno	21	1.0%	All Other Locations	2,039	49.4%
San Jose	20	0.9%	**Total**	**4,128**	**100%**
All Other Locations	545	24.8%			
Total	**2,195**	**100%**			
Bishop Area[(1)]			**Bishop Area[(1)]**		
Bishop Area	1,979	46.7%	Bishop	1,979	47.7%
Mammoth Lakes	304	7.2%	Big Pine	117	2.8%
Fresno	126	3.0%	Wilkerson	111	2.7%
Sacramento	72	1.7%	Round Valley	75	1.8%
Independence	70	1.7%	Bakersfield	55	1.3%
Bakersfield	69	1.6%	June Lake	55	1.3%
Crowley Lake	68	1.6%	Chalfant	54	1.3%
Lone Pine	55	1.3%	Crowley Lake	51	1.2%
All Other Locations	1,492	35.2%	All Other Locations	1,650	39.8%
Total	**4,235**	**100%**	**Total**	**4,147**	**100%**
Lone Pine			**Lone Pine**		
Lone Pine	157	34.9%	Lone Pine	157	15.8%
Independence	19	4.2%	Ridgecrest	102	10.3%
Bishop	16	3.6%	Pahrump, NV	68	6.8%
Crowley Lake	15	3.3%	Bishop Area[(1)]	46	4.6%
Ridgecrest	15	3.3%	Big Pine	26	2.6%
Fresno	12	2.7%	Mammoth Lakes	25	2.5%
Bakersfield	8	1.8%	Las Vegas , NV	20	2.0%
Sacramento	8	1.8%	Independence	17	1.7%
San Francisco	7	1.6%	Olancha	15	1.5%
Big Pine	6	1.3%	All Other Locations	518	52.1%
All Other Locations	187	41.6%	**Total**	**994**	**100%**
Total	**450**	**100%**			

Source: US Census LEHD OntheMap application, 2011 data.

Note 1: Includes City of Bishop, West Bishop, and Dixon Lane-Meadow Creek CDP

Means of Transportation to Work

According to the American Community Survey 2013 three year estimates, 50 out of the total 8,520 workers in Inyo County are estimated to take public transportation to work. This represents a 0.6 percent transit commute mode split. In Mono County, 395 out of the total 7,825 workers are estimated to take public transportation to work. This represents a 5.0 percent transit commute mode split. This trend is evident in the high level of transit ridership on the fixed routes in Mammoth Lakes discussed in the next chapter.

Major Activity Centers

The identification of major activity centers is useful in determining where transportation services might be needed. The region's major activity centers are generally situated in and around Mammoth and Bishop. Major activity centers in Inyo and Mono County are shown in Table 8 and include human service agencies, schools, medical facilities, major shopping areas, and popular recreation destination.

RELATED PLANNING EFFORTS

The following presents a review of relevant existing planning documents that have helped guide the transit program in Inyo and Mono Counties. This is not an all-inclusive list, but rather the most recent reports that have been completed.

ESTA Short Range Transit Plan (2009)

This Short Range Transit Plan (SRTP) was the first transit plan produced after Inyo Mono Transit transitioned to ESTA in 2008. This SRTP was developed to identify the transit needs within Inyo and Mono Counties through public input processes and thorough data analysis. The SRTP then developed a five-year plan to work towards the mitigation of operational and capital needs.

The plan identified the following ESTA transit issues through stakeholder interviews and background review:

- Due to the low-density, highly-dispersed populations throughout Mono and Inyo County, the population becomes vulnerable to isolation.
- Additional transportation is needed from rural areas to Bishop and Mammoth Lakes.
- Non-emergency medical transportation should be available for residents who need to travel outside of Inyo and Mono counties for medical needs.
- There should be more frequent transportation to Mammoth Lakes and Bishop to supplement needs for workers with no vehicle.

A federal grant funded Non-Emergency Medical Transportation (NEMT) transportation reimbursement program and increased service between Mammoth and Bishop has been implemented since the 2009 SRTP.

TABLE 8: Major Transit Activity Centers in the ESTA Service Area

	Human Service Agencies & Schools	Shopping & Recreation	Medical
Bishop	Inyo Mono Association for the Handicap (IMHA) Inyo County Health and Human Services Kern Regional Center Great Steps Ahead Cerro Coso College Bishop Elementary Home Street Middle School Bishop Union High School Palisade Glacier High School	Vons/Kmart Josephs Rite Aid Paiute Palace Casino Senior Center Highlands Mobile Home Park Sunrise Mobile Home Park	Northern Inyo Hospital Rural Health Center Toiyabe Indian Health/Dental Toiyabe Dialysis
Lone Pine	Inyo County Health and Human Services Indian Head Start Lo-Inyo Elementary Lone Pine High School Sierra Alt. Learning Academy	Senior Center Boulder Creek Mt. Whitney Trail	Southern Inyo Hospital Toiyabe Indian Health Project
Mammoth Lakes	Mono County Health and Human Services Mammoth Elementary School Mammoth Middle School Mammoth High School Sierra High School Mammoth High School ILC Kern Regional Center Great Steps Ahead Cerro Coso College	Vons The Village at Mammoth Mammoth Mountain Ski Area Whitmore pool June Lakes Ski Area Reds Meadow Lakes Basin	Mammoth Hospital Mammoth Dental Sierra Park Clinic
Walker Area	MCHHS Facilities Coleville High School Antelope Elementary School Edna Beaman Elementary School Lee Vining High School Lee Vining Elementary School Bridgeport Elementary School	Senior Center Topaz Lodge Antelope Valley Park	Topaz Ranch Medical Clinic Toiyabe Indian Health Project/Camp Bridgeport Clinic
Out of County			Loma Linda medical facilities (San Bernardino) Carson Valley Medical Center VA Medical Center Minden, Carson City and Reno

Source: Inyo Mono County Public Transit Human Services Transportation Plan, LSC

The plan identified the following opportunities to meet transit needs within Inyo and Mono Counties:

US 395 Corridor

- Extended transit service to the Lancaster and Reno Greyhound stations. *Extending service to Lancaster was an important SRTP plan element implementation which has occurred.*
- The CREST bus (395 South Route) and Mammoth Express leave Bishop at 7:00 AM and arrive in Mammoth Lakes at 7:50 AM. Change this scheduling overlap to increase run times. *This has been achieved. The 7:00 AM Reno bus was moved to 7:30 AM to allow for same day service from Lone Pine.*
- Obtain funding and partners for a two-year pilot demonstration program that would increase frequency and length of US 395 Corridor trips (focusing on peak season improvements). This could set the framework for eventual funding agreements (including a farebox recovery ration subsidy) to begin achieving successful service levels. *This goal was deemed unrealistic, and has therefore not been achieved.*

Rural Transit

- Designate ESTA as the CTSA for both Inyo and Mono counties. *This has been achieved*
- Outside CTSA funding should be sought, such as New Freedom grants for mobility management, to increase staff and services. *The NEMT program is an example.*
- Coordinate with human services agencies to fill in gaps that cannot be met with current transit resources. *ESTA is continuously coordinating with human service agencies.*

Bishop Local Transit Service – This service was discontinued as it was considered that DAR could better serve the needs of residents.

- Change the hours, days and frequency of operation of Bishop local service to better match local needs.
- Increase fares for same-day service and route deviation service.
- Limit Bishop local subscription trips.
- Promote next day (versus same day) dial-a-ride reservations.

Local Mammoth Lakes Transit Service

- Introduce bus stop signage that specifically indicates the bus route and schedule. *This has been achieved.*
- Coordinate bus branding to indicate the fact that they are all part of one agency. *This has been achieved.*

<u>Inyo Mono Coordinated Public Transit Human Services Transportation Plan (2014)</u>

The relatively recent "Coordinated Plan" was compiled in accordance with the FTA circular 9070.1F in order to meet the requirement for projects funded under certain MAP-21 grant programs. The plan aimed to maximize efficiency, mobility and coordination within the Inyo and Mono transportation services. In particular, the Coordinated Plan focused on strategies that would enhance transit use for the aforementioned transit-dependent populations.

The following recommendations resulted from the Stakeholder Input process:

- Improve transit options for commuters, particularly from Bishop to Mammoth Lakes and for Lone Pine residents.
- Increase service to and from Benton.
- Increase public awareness of ESTA services.
- Provide rural Western Nevada residents with transportation to Bishop.
- Address capital needs, including CTSA vehicle replacement, expanded transit facilities and ITS infrastructure.

The plan identified the following high priority strategies to meet these Inyo and Mono County needs:

- Provide transportation to medical appointments and to Cerro Coso Community College outside of regular transit hours.
- Improve technologies to help transit-dependent populations increase mobility.
- Increase CTSA/ESTA staffing and resources to promote a greater amount of capital allocated to attaining outside funding and successful public outreach.
- Improve transportation directed toward employment opportunities, including those that require non-traditional hours.
- Provide additional transportation for Mono County residents.
- Continue to promote and expand alternative forms of transportation, including ridesharing.
- Focus on accommodating the transportation needs of the Hispanic population.
- Expand transportation opportunities for veterans.
- Seek an FTA 5310 grant to purchase necessary capital equipment in line with the FTA useful life guidelines.
- Construct a shared transit operations and maintenance facility.

STUDY OUTREACH

A number of efforts have been undertaken as part of this study to encourage public input in the process, including stakeholder outreach, community surveys, onboard passenger surveys, and ESTA board meeting and public workshops. Throughout the outreach process, the Mono County Local Transportation Commission ensured that the Regional Planning Advisory Councils and Community Advisory Councils were informed of these efforts.

Onboard Passenger Surveys

Onboard passenger surveys were developed for each of the various route types (including 395 Routes, Town-to-Town, DAR, and Mammoth Fixed Routes). Generally, the purpose of the surveys was to collect information regarding trip patterns, mode of travel to and from the bus, the quality of ESTA services, and rider demographics. The surveys were available on the buses for roughly two weeks in July. Bus drivers were responsible for distributing and collecting passenger surveys. Additionally, envelopes containing the surveys were prominently displayed on the buses. Surveys were available in both English and Spanish. A summary of the on-board passenger surveys will be included as an Appendix A.

Community Surveys

A community survey was created in paper form and on the website SurveyMonkey.com in an effort to reach out to Inyo and Mono County residents who do not regularly ride the bus. The survey included questions regarding demographics of the community, trip patterns (including origin – destination and timing) and reasons for not using public transit. This survey was distributed to 23 stakeholder entities such as human service agencies, hospitals, and other transportation providers with a request to pass along to clients or other interested parties. The survey was posted on the following websites: Town of Mammoth Lakes Recreation Department, Mammoth Lakes Tourism, Mammoth Mountain Ski Area, Mammoth Lakes Chamber of Commerce and Bishop Chamber of Commerce. Surveys were also made available to the general public at the public workshops. A summary of the community passenger surveys will be included as an Appendix B.

Public Workshop

The stakeholders, along with the general public, were invited to attend public workshops on Thursday, July 16, 2015 at the following ADA accessible locations:

1. Town/County Conference Room, Mammoth Lakes, 11:00 AM
2. City of Bishop Council Chambers, Bishop, 2:00 PM

The workshops were advertised in both the Mammoth Times and the Inyo Register as well as through a flyer distributed to ESTA stakeholders. At the public workshops, the Consultant presented important demographic and operational data from the existing conditions memorandum, and allowed for a general input forum. Community surveys were given to meeting attendees for further distribution. Attendance was low at the workshops; however, good input was received at both meetings. Copies of sign-in sheets are presented in Appendix C. This input along with unmet transit needs input and the review of existing conditions will be used to develop a list of potential alternatives to evaluate later in the study.

ESTA Board Workshop

LSC Transportation Consultants attended an ESTA Board Meeting on Friday, July 17, 2015 at the Mammoth Lakes Council Chambers. During the meeting, LSC presented an overview of existing conditions and compared current operational performance within ESTA's programs with previously adopted goals and standards. Potential changes to ESTA goals and standards were discussed in an effort to make standards more attainable and realistic. The presentation also included opportunities for board input and discussion pertaining to the direction of ESTA and the 2015 SRTP. Input from the board workshop will be used to revise ESTA goals and objectives in the next Technical Memorandum.

This page left intentionally blank.

Ultimately, there is one primary public transit operator which serves both Inyo and Mono Counties as well as provides connections to the national intercity transportation network in Reno and Lancaster. Inyo and Mono counties also have a variety of human service agencies which provide transportation for clients.

PUBLIC TRANSIT SERVICES

Eastern Sierra Transit Authority (ESTA)

Formerly known as "Inyo Mono Transit" (a division of the Inyo County Government), ESTA was formed through a Joint Powers Agreement (JPA) between Inyo County, Mono County, City of Bishop and Town of Mammoth Lakes in 2006. ESTA is directed and managed by an eight member Board of Directors, comprised of two elected representatives from each jurisdiction. ESTA is a separate legal entity with a staff of 75 drivers, 4 dispatchers, 4 utility workers, 2 operations supervisors, and 4 administrative positions. Some services such as Auditor-Controller and Treasurer are contracted with Inyo County. Per the JPA, each participating entity has designated ESTA its agent for applying for and receiving Transportation Development Act funds for public transit purposes. ESTA also serves as the Consolidated Transportation Services Agency (CTSA) for both counties.

As a transit operator, ESTA provides a variety of demand-response, fixed route, and deviated-fixed route services to multiple communities in Inyo and Mono County as well as connections to intercity transportation services in urban areas. Transit service is operated out of facilities in Bishop, Mammoth Lakes, Lone Pine, Walker and Tecopa. Maintenance is contracted with outside vendors throughout the region. Some services are operated as part of a contract with other entities. ESTA services are described below.

395 Routes

ESTA operates two intercity routes through the Federal Transit Administration (FTA) 5311(f) Rural Transit and Intercity Bus grant program.

- ***Lone Pine to Reno*** – ESTA provides connections to the national intercity bus network and the international airport in Reno, Nevada with one round trip between Lone Pine and Reno, on Monday, Tuesday, Thursday and Friday of every week. The northbound trip departs Lone Pine at 6:15 AM and arrives in Reno at 12:15 PM, and the southbound trip departs Reno at 1:30 PM and arrives in Lone Pine at 7:40 PM. Communities on US 395 served along the way include Independence, Big Pine, Bishop, Crowley Lake, Mammoth Lakes, Lee Vining, Bridgeport, Walker, Coleville, Gardnerville and Carson City. With a 24 hour reservation, service is also available to Aberdeen, Tom's Place, and June Lake. Fares range from $3.50 - $59.00 depending on the origin and destination of the trip. There are also 10-ride passes available for the cost of nine rides. Discounted fares are available to seniors, youth under 16, and disabled riders.

- ***Mammoth Lakes to Lancaster*** – Intercity connections to the Metrolink station in Lancaster are provided three days a week. The bus departs Mammoth Lakes at 7:50 AM and arrives in Lancaster at 12:45 PM. The return northbound trip departs Lancaster at 2:00 PM and arrives in Mammoth Lakes at 7:00 PM. This route serves the communities of Mammoth Lakes, Crowley Lake, Bishop, Big Pine, Independence, Lone Pine, Olancha, Pearsonville, Inyokern , Mojave and Lancaster. Optional service is provided to Coso Junction, Aberdeen, and Tom's Place with a 24 hour advance reservation. Fares range from $2.00-$39.00 depending on the origin and destination of the trip. There are also 10-ride passes available for the cost of nine rides. Discounted fares, 10-ride passes, and 2 week passes are available to seniors, youth under 16, and disabled riders.

In addition to the intercity routes, ESTA operates two commuter routes along US 395 with mid-day trips available.

- ***Mammoth Express*** – This route operates four roundtrips between Bishop and Mammoth five days a week. This route overlaps with the Mammoth to Lancaster route. A fourth round trip was added the summer of 2015. Schedules are designed to accommodate commuters, with arrivals in Mammoth and Bishop before 8:00 AM. Stops are also made in Tom's Place and Crowley Lake. During the summer (beginning late June), the Mammoth Express Route includes shuttle service between the town of Mammoth Lakes and the Whitmore Pool south of town. The Whitmore Shuttle runs every three hours on weekdays between the hours of 7:35 AM or 7:50 AM and 6:46 PM. Mammoth Express fares range from $3.00-$7.00 depending on the length of the trip. There are 10-ride passes available, as well as 1-week and 2-week passes for the different origin - destination combinations. Discounted fares, 10-ride passes, and 2 week passes are available to seniors, youth under 16, and disabled riders.

- ***Lone Pine Express*** – This service travels between Lone Pine and Bishop three times a day, five days a week. This route shares a roundtrip with the Lone Pine to Reno route when it is in service. Schedules are designed to accommodate commuters living in Bishop and working at county offices in Independence as well as southern Inyo County residents working in Bishop. The route includes stops in Independence, Aberdeen, and Big Pine. A mid-day run allows for additional flexibility for non-commuting passengers in need of social services, medical, shopping and life line services. Fares range from $3.50-$7.25 depending on the length of the trip. There are 10-ride passes available, as well as 1-week and 2-week passes for the different origin - destination combinations. Discounted fares, 10-ride passes, and 2 week passes are available to seniors, youth under 16, and disabled riders.

Town to Town Routes

An important sector of ESTA services is transportation between the smaller Inyo and Mono Communities for essential medical, shopping or other purposes.

- ***Tecopa – Pahrump*** – Lifeline service is provided between Tecopa and Pahrump, NV two Thursdays a month. More frequent service was available in the past, but discontinued due to low ridership levels. The bus leaves the Senior Center in Tecopa at 8:00 AM, stops at the Shoshone Medical Center, and arrives at the Walmart in Pahrump at 8:50 AM. The return trip departs at 11:00 AM. Regular fares range between $2.50-$5.00. Discounted fares, 10-

ride passes, and 2 week passes are available to seniors, youth under 16, and disabled riders.

- ***Benton – Bishop*** – Lifeline service is provided between Benton and Bishop along SR 6 on Tuesdays and Fridays with stops in Hamill Valley and Chalfant. The southbound route leaves Benton at 8:25 AM and arrives in Bishop at 9:30 AM. The return northbound route departs Bishop at 2:30 and arrives in Benton at 3:30 PM. Regular fares range from $3-$6, with 10-Ride passes available for the price of 9 trips. Discounted fares, 10-ride passes, and 2 week passes are available to seniors, youth under 16, and disabled riders.

- ***Bridgeport – Gardnerville*** – This route runs on Wednesday of every week between Bridgeport and Gardnerville, with stops in Walker and Coleville. The northbound route leaves Bridgeport at 1:30 PM and arrives in Gardnerville at 3:30 PM. The southbound route departs Gardnerville at 7:00 PM and returns to Bridgeport at 9:00 PM, but may depart Gardnerville earlier depending on passenger needs. In the past, the route travelled as far as Carson City, but with the construction of a new Walmart in Gardnerville, demand waned and the Carson City stop was terminated. Regular fares range from $2.50-$13.00, with 10-Ride passes available for the price of 9 trips. Discounted fares, 10-ride passes, and 2 week passes are available to seniors, youth under 16, and disabled riders.

Town of Mammoth Lakes Fixed Routes

ESTA operates fare-free fixed route service for the Town of Mammoth Lakes year round, seven days a week.

- ***Purple Line*** – This year-round route runs along SR 203, Sierra Park Road, Manzanita Rd, Lupin St., Minaret, Forest Trail, Hillside Dr., Canyon Blvd , with several notable stops in between, such as: Vons, Mammoth High School, Mammoth Hospital, Mammoth RV Park, Rite Aid, and The Village. The Purple Line also stops near the 395 Route / Mammoth Express stop at 1 Sierra Park Road, YARTS stop and the Park & Ride lot. This line runs every 30 minutes between the hours of 7:00 AM and 6:00 PM.

- ***Gray Line*** - This year-round route runs along the Meridian Blvd and Old Mammoth Rd, with several notable stops, such as: the College, the Skate Park, the Mammoth High School, the Mammoth Hospital, Aspen Village, and Mammoth Creek Park. This line runs every 30 minutes between the hours of 7:00 AM and 6:00 PM.

Two seasonal trolley services are operated during the summer months:

- ***Town Trolley –*** This route is year-round. The route travels between Snowcreek Athletic Club, the Sierra Center Mall, The Village and Canyon Lodge. The Town Trolley also stops near the 395 Route / Mammoth Express stop and the Park & Ride lot. During peak summer months, the Trolley offers service from 9:00 AM until to 2:00 AM. During the winter, the trolley runs from 5:40 PM to 2:00 AM. During the shoulder seasons, the trolley runs from 9:00 AM to 10:00 PM.

- ***Lakes Basin Trolley –*** This free summer service runs from The Village, along Lake Mary Road with many stops at points of interest at the lakes and trails in the area. The route is

available every half-hour or every hour (depending on the date) from 9:00 AM to 6:00 PM. The Lakes Basin Trolley is primarily used for recreation purposes, particularly cyclists who wish to ride the bus up the hill and bike back down to town.

Mammoth Mountain Ski Area (MMSA) Winter Routes

In FY 2012/13 ESTA began contracting with Mammoth Mountain Ski Area (MMSA) for the operation of the winter ski shuttles. Generally, these routes operate from late November to late May (depending on the winter). ESTA operational statistics for Mammoth Fixed Routes in the following tables also include data pertaining to Measure U, a Mammoth sales tax that provides funding for special events.

- ***Red Line*** – This route runs between the Snowcreek Athletic Club and the Main Lodge, with stops serving Vons, Main Street, and The Village. The Red Line also stops near the 395 Route / Mammoth Express stop and the Park & Ride lot. During winter months, this route runs every 20 minutes from 7:00 AM to 5:30 PM. Beginning late April, the Red Line operates on a "Late Season Schedule," running every 30 minutes between 7:00 AM to 5:30 PM.

- ***Blue Line*** – This route runs along Canyon Blvd and Lakeview Blvd between The Village and Canyon Lodge. The service runs every 15 minutes past the hour from 7:20 AM to 5:20 PM.

- ***Green Line –*** This shuttle runs between Vons and Eagle Lodge every 15 minutes between the hours of 7:30 AM and 5:30 PM.

- ***Yellow Line -*** This shuttle runs between The Village and Eagle Lodge every 20 minutes between the hours of 7:30 AM and 5:30 PM.

Dial-A-Ride (DAR) Services

ESTA provides demand response public transit service in several Inyo and Mono County communities.

- ***Lone Pine DAR*** – Door to door service is provided in Lone Pine to the general public between 7:30 AM and 3:30 PM, Monday - Friday. The general public one-way fare is $3.00 for most of the community of Lone Pine (Zone 1) and $4.20 for outlying areas such as the Alabama Hills (Zone 2). Thirty-day, 10-Ride Zone 1, and 10-Ride Multi-Zone passes are available. Discounted fares are available to seniors, youth under 16, and disabled riders.

- ***Walker DAR*** – Door to door transit service is provided to residents of the Antelope Valley from Walker to Topaz from 8:00 AM to 4:30 PM, Monday, Tuesday, Wednesday and Thursday. Fares range from $3.00-$6.30, depending on the distance travelled with 30-day and 10-ride passes available. Discounted fares are available to seniors, youth under 16, and disabled riders.

- ***Mammoth DAR*** – General Public DAR is offered in the Town of Mammoth Lakes from 8:00 AM to 5:00 PM, Monday - Friday. ADA complementary paratransit is available during the service hours of the fixed route when DAR is not available. Fares range from $3.00-$4.20, depending on the distance travelled with 30-day, 10-Ride Zone 1, and 10-Ride Multi-Zone

passes available. Discounted fares are available to seniors, youth under 16, and disabled riders.

- ***Bishop DAR*** – Door to door DAR service is provided to the general public in Bishop. Service is available from 7:00 AM to 6:00 PM Monday through Thursday, 7:00 AM to 2:00 AM on Fridays, 8:30 AM to 2:00 AM on Saturday and 8:00 AM to 1:00 PM on Sunday. The evening service after 6:00 PM on Friday and Saturday nights is called "Nite Rider". Operational data for the Nite Rider is tracked separately from the general Bishop DAR service in the following analysis. The one-way general public fare is $3.00 in the core Bishop area and $4.20 per trip to outlying areas such as Cerro Coso College, Wilkerson, and Keogh Hot Springs. Thirty-day, 10-Ride Zone 1, and 10-Ride Multi-Zone passes available. Discounted fares are available to seniors, youth under 16, and disabled riders.

  ESTA has established checkpoint DAR stops at Vons/Kmart, Paiute Palace Casino, and Josephs Market at various times during daytime hours. Passengers who board at checkpoints at the designated time will be taken to their desired destination. Checkpoint passengers receive a one dollar discount on the fare.

Reds Meadow Shuttle - ESTA operates the Reds Meadow shuttle from Mammoth Lakes to Reds Meadow and Devils Postpile under special use permit with the US Forest Service. The service typically begins around Memorial Day weekend and ends in early September. During peak summer (late June through September), the Shuttle departs the Mammoth Mountain Lodge every 45 minutes between 7:30 AM and 9:45 AM, every 20 minutes between 10:00 AM and 4:00 PM, and then every 45 minutes between 4:45 PM and 7:00 PM . Day passes are $7.00 for adults and $4.00 for children (ages 3-15). Season passes and 3-Day passes are available at a reduced fare.

Mule Days Transportation – Every Memorial Day weekend, ESTA provides separate transportation for the Mule Days event in Bishop. The operational data for this event is tracked as a separate item within ESTA's monthly and annual reports.

Mammoth – June Lake Winter Shuttle – ESTA operates the Mammoth – June Lake Shuttle, which runs during to and from June Mountain during the winter season. Two round trips per day are operated seven days a week in an effort to transport June Lake employees living in Mammoth as well as visitors staying in June Lake traveling to Mammoth for the day.

Specials - The "Specials" category within the operational data reports represents special transportation for human service groups which are exempt from FTA Charter rules.

NEMT (Non-Emergency Medical Transportation) –This pilot program seeks to provide gas mileage reimbursement for transportation to and from non-emergency medical services. This service is available to residents of Inyo or Mono County who are unable to access transportation otherwise due to disability, age, or economic inability. Each trip must begin or end in Inyo or Mono County. This service offers reimbursement for trips up to 300 total miles. Gas is reimbursed at the current IRS reimbursement rate, which is 23 cents per mile for 2015.

Vanpool – In the past, ESTA administrated a vanpool program for commuters in the region. Within this program, employees can share the costs of commuting to work in a leased van.

Program participants pay a monthly fee of around $160 which pays for the cost of the van, gas, insurance and maintenance. This program aims to reduce commuting costs, stress, and environmental impact. The previous vanpool commuted between Mammoth and Bishop but numbers have dwindled to only four willing commuters. At least eight participants are needed to maintain a vanpool. ESTA encourages new vanpool routes.

OTHER REGIONAL TRANSIT SERVICES

Other transit services in the Inyo and Mono County areas not operated by ESTA include:

Mammoth Mountain Ski Area (MMSA)

- ***Orange Line*** *(Winter)* – This Mammoth winter fixed route runs along Lake Mary Road from The Village to the Tamarack Cross Country Ski Center and is operated by MMSA. The service runs every hour between 8:30 AM and 5:00 PM.

- **Hospitality Shuttle** - This complimentary evening shuttle is operated by Mammoth Mountain Ski Area during the winter. The shuttle offers service for Mammoth visitors who wish to dine or shop in the evenings. The shuttle travels between The Mammoth Mountain Inn and Vons every night of the week. Notable stops in between include The Village and Juniper Springs Resort. Hourly service is available from 6:00 PM to midnight.

- **Mountain Bike Shuttle -** During the summer period of June 19 – September 19, a bike shuttle is available between The Village and Mammoth Mountain Adventure Center where mountain bikers can ride the MMSA lift serviced trails. The shuttle runs every 30 minutes from 9:00 AM to 5:30 PM.

Yosemite Area Regional Transit System (YARTS)

The YARTS bus service provides transportation to Yosemite National Park from gateway communities on both the east and west side of the Sierras. In Mono County, YARTS operates a route from Mammoth Lakes, June Mountain, Lee Vining, to Tuolumne Meadows and Yosemite Valley along US 395 and SR 120 primarily for tourists recreating in Yosemite National Park. Two runs provide service all the way to Yosemite Valley while an additional two runs funded by the National Park Service travel only as far as Tuolumne Meadows. More specifically YARTS generally has the following schedule:

- Low Season - June and September:
  The Mammoth to Yosemite YARTS route operates on weekends only. It offers one roundtrip from the Mammoth Mountain Inn to the Yosemite Visitor Center and back. The first leg travels from Mammoth to Yosemite from 8:00 AM to 12:05 PM. Visitors can then depart Yosemite at 5:00 PM and arrive in Mammoth 8:51 PM.

- Peak Season - July and August:
  During these months, the Mammoth to Yosemite route operates three roundtrips per day, seven days a week departing the Mammoth Mountain Inn at 6:00 AM, 8:00 AM, and 11:15 AM. Only the 8:00 AM departure travels to the Yosemite Valley Visitor Center, while the

other two runs turn around at the Tuolumne Meadows Visitor Center. Return trips depart Tuolumne at 8:15 AM and 4:10 PM and the return trip departs Yosemite Valley at 5:00 PM.

The morning YARTS run to Yosemite Valley has a timed connection with ESTA 395 North route in Mammoth Lakes in the morning. This allows for a public transit trip from Lone Pine to Yosemite Valley in one day; however visitors leaving Yosemite Valley headed for Lone Pine would need to overnight in Mammoth before catching the next ESTA bus to Lone Pine. YARTS services on the western side of the Sierras travel as far as Sonora along SR 120 and Merced along SR 140 where connections to other intercity transportation services are possible. As such, hikers have the option to make point to point trips and fly in to the Fresno airport on the west side of the Sierras, and fly out of Reno or Mammoth Lakes. YARTS is an Amtrak Thruway contractor and therefore provides Amtrak ticketing service at all the destinations that YARTS serves. Regular one-way fares range from $3.00-18.00, depending on the Origin - Destination of the trip. Reduced fares are available for seniors, children 12 and under, and persons with disabilities.

The YARTS operating contractor has a vehicle maintenance facility in Merced where major repairs and preventative maintenance for YARTS vehicles are performed. YARTS and ESTA staff have discussed sharing and expanded ESTA vehicle maintenance facility that could handle small emergency repairs for YARTS vehicles on the eastern side of the Sierra. The over-the-road motor coaches operated by YARTS are wheelchair accessible, however very few wheelchair boardings are made.

YARTS staff indicated that the connections between ESTA and YARTS work well and do not see additional connection opportunities. Looking to the future, Yosemite National Park may be implementing alternative transportation strategies on both sides of the Sierra. This would mean, limiting the number of vehicles entering/existing the park and constructing large intercept parking lots. This may have an impact on ESTA's services in the long-term.

Jump Around Carson (JAC)

Jump Around Carson is a local public transit system servicing Carson City, Nevada. The service is governed by the Carson City Regional Transportation Commission. JAC offers fixed routes to popular destinations, such as medical facilities, schools, shopping and recreational areas. An additional curb-to-curb program called JAC Assist is available to eligible persons with disabilities. Regular one-way fares are $1.00, with reduced $0.50 fares available to youth, seniors, and disabled persons.

RTC Washoe Transit

RTC Washoe Transit is the main local public transit system servicing Reno, Sparks, and the unincorporated areas of Washoe County. The service offers fixed routes, an ACCESS program for riders with disabilities, and a vanpool option. Reduced fares are available to youth, seniors, and disabled persons.

Greyhound

Greyhound no longer serves the US 395 corridor. Direct connections to Greyhound can be made via ESTA in Reno. Indirect connections can be made from the ESTA 395 Route South in Palmdale, a 10 minute Metrolink train ride from the ESTA route terminus in Lancaster.

City of Ridgecrest Transit

The City of Ridgecrest provides fixed routes and paratransit through the Ridgerunner Transit System. The Ridgerunner includes service in the City of Ridgecrest, as well as longer Kern County Routes to Inyokern and Randsburg.

Kern Regional Transit

Kern Regional Transit provides fixed route and paratransit services throughout Kern County, including routes to Bakersfield and Lancaster. Kern Regional Transit connects to ESTA in Mojave, Inyokern, and Lancaster.

Antelope Valley Transit Authority (AVTA)

The AVTA provides extensive fixed route, commuter route, and paratransit in the areas of Palmdale, Unincorporated Los Angeles and Lancaster (where it connects to ESTA).

Air Service

The Mammoth-Yosemite Airport in Mammoth Lakes is served year-round by passenger air service. Commercial service is available throughout the week through Alaska Airlines and American Airlines to and from the Los Angeles Airport (LAX). As the sixth busiest global airport, LAX is a major hub domestic and international connections. In addition, the Reno/Tahoe International Airport is directly served by the ESTA US 395 Route to Reno.

My Mammoth Shuttle (MMS): Airport Shuttle

MMS provides taxi-style private rides directly to and from the Mammoth Airport. All transportation is provided in a Yukon Denali XL luxury SUV. The service generally transports clients to and from destinations in the Town of Mammoth Lakes, but the service can accommodate travel to and from Tamarack and Mammoth Mountain Lodge for an extra fee.

Eastside Sierra Shuttle

The Eastside Sierra Shuttle operates under permit from the Inyo National Forest. It transports passengers to any vehicle-accessible trailhead in the Sierra Nevada Country or Death Valley country. The service transports up to six passengers and gear to paved trailheads, and up to four passengers and gear to off-road trailheads. Routes have base prices for one or two passengers, with additional reduced fares for additional riders.

Taxi Service

Limited taxi and limousine services serve the region, operating out of Mammoth Lakes. Rates vary based on the destination. Reflecting the long travel distances, fares can be substantial. For instance the rate for a one-way taxi trip between Mammoth Lakes and Bishop is approximately $90.

MEANINGFUL CONNECTIONS

The Federal Transit Administration (FTA) 5311 rural transit funding program includes a set-aside of 15 percent to address the intercity travel needs of rural area residents to urbanized areas. The objective of the program is to provide transit connections between rural areas and the national intercity bus network and other regional modes of transportation such as air or rail. ESTA receives intercity transit services funding for the 395 Routes. One of the key elements of the intercity bus program is that a 5311(f) funded service should provide a "meaningful connection". A meaningful connection is defined as a transfer within two hours either side of the schedule to the established intercity bus network or other 5311(f) rural intercity bus service providers. Therefore, ESTA 395 Routes were reviewed to determine the degree of connectivity between the US 395 Routes and other intercity regional transit services.

ESTA 395 North

ESTA arrives at the Reno/Tahoe Airport at 12:00 PM and departs at 1:50 PM. ESTA arrives at the Reno Greyhound Station at 12:15 PM and departs at 1:30 PM. Below is a summary of the meaningful connections along the 395 North route to Reno:

ESTA to Reno Greyhound: ESTA's arrival allows for the following connections to popular Greyhound routes:

- Two possibilities for connections towards San Francisco with buses departing at 11:30 AM and 1:00 PM
- One connection towards Los Angeles departing at 11:30 AM
- No possibilities for connections Northbound (to Oregon or Idaho), Eastbound (to Utah or Colorado), or towards Las Vegas. Most of these Greyhound buses depart in the early morning and/or late evening.

Reno Greyhound to ESTA: ESTA's departure allows for the following connections from popular Greyhound routes:

- One connection from Los Angeles, San Francisco, Oregon, and Las Vegas at 12:55 PM
- No possibilities for connections from Utah, Colorado, or Idaho.

ESTA and JAC:

- ESTA arrives in Carson City at 10:05 AM four times a week. This arrival time allows for one connection to Route #1 "N. Carson Area," Route #2A and #2B "N. Town," and Route 3 "S. Carson Area" at 11:30 AM.
- ESTA bus departs Carson City at 3:30 PM on four weekdays. This departure time allows for one connection from Route #1, #2A, #2B and #3 at 2:24 PM.

ESTA and RTC Washoe Transit: RTC Washoe Transit is Reno's local public transit system. Several connections are possible with ESTA in Reno:

- The RTC Route 19 to Wells/Airport connects to ESTA's Reno Airport stop at Plumb St/Locust St every hour. The two stops are within seven blocks of each other.
- The Sierra Spirit line runs every 15-20 minutes and circulates the University of Reno and downtown Reno. The Sierra St/W. 1st St and N Virginia/2nd St stops are both within roughly 3.5 blocks of the ESTA stop.
- Routes 3CC and 3CL run every hour from Downtown Reno to Kings Row and Sky Mountain. The W. 4th St/West St, W. 4th St/Arlington Ave and W. 4th St/Ralston St are all within roughly 2.5 blocks of the ESTA stop.

ESTA and Reno Amtrak:

- ESTA arrives near the Reno Amtrak Station at 12:15 PM four times per week. This arrival does not allow for any good connections westbound (to San Francisco), northbound (to Oregon), southbound (to Los Angeles or Las Vegas) or eastbound (to Utah or Colorado). Many of the Amtrak departures take place in the early morning (around 8:00 AM) and early evening (with popular departure times of 2:45 PM and 4:00 PM).
- ESTA departs near the Reno Amtrak Station at 1:30 PM on four weekdays. Trains from San Francisco and Los Angeles arrive at 1:40 PM. The ESTA bus schedule does not allow for any connections from Las Vegas, Utah, Colorado, Oregon, or Idaho.

ESTA 395 South

ESTA arrives at the Lancaster Metrolink Station at 12:15 PM and departs at 1:30 PM. Below is a summary of the meaningful connections along the 395 North South to Lancaster:

ESTA and Palmdale Greyhound (via Metrolink):

- ESTA's arrival in Lancaster does not allow for any connections on Greyhound Westbound (towards San Francisco), Southbound (towards Los Angeles or Las Vegas), Eastbound (towards Utah or Colorado) or Northbound (towards Oregon or Idaho). Most of these Greyhound departures take place at 11:30 AM and 4:00 PM.

- ESTA's departure from Lancaster does not allow for any connections from San Francisco, Los Angeles, Las Vegas, Utah, Colorado, Oregon, or Idaho. Most of these Greyhound arrivals in Palmdale take place at 11:10 AM, which just misses the two-hour transfer window to validate a meaningful connection.

ESTA and Metrolink:

- ESTA's arrival allows for direct connections to and from the Metrolink Lancaster/LA Union Station line. Connections to the Metrolink line are possible at 11:35 AM and 1:20 PM. From Union Station, travelers can reach almost any destination including Los Angeles International Airport (LAX). The connection with Metrolink is considered to be a more important connection than to Amtrak or Greyhound because of the options available at Union Station.

Lancaster Amtrak to ESTA: ESTA's departure allows for the following connections from Lancaster Amtrak routes:

- Two connections from San Francisco at 1:15 PM.

- One connection towards Oregon at 3:45 PM.
- ESTA's arrival does not allow for any connections from Los Angeles, Las Vegas, Idaho, Utah, or Colorado.

ESTA from Lancaster Amtrak: ESTA's departure does not allow for any connections from San Francisco, Los Angeles, Oregon, Idaho, Utah, or Colorado.

YARTS Connections

A separate analysis was performed to analyze the connectivity between YARTS – 395 Routes and YARTS and Mammoth Fixed Routes. The criteria used to determine a "meaningful connection" for local routes is a transfer between services within a 30 minute window. Below are the findings:

ESTA and Mammoth to Yosemite Route
- Connections between the ESTA Mammoth Purple Line and the YARTS Mammoth to Yosemite route are available at The Village (at 8:07 AM) and the Park & Ride (at 8:17 AM).
- Connections between the ESTA Mammoth Gray Line and the YARTS Mammoth to Yosemite route are possible at the Juniper Springs Resort (at 8:15 AM).

ESTA and Mammoth to Tuolomne Route
- Connections between the ESTA Mammoth Purple Line and the YARTS Mammoth to Tuolomne route are available at The Village (at 11:22 AM) and the Park & Ride (at 11:32 AM).
- Connections between the ESTA Mammoth Gray Line and the YARTS Mammoth to Tuolomne route are available at the Juniper Springs Resort (at 11:30 AM).
- Connections between the ESTA Mammoth Trolley and the YARTS Mammoth to Tuolomne route are possible at The Village (at 11:22 AM) and the Park & Ride (at 11:32 AM).

ESTA and Tuolomne Route to Mammoth
- Connections between the ESTA Mammoth Purple Line and the YARTS Tuolomne route to Mammoth are available at the Park & Ride (at 10:03 AM) and The Village (at 10:14 AM).
- Connections between the ESTA Mammoth Gray Line and the YARTS Tuolomne route to Mammoth are available at the Juniper Springs Resort (at 10:06 AM).
- Connections between the ESTA Mammoth Trolley and the YARTS Tuolomne route to Mammoth are possible at the Park & Ride (at 5:58 PM and 6:09 PM) and The Village (at 6:09 PM and 8:44 PM).

ESTA Transit Capital Assets

Bus Stops and Shelters

Tables 9 and 10 present the location of ESTA bus shelters along the US 395 Routes and within the Town of Mammoth Lakes. At least one bus shelter is present in the major communities along US 395. In addition, ESTA owns and operates a bus shelter located at TJ's Mercantile in Chalfant. As shown in Table 10, a number of shelters in Mammoth are owned and maintained by Caltrans who has expressed an interest in relinquishing the shelters to another entity.

TABLE 9: Bus Shelter Locations on 395 Corridor

Community	Location
Lone Pine	McDonalds, 601 S. Main St
Independence	Post Office, 101 Edwards St
Independence	Court House, 168 Edwards St
Big Pine	South Bound Main St, 390 S Main St
Big Pine	North Bound Main St, 391 S. Main St
Bishop	Kmart/Vons, 1200 N Main St
Bishop	Behind Josephs Market, Warren St
Tom's Place	8180 Crowley Lake Dr
Crowley Lake	Community Center
Mammoth	McDonalds, 1 Sierra Park Dr
Lee Vining	Caltrans Maintenance Yard, Us 395
Bridgeport	121 Emigrant St
Walker	Walker Country Store 107700 US 395

Source: ESTA

TABLE 10: Bus Shelter Locations in the Town of Mammoth Lakes

Stop #	Description	Owned by
8	Old Mammoth Rd / Meridian / Carls	Caltrans
10	Old Mammoth Rd / Park and Ride	Town of Mammoth Lakes
12	Main St. / Laurel Mt. Rd	Caltrans
13	Main St. / Post Office	Caltrans
14	Main St / Sierra Blvd	Caltrans
15	Main St. / Mountain	Caltrans
16	Main St / W of Frontage Rd / White Stag	Caltrans
48	Meridian Blvd/Obsidian	Town of Mammoth Lakes
94	Twin Lakes	Town of Mammoth Lakes
11	Lake Mary Loop Rd / Pokonobe Lodge	Town of Mammoth Lakes

Source: ESTA

Operations and Maintenance Facilities

ESTA's primary operations and administrative facility is located at the Bishop Airport, just east of the City of Bishop. This location hosts administrative and dispatch operations as well as vehicle parking. There is currently a proposal in place to expand the ESTA facilities at the Airport location. Phase 1 of this project is under construction and includes expansion and improvement to the transit parking area. These additions include asphalt pavement in the parking area, a bus wash area and maintenance area. Phase 2 of the project involves the potential construction of a new maintenance and operations facility. As part of the alternatives analysis in this SRTP, the possibility of bringing maintenance operations in-house will be analyzed.

In Mammoth, ESTA leases six bays and administration facilities, from the Town of Mammoth Lakes, at 210 Commerce Drive, to conduct the transit operations and store the vehicles used transit operations in Mammoth Lakes. This facility was recently expanded. There are other facilities used for vehicle storage in Walker, Lone Pine, and Tecopa. All of the facilities are owned by other entities and leased by ESTA.

All maintenance for ESTA vehicles is performed by third-party sources. Various local vendors perform routine maintenance and warranty repairs for the vehicles outside of the Mammoth Lakes area. Vehicles within the town of Mammoth are serviced by the Mammoth Public Works Department.

ESTA utilizes various fuel stations belonging to the Commercial Fueling Network for routes along Bishop and the US 395. For fueling in Mammoth, ESTA vehicles are filled at town facilities using a magnetic key card which allows the costs to be invoiced by the town.

Summary of ESTA Marketing Efforts

ESTA utilizes a variety of media to market the Local, Regional, and Dial-A-Ride services. Below are descriptions of the various marketing efforts:

Flyers

- Bike & Ride: The flyer advertises the bike racks on commuter buses and vanpools in order to target commuter riders. The flyer is informative and references to the Clean Air Projects Program.
- 395 Flyers: The flyer displays information regarding the Reno and Lancaster routes, with information on intermediary stops. The flyer includes pictures of the seasonal landscape as well as the ESTA vehicles themselves. The flyer also notes snow chain capability on the vehicles. A second flyer advertises the 395 route information with pictures of the vehicle fleet and 395 highway signs within the landscape.
- Dial-A-Ride Flyer: This marketing piece lists five reasons to utilize the DAR services, most of which target the general public. The flyer also includes pictures of two ESTA drivers and contact information to schedule a DAR.
- General Flyer: ESTA has also developed a general flyer which advertises the 395 services, DAR and commuter services. This flyer displays the pictures of the ESTA fleet and drivers, as well as general schedule and contact information.

Radio marketing ads for ESTA include the following advertising messages:

- Information about the 395 routes and connections
- Information about the Town Trolley extended hours
- Information about Mammoth Express
- Seasonal capabilities of ESTA transit, including information about snow chains
- Reduced transportation costs for family and friends traveling to and from the same place on DAR
- Free DAR ticket with roundtrip town ticket purchase

Video Marketing

An ESTA advertising video was posted on YouTube on November 26, 2013. The video displays photos of ESTA's fleet with scenic backgrounds, as well as route maps. According to the YouTube page, the video has received 25 views thus far.

OTHER TRANSPORTATION PROVIDERS

Inyo-Mono Association for the Handicapped (IMAH)

The Inyo-Mono Association for the Handicapped provides a group of programs and services for adults aged 18 and older who are developmentally disabled who live in Inyo and Mono Counties. The center is located at 371 S. Warren Street in Bishop. IMAH provides transportation for clients to and from programs as well as to work, using a fleet of six vehicles. Three of the vehicles were purchased with FTA 5310 grant funds and a majority of the vehicles are wheelchair accessible. Most IMAH clients live in Mammoth, Benton, and Lone pine and require transportation to the IMAH center in Bishop. Those clients who wish to participate in IMAH's Work Opportunities program are transported to their places of employment using FTA 5310 grant vehicles. IMAH operates roughly 600 miles per day for a total operating cost of around $77,000 per year. The majority of funding is provided through the Kern Regional Center but a significant and important portion comes from donations and proceeds from the IMAH thrift store.

Great Steps Ahead

Great Steps Ahead is a private organization which provides in home and on-site early intervention services for children ages 0 to 3 with identified disabilities, developmental differences, and infants at risk for developmental delays. The agency is a service provider for the Kern Regional Center. Great Steps Ahead operates two centers: South St. in Bishop and one in Mammoth Lakes. The agency spends roughly $5,000 on bus passes for clients and will also transport clients between their homes and the center in an agency owned vehicle.

Bishop Paiute Tribe

The Bishop Paiute Tribe is a sovereign nation located in the middle of the community of Bishop. The tribe operates the Paiute Palace on US 395 in Bishop. Approximately 20 – 25 percent of ESTA's DAR trips in Bishop have an origin or destination on the Reservation. In 2012, the Bishop Paiute Tribe was awarded a FTA Tribal Transit Grant to supplement the planning and operation of DAR services on tribal lands. As a result of this grant award, there was a Transit Services Agreement between the Tribe and ESTA (July - December 2015) to support a portion of the operating cost (roughly $29,250 per quarter) of Bishop dial-a-ride service. Also as part of the agreement (20) – 10 punch transit passes are provided monthly to the Indian Head Start Preschool.

Toiyabe Indian Health Project

The Toiyabe Indian Health Project is a consortium and seven federally recognized tribes and two Indian communities which provide a variety of health care services, including dialysis, preventative health, mental health, dental, etc. There are three clinics located in the region: Bishop Clinic at 52 Tu Su Lane, Lone Pine Clinic at 1150 Goodwin Road, and Camp Antelope at 73 Camp Antelope Rd in Coleville. Some transportation is provided for tribal members without access to a vehicle to medical appointments and dialysis.

Southern Inyo Health Care District

Southern Inyo Hospital is located at 501 East Locust Street in Lone Pine and provides emergency services, acute care, lab services, radiology, skilled nursing, physical therapy, and hospice services. The hospital is a critical access hospital and rural health clinic and therefore a transit generator for the region.

Northern Inyo Hospital

Northern Inyo County Local Hospital District is located at 150 Pioneer Lane in Bishop and is a 25-bed critical access, not-for-profit hospital. The Northern Inyo Hospital operates the Rural Health Clinic in Bishop, which is the only medical facility in Bishop which offers immediate non-emergency medical assistance. The clinic is open Monday through Saturday 8:00 AM to 5:00 PM and the hospital is open 24 hours a day. The hospital purchases a significant amount of bus passes from ESTA for patients who require transportation home after medical services. There is a need to find safe transportation home for patients who are discharged in the evening or on weekends.

Disabled Sports Eastern Sierra

Disabled Sports Eastern Sierra is a volunteer-based nonprofit dedicated to changing the lives of children and adults with disabilities and their families by:

- Offering year-round outdoor sports and activities
- Creating inspiring challenges
- Providing expert instruction and adaptive equipment
- Rallying the community to comfortably accommodate people with disabilities

On occasion, this organization will use a Toyota Tundra to transport program participants to Mammoth Mountain Ski Area or the Whitmore Recreation Area, if the participant has no other means of transportation. This happens fewer than twenty times a year. Disabled Sports also transports Wounded Warriors between the airport and the ski area. If a large group arrives, Disabled Sports will coordinate with ESTA to provide a larger bus for the trip to the airport. Trips associated with this program are counted in the "Specials" category for ESTA.

Inyo County Health and Human Services

Eastern Sierra Area Agency for the Aging (ESAAA)

The California Department of Aging (CDA) administers programs that serve older adults, adults with disabilities, family caregivers, and residents in long-term care facilities throughout the State. The Department administers funds allocated under the federal Older Americans Act and the Older Californians Act. CDA contracts with the network of Area Agencies on Aging, who directly manage a wide array of federal and state-funded services that help older adults to live as independently as possible in the community; promote healthy aging and community involvement; and assist family members in their vital care giving role. The Area Agency on Aging in Inyo and Mono County is Eastern Sierra Area Agency for the Aging (ESAAA). ESAAA is governed by the Inyo County Board of Supervisors (BOS), who has designated the Department of Health and Human Services (HHS) to administer the ESAAA services. HHS oversees a contract with the County of Mono through which Mono County employees serve Mono County seniors. In Inyo County, HHS staff directly serve Inyo County seniors.

In Inyo County, ESAAA provides a variety of services including social services, services for the aging population, employment and eligibility, behavioral health services, public health services and prevention. ESAAA provides rides to individuals who are physically or logistically unable to use regular public transportation to obtain essential services such as medical appointments, grocery shopping, pharmacy and day care services. These individuals need transportation and assistance from the driver to find the out-of-town medical facility, purchase and carry groceries into the house, enter and exit the vehicle, etc. Based on individual needs, services are provided by Inyo County staff using program vehicles to residents through Inyo County. Staff provide short and long distance medical trips as far as Reno and Lancaster as well as regularly scheduled errand/shopping trips. ESAAA Site Coordinators assess individuals, plan trips and maintain records. In FY 12/13, through March, there were 20 unduplicated clients served for a total of 887 one way trips provided.

In addition to providing transportation, Inyo County HHS (ESAAA) spends roughly $10,000 - $12,000 in bus passes each year for clients. Clients mostly use the ESTA Bishop DAR service and Bishop to Lone Pine fixed route but some also use the Pahrump to Tecopa and Bishop to Reno route for work, school, shopping, and to access services.

Mono County Senior Program

The Mono County Senior Program provides transportation and purchases bus passes on ESTA for clients. In FY 2012-13, two vehicles were used to transport seniors from Benton to medical appointments and shopping in Bishop/Mammoth, as well as Walker residents to Gardnerville,

Carson City, and Reno. Roughly 74 one-way trips were made that year. The program is short staffed and cannot meet all client transportation needs. On occasion the Senior Program has provided trips for Mono County Social Services.

Mono County Health Department

The Mono County Health Department provides transportation assistance for clients who participate in the California Children's Services (CCS) Program and HIV Care Program (HCP). CCS is a State program that assists families by providing medical specialists for children with chronic diseases, permanent health problems, and severe disabilities. After establishing medical and financial eligibility, families are able to access specialists throughout California. CCS can provide travel assistance via limited funding at 23.5 cents per mile so that families can follow through with the recommended medical care. HCP (also known as Ryan White) is a program for low-income individuals diagnosed with HIV/AIDS, their partners, and their families. On a case by case basis, gas vouchers may be provided for clients who need to travel outside of Mono County for specialty HIV care and other related medical services.

Big Pine Education Center

The Big Pine Education Center provides support services for youth including: academic support for K-12 students; workshops on family formation and "out of wedlock" pregnancy; and transportation for youth sporting activities in Bishop. The program uses one 12 – 15 passenger van to transport students to Bishop Park and the Barlow Gym. The Big Pine Education Center is funded through tribal grants and would be unable to share the vehicle with non-Big Pine Paiute programs.

Kern Regional Center

The Kern Regional Center (KRC) is one of California's 20 centers which receive funding through the State Department of Developmental Services to provide services and assistance to improve the quality of life for persons with developmental disabilities. KRC and its vendors provide life-long case management, prevention programs, parent support services and community resource development. KRC spends roughly $33,000 each year on bus passes for consumers who require transportation to the Regional Center, work (many at Vons and IMAH), or medical appointments. ESTA services are generally sufficient for KRC consumers, although some clients would benefit from evening dial-a-ride service to accommodate work schedules.

Veterans Services Office

The Veteran's Services Office for Inyo and Mono Counties is operated out of the Inyo County Sheriff's Office. Gas vouchers are provided to veterans with financial disadvantages. Additionally, the Veteran Service Office assists Veterans in coordinating and funding transportation to any VA appointment that falls under ESTA's established routes. Transportation is also coordinated through the Veterans of Foreign Wars (VFW) Post #8988 for any VA appointment outside of ESTA's routes. Veterans being provided these transportation services will be ineligible to receive Beneficiary Travel from the VA.

ESTA OPERATIONAL STATISTICS

Historical Ridership and Service Levels

Historical ridership and service levels (in terms of vehicle service hours) from FY 2011-12 to FY 2013-14 are presented in Table 11. This data does not include ridership levels and service hours prior to FY 2012-13 for the Mammoth Skier Shuttles, which were previously operated by Mammoth Mountain Ski Area (MMSA). Additionally, the FY 2011-12 Bridgeport – Carson data is included within the Walker DAR numbers for that year.

As shown in Table 11 and Figure 12, systemwide annual one-way passenger-trips were 60 percent greater in FY 2014-15 than in 2011-12. Since FY 2011-12, ridership along the US 395 North route increased by 78 percent, surmounting any other ESTA line in terms of percentage of increase. During the same period, routes with the largest percentage decrease in ridership were Mammoth DAR (-62 percent) and Mammoth Express (-46 percent). In terms of the actual change in the number of one-way passenger-trips, Reds Meadow had the largest increase in one-way passenger-trips over the four-year period (21,931). The Mammoth Fixed Routes saw the greatest decrease in one-way passenger-trips (-12,899) over the four-year period.

Service levels, or the number of hours that transit vehicles are in service and available to transport passengers, also increased between FY 2011-12 and FY 2014-15, as illustrated in Table 11 and Figure 13. Overall service levels have increased by a total of 11 percent. Several lines show large decreases in service levels (ranging from -32 to -51 percent) include Mammoth Express, Lone Pine Express, Town-to-Town Routes, Reds Meadow, June Lake Shuttle and Mammoth DAR.

In terms of the increase in the actual number of vehicle service hours over the four year period, US 395 North had the largest increase (611 hours), followed by Bishop DAR (469 hours). Reds Meadow had the greatest decrease in the number of annual vehicle service hours operated (-2,347) despite the greatest increase in one-way passenger-trips (21,931 trips). Mammoth DAR also operated fewer hours in FY 2013-14 than four years ago with a decrease of 1,466 annual vehicle service hours (Figure 12 and 13).

Recent Ridership and Service Levels

Table 12, Figure 14 and 15 show the proportional ridership and service levels by service for FY 2013-14. As shown, Mammoth Fixed Routes and MMSA winter routes each generate around 38 percent of total ridership, which are substantially higher proportions than all other ESTA services. These services in Mammoth, along with the Reds Meadow shuttle, account for 91.4 percent of all ESTA ridership in FY 2013-14. Mammoth's high visitor population willing to take public transit along with frequent and fare free service helps to explain the disproportionally high ridership within the region. Several services represent less than 5 percent of total

TABLE 11: ESTA Historical Ridership by Service

	Ridership				Change FY 11/12 - FY 14/15		Vehicle Service Hours				Change FY 11/12 - FY 14/15	
Routes/Services	**2011-12**	**2012-13**	**2013-14**	**2014-15**	**#**	**%**	**2011-12**	**2012-13**	**2013-14**	**2014-15**	**#**	**%**
US 395 North	3,060	5,122	5,238	5,451	2,391	78%	1,983	2,629	2,620	2,594	611	31%
US 395 South	3,403	5,471	5,287	4,943	1,540	45%	1,327	1,645	1,636	1,642	315	24%
Mammoth Fixed Routes	379,891	374,434	369,827	366,992	-12,899	-3%	15,740	15,012	15,227	15,892	152	1%
MMSA Winter Routes	--	529,693	371,292	355,550	--	--	--	12,843	8,812	8,632	--	--
Mammoth Express	5,438	3,107	3,167	2,963	-2,475	-46%	1,139	763	791	853	-286	-25%
Lone Pine Express	7,435	5,429	4,883	4,546	-2,889	-39%	2,006	1,386	1,362	1,353	-653	-33%
Benton - Bishop	900	497	579	1,053	153	17%	351	297	309	221	-130	-37%
Bridgeport - Carson	607	543	529	--	--	--	412	328	324	--	--	--
Specials	--	--	10,267	12,132	--	--	--	--	256	--	--	--
Tecopa - Pahrump	183	118	121	155	-28	-15%	173	112	101	117	-56	-32%
Reds Meadow	143,686	148,413	148,548	165,617	21,931	15%	7,327	4,858	4,914	4,980	-2,347	-32%
June Lake Shuttle	1,860	1,041	2,451	2,804	944	51%	631	226	408	312	-319	-51%
Mule Days	455	438	556	414	-41	-9%	65	56	59	59	-6	-9%
Nite Rider	3,581	2,853	3,718	4,048	467	13%	842	739	783	809	-33	-4%
Lone Pine DAR	5,560	5,459	4,179	3,588	-1,972	-35%	1,697	1,733	1,760	1,750	53	3%
Bishop DAR	44,381	40,960	36,494	39,466	-4,915	-11%	9,561	9,708	10,129	10,030	469	5%
Mammoth DAR	7,368	6,342	4,214	2,818	-4,550	-62%	3,632	3,152	2,390	2,166	-1,466	-40%
Walker DAR	1,693	1,570	1,643	2,526	1,149	49%	1,149	1,491	1,510	1,826	677	59%
Total Systemwide	**609,501**	**1,131,490**	**972,993**	**975,066**	**365,565**	**60%**	**48,035**	**56,978**	**53,391**	**53,236**	**5,201**	**11%**

Source: ESTA Monthly & Annual Operation Reports

Note: Walker DAR data for 2011-12 includes Bridgeport - Carson data.
There is no data on ridership levels and service hours in previous years for the Mammoth Seasonal Routes and Specials Routes.

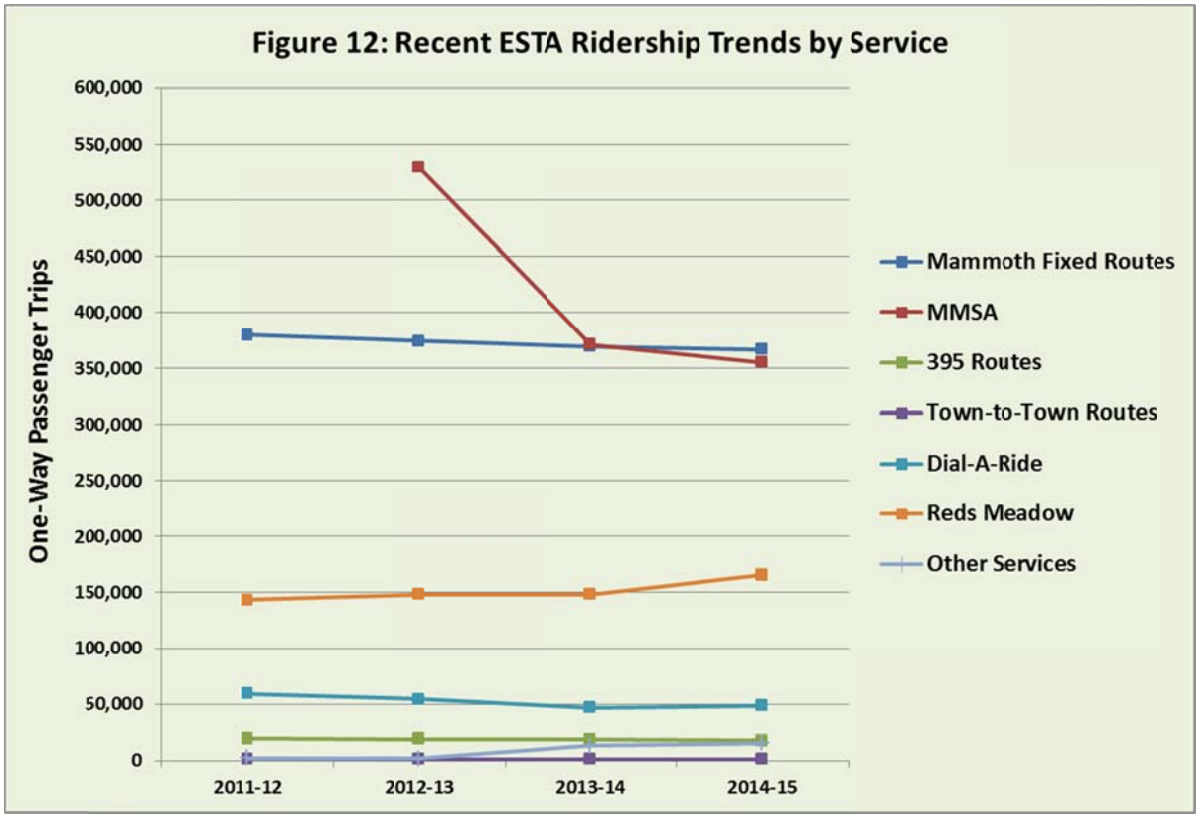


Figure 12: Recent ESTA Ridership Trends by Service
One-Way Passenger Trips
600,000
550,000
500,000
450,000
400,000
350,000
300,000
250,000
200,000
150,000
100,000
50,000
0
2011-12
2012-13
2013-14
2014-15
Mammoth Fixed Routes
MMSA
395 Routes
Town-to-Town Routes
Dial-A-Ride
Reds Meadow
Other Services

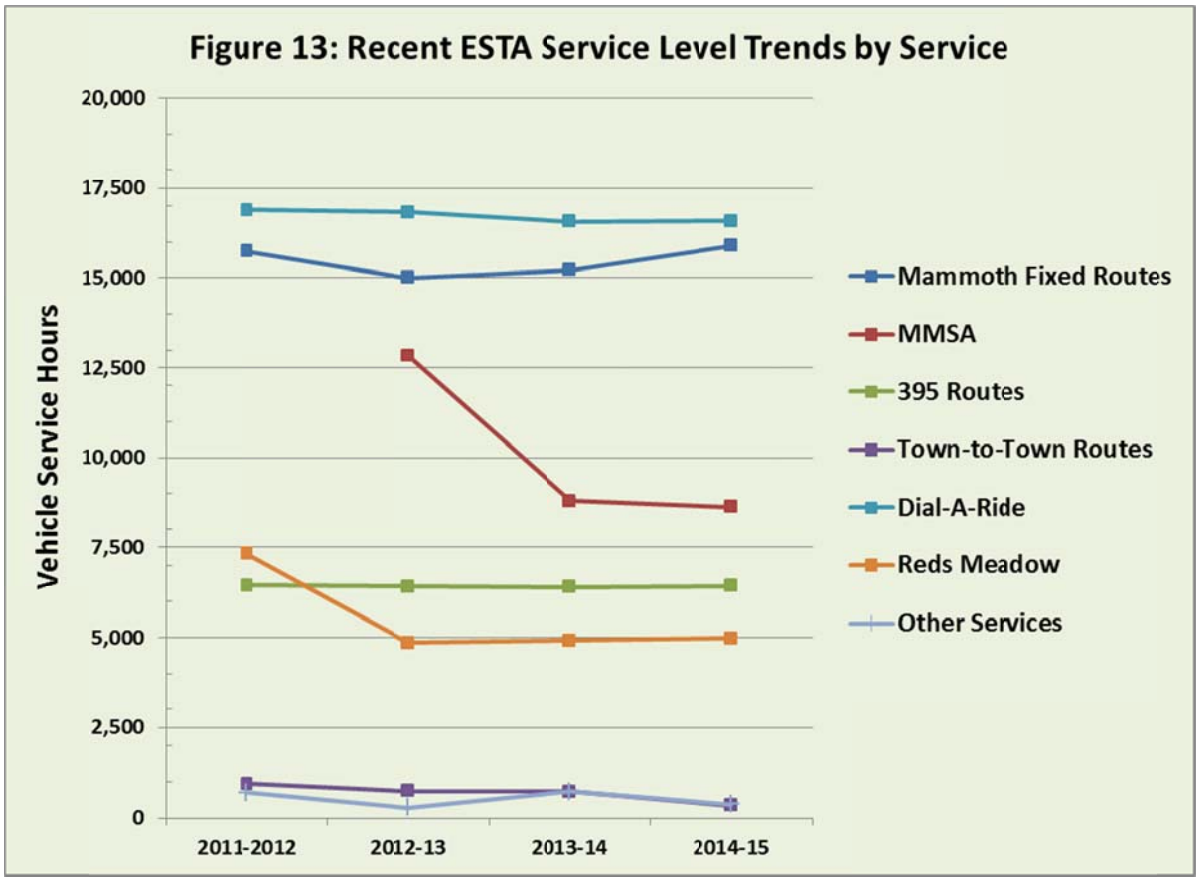


Figure 13: Recent ESTA Service Level Trends by Service
Vehicle Service Hours
20,000
17,500
15,000
12,500
10,000
7,500
5,000
2,500
0
2011-2012
2012-13
2013-14
2014-15
Mammoth Fixed Routes
MMSA
395 Routes
Town-to-Town Routes
Dial-A-Ride
Reds Meadow
Other Services

TABLE 12: FY 2013-14 ESTA Proportional Ridership and Service Levels by Route

Routes/Services	2013-14 Ridership Proportion	2013-14 Vehicle Service Hours Proportion
US 395 North	0.5%	4.9%
US 395 South	0.5%	3.1%
Mammoth Fixed Routes	38.0%	28.5%
MMSA	38.2%	16.5%
Mammoth Express	0.3%	1.5%
Lone Pine Express	0.5%	2.6%
Benton - Bishop	0.1%	0.6%
Bridgeport - Carson	0.1%	0.6%
Specials	1.1%	0.5%
Tecopa - Pahrump	0.0%	0.2%
Reds Meadow	15.3%	9.2%
June Lake Shuttle	0.3%	0.8%
Mule Days	0.1%	0.1%
Nite Rider	0.4%	1.5%
Lone Pine DAR	0.4%	3.3%
Bishop DAR	3.8%	19.0%
Mammoth DAR	0.4%	4.5%
Walker DAR	0.2%	2.8%
Total Systemwide	100.0%	100.0%

Source: ESTA Monthly & Annual Operation Reports

ridership, including: Mammoth Express, Benton – Bishop, Bridgeport – Carson, Tecopa – Pahrump, June Lake Shuttle, Nite Rider, Lone Pine DAR, Mammoth DAR, and Walker DAR.

The proportional ridership levels for FY 2013-14 among the Dial-A-Ride routes are shown in Figure 16. As illustrated, the Bishop DAR is by far the most common service, accounting for 73 percent of total ESTA DAR ridership in FY 2013-14. Lone Pine and Mammoth DAR services follow, with each constituting 8 percent of FY 2013-14 DAR ridership. The Nite Rider service alone makes up 7 percent of annual ridership, though it is an extended service of the Bishop DAR. FY 2013-14 ridership on the Walker DAR falls below all other DAR services, accounting for only 3 percent of total DAR one way passenger-trips.

In terms of the proportion of vehicle service hours by route, the Mammoth Fixed Routes operates the greatest proportion of hours (28.5 percent). However, the Bishop Dial-A-Ride

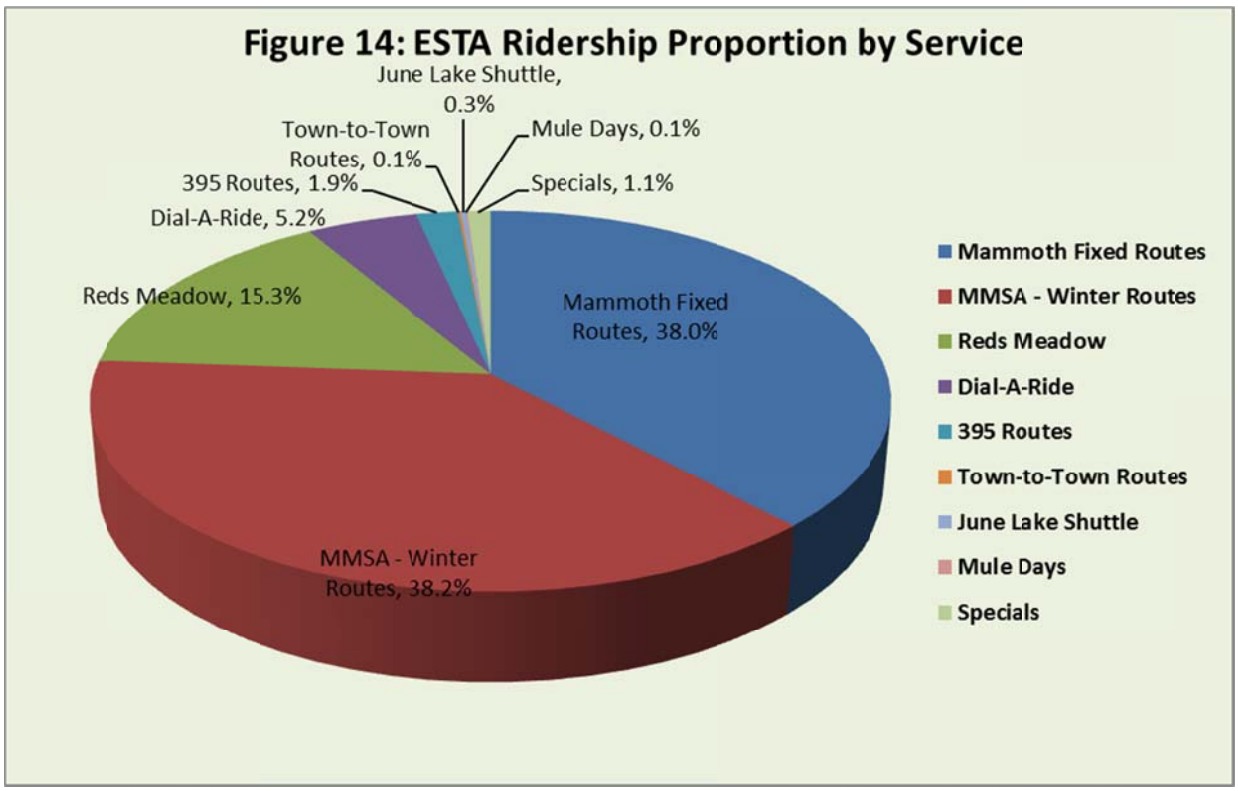


Figure 14: ESTA Ridership Proportion by Service
June Lake Shuttle, 0.3%
Town-to-Town Routes, 0.1%
Mule Days, 0.1%
395 Routes, 1.9%
Specials, 1.1%
Dial-A-Ride, 5.2%
Reds Meadow, 15.3%
Mammoth Fixed Routes, 38.0%
MMSA - Winter Routes, 38.2%
Mammoth Fixed Routes
MMSA - Winter Routes
Reds Meadow
Dial-A-Ride
395 Routes
Town-to-Town Routes
June Lake Shuttle
Mule Days
Specials

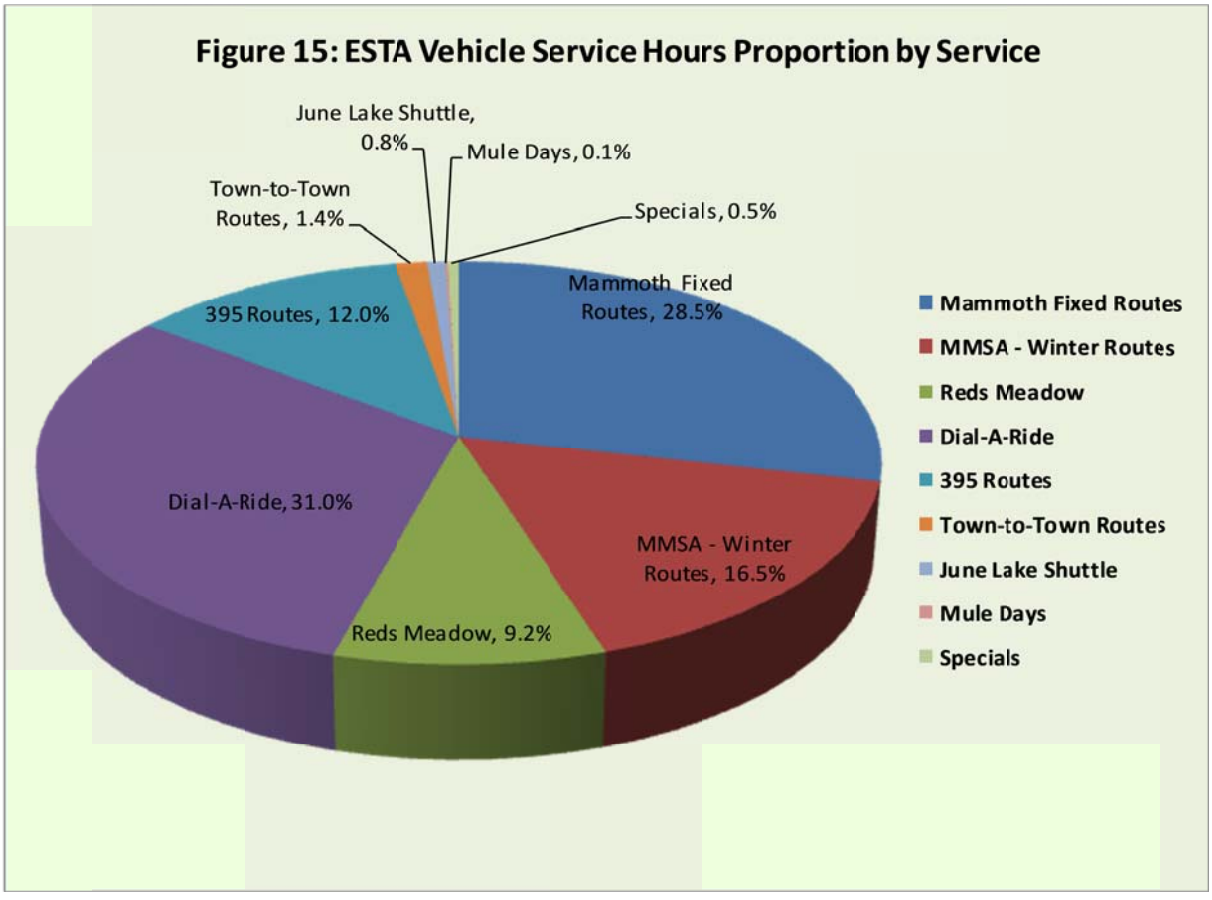
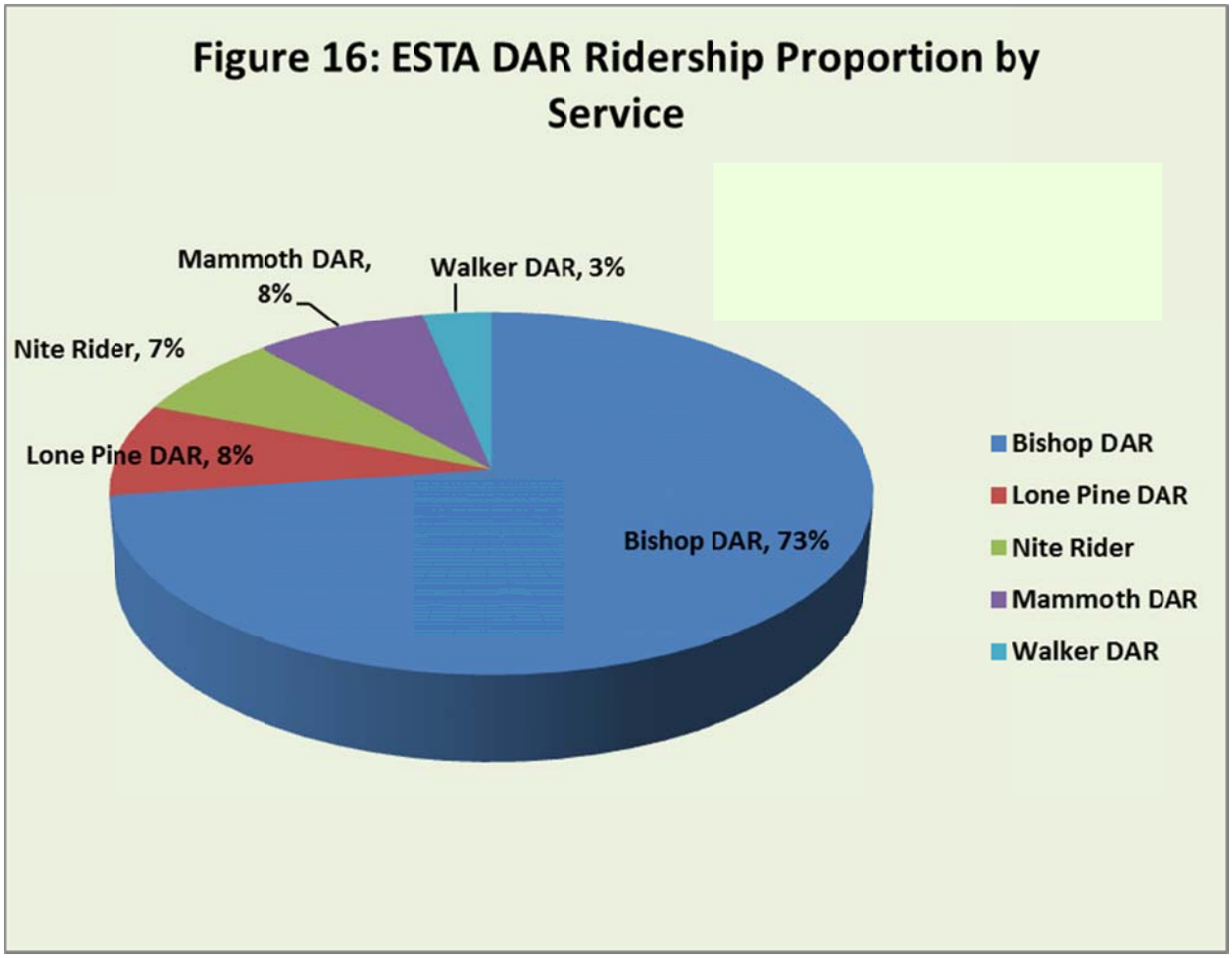


Figure 15: ESTA Vehicle Service Hours Proportion by Service
June Lake Shuttle, 0.8%
Mule Days, 0.1%
Town-to-Town Routes, 1.4%
Specials, 0.5%
Mammoth Fixed Routes, 28.5%
395 Routes, 12.0%
Dial-A-Ride, 31.0%
MMSA - Winter Routes, 16.5%
Reds Meadow, 9.2%
Mammoth Fixed Routes
MMSA - Winter Routes
Reds Meadow
Dial-A-Ride
395 Routes
Town-to-Town Routes
June Lake Shuttle
Mule Days
Specials



yields the next highest vehicle service hours (19.0 percent), although it only accounts for 3.8 percent of total ESTA ridership. Tecopa – Pahrump, Bridgeport – Carson, and Benton – Bishop lines, account for less than one percent of total vehicle service hours each, which is consistent with the low ridership along the routes.

Ridership by Month

Table 13 and Figure 17 illustrate the seasonal ridership trends for ESTA annual routes during FY 2013-14. As shown, the months of July and August generated the highest systemwide ridership levels (with over 100, 2000 passenger-trips per month), whereas September and October saw the lowest number of passenger-trips. Not including Reds Meadow, December through March generated the highest systemwide ridership levels.

Ridership by Day of Week

Table 14 and Figure 18 present ridership by day of week for all ESTA services for a peak summer week (July 13 – 19th, 2014) and a peak winter week (February 9 – 15, 2014). The average peak weekday systemwide one-way passenger-trips are 3,989 in the summer and 3,067 in the winter. During both seasons, Saturday generates the greatest portion of ridership,

TABLE 13: ESTA Ridership by Month for Annual Routes

	US 395 North	US 395 South	Mammoth Fixed Routes	Mammoth Express	Lone Pine Express	Benton - Bishop	Bridgeport - Carson	Tecopa - Pahrump	Nite Rider	Lone Pine DAR	Bishop DAR	Mammoth DAR	Walker DAR	MMSA	Reds Meadow	Total	% of Total
FY 2013-14																	
July	700	622	65,620	317	482	52	63	4	247	429	2,889	115	142	0	58,113	**129,795**	**13.4%**
August	737	588	57,245	350	503	29	46	4	404	420	3,050	297	132	0	52,105	**115,910**	**12.0%**
September	543	400	23,615	248	366	22	35	0	220	380	2,889	416	119	0	6,070	**35,323**	**3.7%**
October	432	349	19,516	246	407	28	62	9	285	429	3,258	425	154	0	0	**25,600**	**2.6%**
November	309	381	18,434	253	343	24	48	9	375	319	2,674	289	145	15,159	0	**38,762**	**4.0%**
December	320	367	30,544	239	351	22	39	5	323	326	2,877	309	106	87,498	0	**123,326**	**12.7%**
January	396	387	27,633	291	307	56	39	16	261	372	3,098	386	148	74,860	0	**108,250**	**11.2%**
February	347	358	30,544	213	305	72	44	3	283	304	3,008	368	114	69,495	0	**105,458**	**10.9%**
March	326	414	33,880	207	354	80	56	24	284	288	3,094	445	137	69,242	0	**108,831**	**11.2%**
April	295	414	21,353	263	390	60	39	14	246	320	3,133	371	149	43,636	0	**70,683**	**7.3%**
May	357	436	16,130	240	420	68	32	14	460	284	3,465	421	122	11,402	7,632	**41,483**	**4.3%**
June	474	571	33,115	300	655	66	26	12	330	309	3,059	372	175	0	24,628	**64,092**	**6.6%**
Total	**5,236**	**5,287**	**377,629**	**3,167**	**4,883**	**579**	**529**	**114**	**3,718**	**4,180**	**36,494**	**4,214**	**1,643**	**371,292**	**148,548**	**967,513**	**100.0%**

Source: ESTA Monthly Operation Reports
Note: Monthly statistics include preliminary operation reports and therefore there may be slight discrepancies between the annual and monthly data

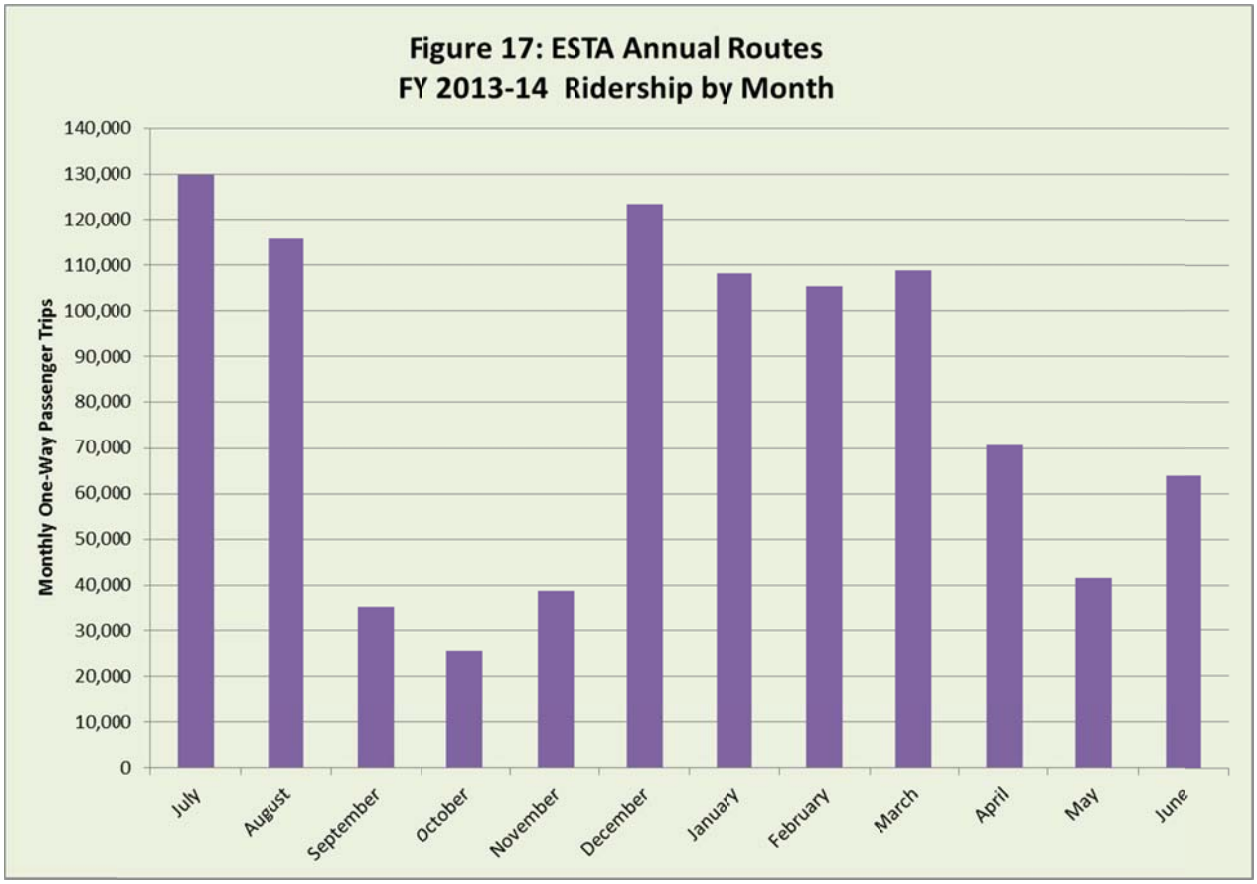
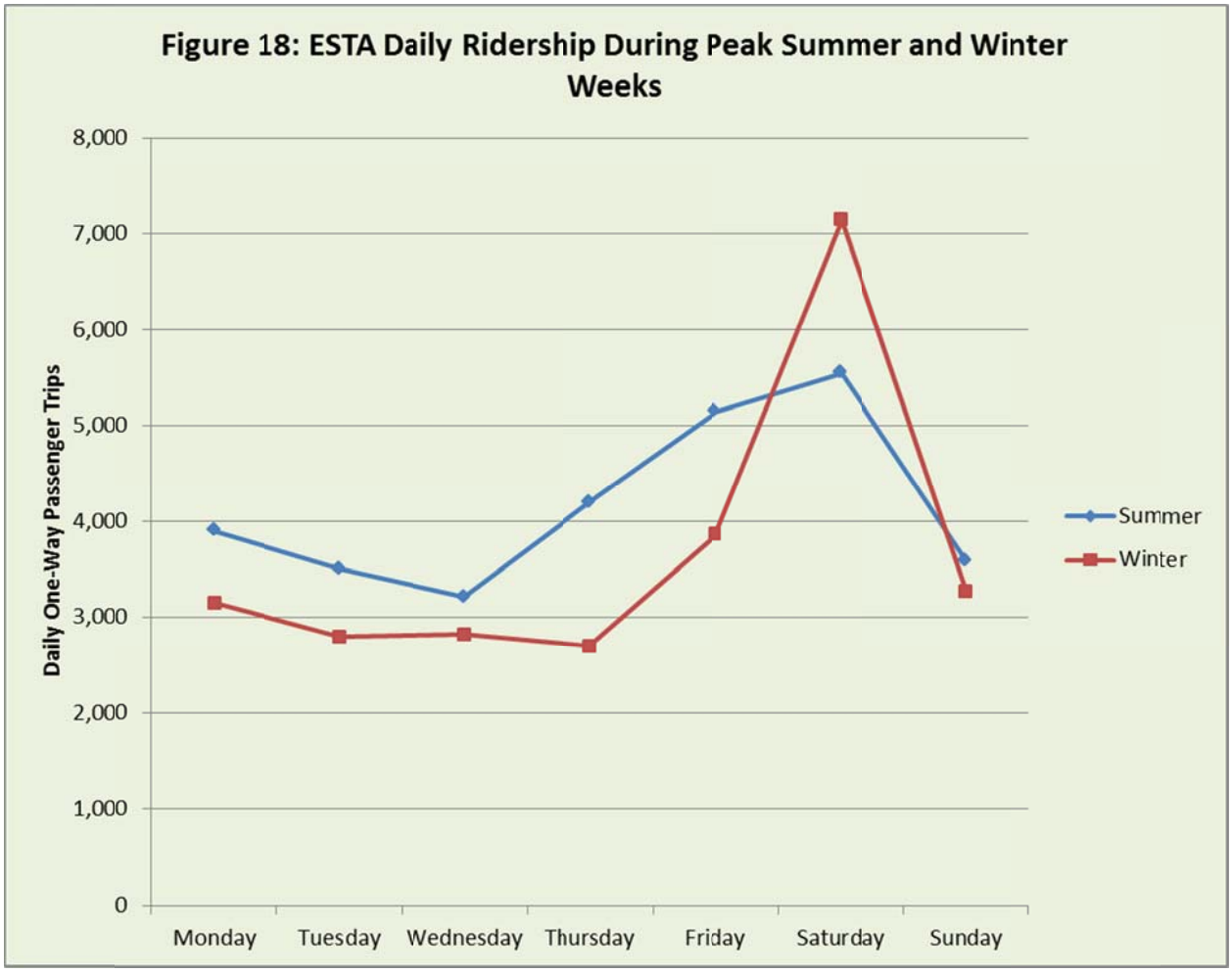


TABLE 14: ESTA Route Daily Ridership by Day of Week During Peak Summer and Winter Weeks

FY 2013-14

	Monday	Tuesday	Wednesday	Thursday	Friday	*Average Weekday*	Saturday	Sunday
Peak Summer (7/13-7/19/14)								
Ridership	3,896	3,505	3,208	4,196	5,141	3,989	5,541	3,580
Percent of Total Week	13.4%	12.1%	11.0%	14.4%	17.7%	13.7%	17.7%	13.3%
Peak Winter (2/9-2/15/14)								
Ridership	3,151	2,798	2,822	2,701	3,864	3,067	7,142	3,266
Percent of Total Week	12.2%	10.9%	11.0%	10.5%	15.0%	11.9%	27.7%	12.7%

Source: ESTA Riders by Day of Week Data



accounting for 17.7 percent of total weekly ridership during the peak summer and 27.7 percent of total weekly ridership in the peak winter. This is evident in Figure 18, where there is a large peak in ridership on Saturday and Sunday ridership returns to closer to weekday levels.

Ridership by Passenger Type

Table 15 and Figure 19 display the FY 2013-14 systemwide ESTA ridership by type of passenger (general public, senior, youth, etc). Overall, 79.4 percent of the ridership profile is made up of the general public. Notably, youth (passengers under the age of 16) follow, accounting for 16.6 percent of the annual ridership. Senior and disabled riders each make up 1.7 and 1.2 percent of the annual ridership profile, respectively. Passengers boarding for free account for 0.6 percent and wheelchair passenger boardings account for 0.5 percent of the total annual ridership. It is important to note, however, that due to the free nature of Mammoth local routes, the "Free" category only pertains to the routes outside of Mammoth local transit.

Per Table 15, in FY 2013-14 the Mammoth Fixed Routes and MMSA carry mostly "General Public" ridership. The Bishop DAR service carries the most Senior, Disabled, and wheelchair passengers, substantially higher than any other ESTA DAR service. The Mammoth Fixed Routes carry more youth riders than other services throughout the year. The Reds Meadow Shuttle carried the most "Free" riding passengers of any ESTA service in FY 2013-14.

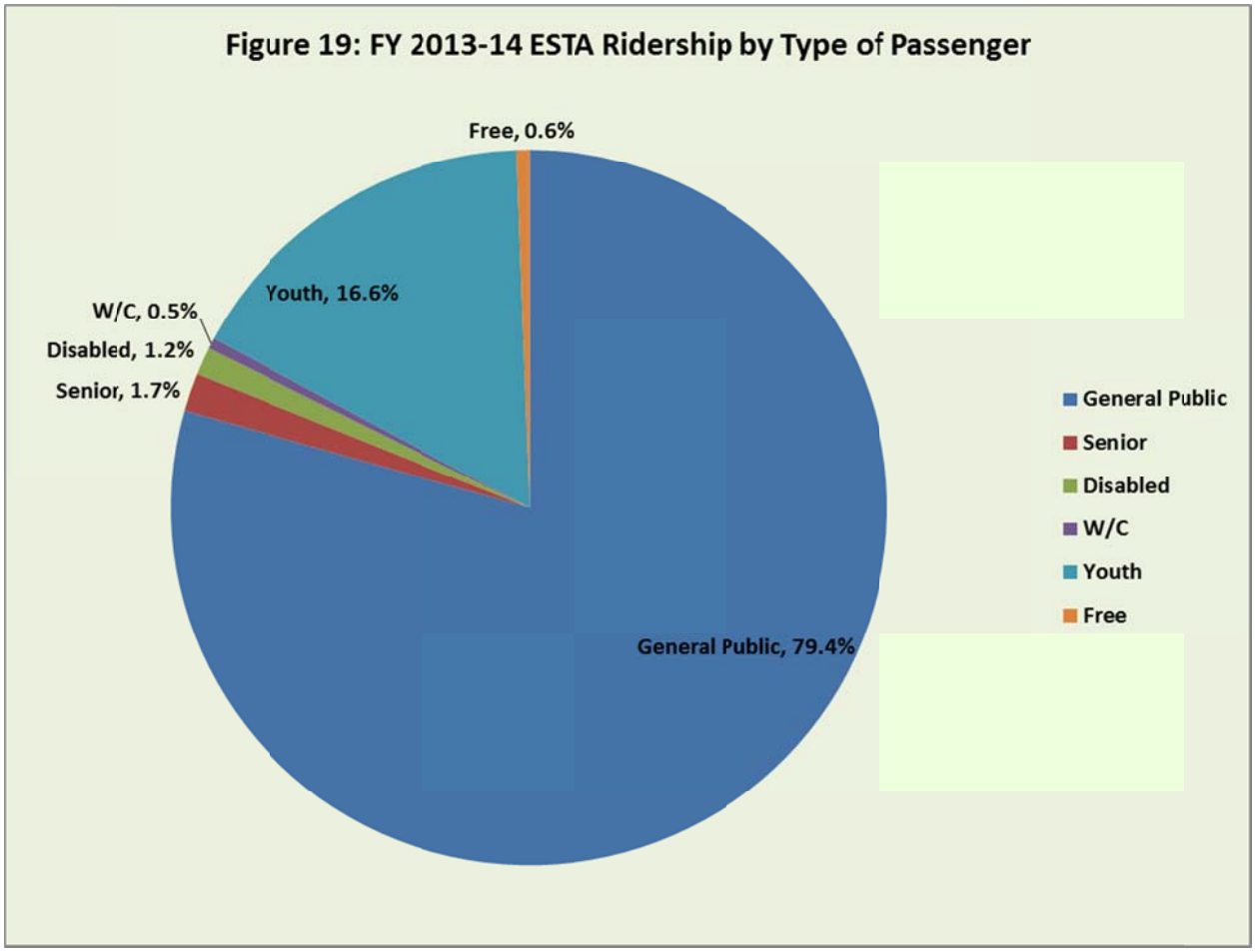
TABLE 15: Boardings by Type for All ESTA Routes

FY 2013-14

	General Public	Senior	Disabled	Wheel-chair	Youth	Free	Total
US 395 North	3,597	850	516	26	190	57	5,236
% of total route	*68.7%*	*16.2%*	*9.9%*	*0.5%*	*3.6%*	*1.1%*	*100.0%*
US 395 South	3,877	618	462	45	124	161	5,287
% of total route	*73.3%*	*11.7%*	*8.7%*	*0.9%*	*2.3%*	*3.0%*	*100.0%*
Mammoth Fixed Routes	288,677	0	173	0	88,779	0	377,629
% of total route	*76.4%*	*Note 1*	*0.0%*	*0.0%*	*23.5%*	*0.0%*	*100.0%*
MMSA	333,202	0	96	0	37,994	0	371,292
% of total route	*89.7%*	*Note 1*	*0.0%*	*0.0%*	*10.2%*	*0.0%*	*100.0%*
Mammoth Express	2,363	372	148	10	100	174	3,167
% of total route	*74.6%*	*11.7%*	*4.7%*	*0.3%*	*3.2%*	*5.5%*	*100.0%*
Lone Pine Express	3,063	778	598	43	249	152	4,883
% of total route	*62.7%*	*15.9%*	*12.2%*	*0.9%*	*5.1%*	*3.1%*	*100.0%*
Benton - Bishop	199	272	15	0	4	89	579
% of total route	*34.4%*	*47.0%*	*2.6%*	*0.0%*	*0.7%*	*15.4%*	*100.0%*
Bridgeport - Carson	102	420	7	0	0	0	529
% of total route	*19%*	*79%*	*1%*	*0%*	*0%*	*0%*	*100%*
Specials	1,804	8	457	0	127	0	2,396
% of total route	*75.3%*	*0.3%*	*19.1%*	*0.0%*	*5.3%*	*0.0%*	*100.0%*
Tecopa - Pahrump	19	85	10	0	0	0	114
% of total route	*16.7%*	*74.6%*	*8.8%*	*0.0%*	*0.0%*	*0.0%*	*100.0%*
Reds Meadow	115,520	0	7	0	30,570	2,451	148,548
% of total route	*77.8%*	*Note 1*	*0.0%*	*0.0%*	*20.6%*	*1.6%*	*100.0%*
June Lake Shuttle	2,450	0	0	0	1	0	2,451
% of total route	*100.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*100.0%*
Mule Days	418	87	1	0	42	8	556
% of total route	*75.2%*	*15.6%*	*0.2%*	*0.0%*	*7.6%*	*1.4%*	*100.0%*
Nite Rider	3,089	99	159	200	20	151	3,718
% of total route	*83.1%*	*2.7%*	*4.3%*	*5.4%*	*0.5%*	*4.1%*	*100.0%*
Lone Pine DAR	403	1,139	662	1,154	735	87	4,180
% of total route	9.6%	27.2%	15.8%	27.6%	17.6%	2.1%	100.0%
Bishop DAR	11,519	11,056	6,019	3,441	2,211	2,248	36,494
% of total route	31.6%	30.3%	16.5%	9.4%	6.1%	6.2%	100.0%
Mammoth DAR	1,725	180	2,066	5	101	137	4,214
% of total route	40.9%	4.3%	49.0%	0.1%	2.4%	3.3%	100.0%
Walker DAR	172	723	681	0	32	35	1,643
% of total route	*10.5%*	*44.0%*	*41.4%*	*0.0%*	*1.9%*	*2.1%*	*100.0%*
Total	**772,209**	**16,690**	**12,079**	**4,924**	**161,280**	**5,750**	**972,933**
Percent of Total	**79.4%**	**1.7%**	**1.2%**	**0.5%**	**16.6%**	**0.6%**	**100.0%**

Note 1: Senior category was not tracked separately for these routes.

Source: ESTA Monthly Operations Reports



Also shown in Table 15 is an analysis of the percentage of each rider type on each route. On the majority of routes, the general public represents the greatest percentage of riders. However, the senior population accounts for the highest percentage of riders on the Benton – Bishop, Bridgeport – Carson, Tecopa – Pahrump, and Walker DAR routes. Mammoth DAR is the only service in which disabled riders constitute the highest proportion of route ridership by type. The Nite Rider, Lone Pine DAR and Bishop DAR are the only routes with over one percent wheelchair ridership, with wheelchair riders accounting for 5.4 percent, 27.6 percent, and 9.4 percent respectively. Notably, wheelchair riders make up the majority of ridership on the Lone Pine DAR. The youth population, while not accounting for majority ridership on any route, makes up a significant portion of ridership on the Mammoth Fixed Routes (23.5 percent), MMSA (10.2 percent), Reds Meadow (20.6 percent) and the Lone Pine DAR (17.6 percent). Not including the fare-free routes, "free" riders make up over 5 percent of ridership on Mammoth Express (5.5 percent), Benton – Bishop (15.4 percent) and Bishop DAR (6.2 percent).

DAR Service Ridership by Passenger-type

A closer look was taken at ridership by passenger type for the DAR services specifically. The general public and senior riders represent the majority of boardings among all ESTA DAR services, making up respectively 29.7 percent and 28.1 percent of the ridership, as shown in Table 16. Disabled ridership follows, accounting for 20.3 percent of ESTA DAR ridership. Wheelchair riders make up 9.9 percent of total boardings. Youth riders and free riders represent

the smallest proportion of DAR boardings, amounting to a total of 6.6 percent and 5.4 percent, respectively. In general, the Mammoth and Bishop DARs carry a greater proportion of general public passenger-trips than the Lone Pine and Walker services. Also shown in Table 16, the Bishop DAR system carries roughly 78.4 percent of all DAR services ridership.

TABLE 16: Boardings by Passenger Type for Dial-A-Ride Services

FY 2013-14

	General Public	Senior	Disabled	W/C	Youth	Free	DAR Service Total	% of Total
Lone Pine	403	1,139	662	1,154	735	87	**4,180**	**9.0%**
% of Total	*9.6%*	*27.2%*	*15.8%*	*27.6%*	*17.6%*	*2.1%*	***100.0%***	
Bishop	11,519	11,056	6,019	3,441	2,211	2,248	**36,494**	**78.4%**
% of Total	*31.6%*	*30.3%*	*16.5%*	*9.4%*	*6.1%*	*6.2%*	***100.0%***	
Mammoth	1,725	180	2,066	5	101	137	**4,214**	**9.1%**
% of Total	*40.9%*	*4.3%*	*49.0%*	*0.1%*	*2.4%*	*3.3%*	***100.0%***	
Walker	172	723	681	0	32	35	**1,643**	**3.5%**
% of Total	*10.5%*	*44.0%*	*41.4%*	*0.0%*	*1.9%*	*2.1%*	***100.0%***	
Total	**13,819**	**13,098**	**9,428**	**4,600**	**3,079**	**2,507**	**46,531**	**100.0%**
% of Total	**29.7%**	**28.1%**	**20.3%**	**9.9%**	**6.6%**	**5.4%**	**100.0%**	

Source: Monthly Operations Reports

Ridership by Hour for Mammoth Fixed Routes and MMSA

Table 17 and Figure 20 present average daily boarding data by hour for Mammoth Fixed Routes and MMSA, collected for one week in the peak winter season (February 1 – 7, 2014) and one week in the peak summer season (July 8 – 14, 2015). The summer routes that were analyzed include: the Purple Line, Gray Line, Town Trolley, and Lakes Basin Trolley. In total, the summer routes experience an afternoon peak (12:00 PM) with an average of 257 boardings during that hour. Other times with high passenger boardings were 11:00 AM (175 boardings), 1:00 PM (206 boardings), 3:00 PM (179 boardings) and 4:00 PM (168 boardings). The lowest boarding levels occurred during the earliest and latest runs in each day.

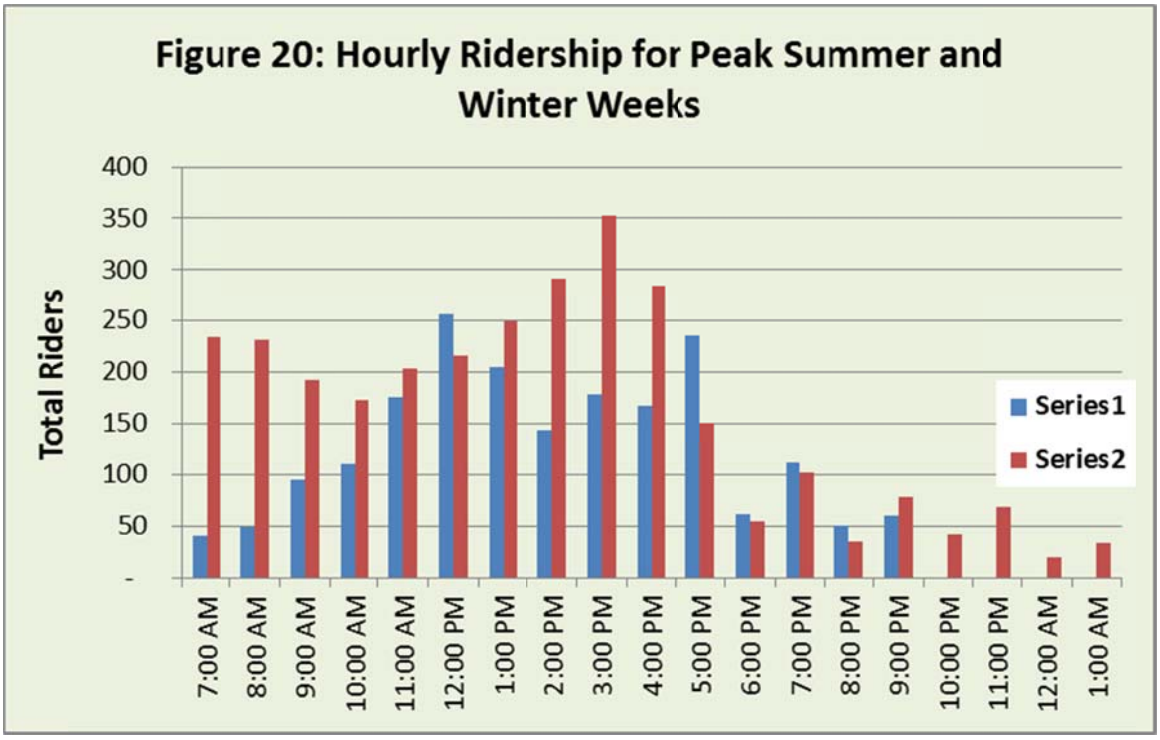
The winter routes that were analyzed include the Purple Line, Gray Line, Red Line, Blue Line and Night Trolley. In the winter, MMSA winter routes experience a peak in boarding at 3:00 PM, with an average of 352 boardings, representing 11.7 percent of daily boardings. Other high levels of boarding occur at 2:00 PM and 4:00 PM, with 292 and 284 boardings, respectively. The high boardings in the late afternoon likely reflect après ski passenger travel. The lowest daily boarding levels all fall after 6:00 PM, when the Night Trolley is the sole transit service offered.

TABLE 17: Average Daily Mammoth Fixed Route Ridership by Hour for Peak Summer and Winter Weeks

FY 2013-14

	Summer Routes (7/8/14 - 7/14/14)						**Winter Routes** (2/1/14 - 2/7/14)						
	Purple	*Gray*	*Town Trolley*	*Lakes Basin Trolley*	**Total**	**% Total**	*Gray*	*Purple*	*Red*	*Blue*	*Night Trolley*	**Total**	**% Total**
7:00 AM	36	5			**41**	**2.1%**	24	52	134	24		**234**	**7.8%**
8:00 AM	35	14			**49**	***2.5%***	10	34	154	32		**231**	**7.7%**
9:00 AM	19	6	56	15	**95**	***4.9%***	11	25	125	32		**193**	**6.4%**
10:00 AM	21	4	37	48	**110**	***5.7%***	9	19	116	28		**173**	**5.7%**
11:00 AM	25	12	70	68	**175**	***9.0%***	11	27	143	24		**204**	**6.8%**
12:00 PM	22	15	151	70	**257**	***13.2%***	10	31	150	26		**217**	**7.2%**
1:00 PM	28	12	104	61	**206**	***10.6%***	17	27	182	23		**249**	**8.3%**
2:00 PM	25	10	51	57	**144**	***7.4%***	28	40	185	38		**292**	**9.7%**
3:00 PM	30	10	84	55	**179**	***9.2%***	26	65	218	43		**352**	**11.7%**
4:00 PM	35	15	56	62	**168**	***8.6%***	20	45	173	46		**284**	**9.4%**
5:00 PM	26	9	177	24	**236**	***12.1%***	15	24	40	16	56	**150**	**5.0%**
6:00 PM			61		**61**	***3.2%***					55	**55**	**1.8%**
7:00 PM			112		**112**	***5.8%***					102	**102**	**3.4%**
8:00 PM			51		**51**	***2.6%***					35	**35**	**1.2%**
9:00 PM			60		**60**	***3.1%***					79	**79**	**2.6%**
10:00 PM											42	**42**	**1.4%**
11:00 PM											69	**69**	**2.3%**
12:00 AM											20	**20**	**0.7%**
1:00 AM											34	**34**	**1.1%**
Average Daily Total Boardings	**301**	**112**	**1,072**	**460**	**1,944**	**100.0%**	**180**	**390**	**1,621**	**334**	**491**	**3,016**	**100.0%**

Source: ESTA 2013-14 Driver Logs



Origin Destination Patterns for US 395 Routes

Origin/destination pairs on the various routes were reviewed using a sample of driver logs from the month of July and February. The results are summarized below with a series of tables included as Appendix D.

395 South to Lancaster

Tables B1 and B2 in Appendix D illustrates origin - destination patterns for the 395 South route to Lancaster for the month of July 2014. As shown, the Bishop – Lancaster was the most common origin/destination pair, with 50 one-way passenger-trips made during the month of July. The next common route was the Lone Pine – Lancaster origin/destination, which had 39 one-way passenger-trips during July. Trips from Bishop - Lancaster and Lone Pine – Lancaster comprised respectively 10.7 and 8.3 percent of total monthly one-way passenger-trips along the 395 South route. Other prevalent origin - destinations pairs are Mammoth – Lone Pine (31 trips, 6.6 percent) Independence - Bishop (30 trips, 6.4 percent), Lancaster – Inyokern (25 trips, 5.3 percent), Lancaster - Bishop (24 trips, 5.1 percent), and Inyokern – Lancaster (24 trips, 5.1 percent). Also shown in Table B2, Lancaster represents 33.7 percent of destinations for the 395 South route. The other common destinations are Bishop (18.3 percent) and Lone Pine (11.5 percent). Lancaster is also the most popular origin (19.8 percent), followed by Lone Pine (17.9 percent), Bishop (16.8 percent) and Mammoth (10.9 percent).

In an effort to analyze seasonal trends, Tables B3 and B4 in Appendix D illustrate origin - destination patterns for the 395 South Route to Lancaster for the month of February, 2014. As shown, the most common travel patterns are Mojave – Lancaster (38 trips, 14.1 percent) and Lancaster – Mojave (35 trips, 13.0 percent). The Bishop - Lancaster and Independence - Bishop origin/destination are also common, accounting for 11.1 and 7.0 percent of monthly ridership.

Consistent with summer travel patterns, Lancaster accounts for 40.7 percent of the trip destinations, making it the most popular destination. Other common destinations are Bishop (19.3 percent) and Mojave (18.1 percent). Again, Lancaster is the most prevalent origin, representing a 30.4 percent of all monthly trip origins. Other common origins are Mojave (18.5 percent) and Bishop (14.8 percent). It is interesting to note that ridership on the 395 South route to Lancaster totaled 469 one-way passenger-trips during the month of July but only 270 one-way passenger-trips over the month of February.

395 North to Reno

Tables B5 and B6 in Appendix D show the origin - destination data for the 395 North route during the month of July, 2014. Bishop - Mammoth constitutes 73 one-way passenger-trips or 15.6 percent of the total monthly origin - destination pairs, making it the most frequent trip. Travel from Bishop - Reno is the second most common trip pattern, accounting for 57 trips or 12.2 percent of total monthly trips on the 395 North route. Reno and Mammoth are the most popular destinations, making up 29.9 and 22.9 percent of all trip destinations, respectively along the 395 North Route. Bishop surpasses all other origins along the route, accounting for 31.2 percent of total monthly trip origins. Another popular origin is Mammoth, which represents 23.7 percent of monthly trip origins.

Tables B7 and B8 in Appendix D show the origin - destination data for the 395 North route during the month of February 2014. The Bishop - Mammoth origin -destination pair makes up the majority of trip patterns (61 trips, 24.6 percent), which is consistent with the summer months. Other common origin - destination pairs are Mammoth - Bishop (40 trips, 16.1 percent), Bishop - Reno (28 trips, 11.3 percent) and Reno – Bishop (27 trips, 10.9 percent). Unlike summer months, Mammoth and Bishop are the most common destinations, representing 37.5 and 30.6 percent of total monthly trip destinations. Bishop and Mammoth are also the most common origins, accounting 38.7 and 30.6 percent of total trip origins. It is worth noting that, similar to the 395 South Route, the number of trips greatly vary between winter and summer months. In July, the 395 North Route carried 468 one-way passenger-trips, which decreased to 248 in February.

Origin Destination Patterns for Regional Routes

Benton to Bishop Route

Origin - destination data for the Benton - Bishop route is illustrated in Tables B9 and B10 in Appendix D. Out of a total of 99 trips in the month of July, 2014, 47 are Bishop - Benton, and 52 are from Benton - Bishop. In the month of February, 2014, only 71 riders travelled on ESTA's Benton - Bishop route. Benton -Bishop was the most popular origin/destination pair in the winter, carrying 40 passengers trips. Bishop - Benton is the second most common trip, carrying 29 riders. Only two trips were recorded from Bishop – Chalfant and none in the reverse direction.

Bridgeport to Gardnerville Route

Per Tables B11 and B12 in Appendix D, origin - destination data was recorded for the month of July, 2014 along the Bridgeport - Gardnerville route. As shown, trips from Walker - Gardnerville

and from Gardnerville - Walker each account for 14 one-way passenger-trips or 45.2 percent of the total trips. Other common trips include Bridgeport - Gardnerville (5 trips, 16.1 percent), Gardnerville - Topaz (5 trips, 16.1 percent) and Topaz - Gardnerville (4 trips, 12.9 percent). The most common trip origin is Gardnerville, and the most common destination is Walker.
Tables B13 and B14 in Appendix D show the origin - destination data recorded for the month of February, 2014 for the Bridgeport - Gardnerville (Carson) Route. The two most common trip patterns are Walker - Gardnerville and Gardnerville – Walker, and each account for 8 trips or 18.6 percent of total monthly one-way passenger-trips. The most common trip origin and destination is Gardnerville.

Tecopa to Pahrump

Origin - destination data demonstrates that only 9 one-way passenger-trips were made along the Tecopa - Pahrump line in the month of July and 6 trips were made in February, 2014. Out of these trips, 3 trips originated in Shoshone and 3 trips terminated in Shoshone.

Mammoth Express

Tables B15 and B16 in Appendix D illustrate the origin - destination patterns for the month of July, 2014 along the Mammoth Express route. As shown, the most common trip is Mammoth - Bishop, which makes up 258 trips or 44.4 percent of the total monthly one-way passenger-trips. The second most common trip is Bishop - Mammoth, accounting for 175 trips or 30.1 percent of total trips. The Origin - destination data for the sampled month of February is consistent with summer trip patterns (Tables B17 and B18, Appendix D). As illustrated, trips between Bishop - Mammoth each make up roughly 126 trips or 40.8 percent of total monthly trips. Also shown in the aforementioned tables, Mammoth and Bishop are the most common origins and destinations in both July and February, 2014.

Lone Pine Express

Tables B19 and B20 in Appendix D show the origin - destination data for the month of July, 2014 along the Lone Pine Express route. Bishop - Independence is the most popular origin/destination (making up 110 trips or 16.7 percent of total trips), followed by trips from Bishop - Big Pine (95 trips, 14.4 percent) and from Bishop - Lone Pine (87, 13.2 percent). In the sampled origin - destination data for the month of February, 2014 (Tables B21 and B22, Appendix D), the most common route is from Big Pine - Bishop (comprising 90 trips or 22.0 percent of total trips), followed by trips from Bishop - Big Pine (81 trips or 19.8 percent of total trips). In the summer and winter months, the most common origin and most common destination is Bishop.

Bishop DAR Checkpoint Data

The total daily passengers at each Bishop DAR checkpoint stop were summarized between the dates of August 1st, 2013 and April 30th, 2015. During this period, there were an average of 0.8 boardings per day at the Paiute Palace Casino, 1.21 boardings per day at Joseph's Market, and 8.05 boardings per day at K-Mart. Of these three checkpoints, K-Mart accounts for 80 percent of the total boardings, Joseph's Market represents 12 percent of the boardings, and the Casino accounts for 8 percent of the checkpoint boardings.

Common Destinations for Each DAR Service

ESTA driver logs from the month of February, 2014 show that the most common destinations along the each Dial-A-Ride services are as follows:

Walker DAR

- Walker Senior Center
- Larson Lane
- Topaz Wellness Center
- Coleville
- Walker KOA
- Downtown Walker

Lone Pine DAR

- South Inyo Healthcare District Hospital
- Lone Pine Senior Center
- Hay Street
- Joseph's Bi-Rite Mart
- Locust Street

Bishop DAR

- Paiute Palace Casino
- Bishop Care Center
- South St.
- Vons
- Clarke St.
- Glenwood Ln.
- Chevron
- Joseph's Bi-Rite Market
- Kmart

Mammoth DAR

- Mammoth Elementary School
- Early Start
- Mammoth Bus Stop SHTP #68
- Mammoth Kids Corner
- Lupin St.
- The Troutfitter & Trout Fly
- SP Villas
- Sierra Manor Rd.
- Whispering Pines Pl.

Non-Emergency Medical Transportation (NEMT) Trip Statistics

The NEMT program provided $8,659 in mileage reimbursements for a total of 91 roundtrips between May 2014 and May 2015. This equates to an average cost of $95.15 per NEMT trip between May of 2014 and 2015. These reimbursements were dispersed among 29 NEMT participants during the timeframe of the program. While NEMT destinations span all of California and Nevada, the most popular destinations include medical facilities in: Carson City, Orange, Loma Linda, Los Angeles, Reno, and Sacramento.

ESTA SERVICES FINANCIAL CHARACTERISTICS

Revenues

Table 18 and Figure 21 illustrate the breakdown of total FY 2013-14 ESTA revenues for both operating and capital purposes. As indicated, a total of $5,662,564 was received. For the fiscal year, the Transportation Development Act Local Transportation Fund (LTF) was the primary source of revenue, which totaled $1,222,489, accounting for 22 percent of the total revenue. Revenue from services and fees, which includes contract revenue from MMSA, is a close runner up, accounting for a total of $963,814, or 17 percent, of total annual revenue. Other major revenue sources include Passenger Fares (14.4 percent), and Other Agency Grants (14.2 percent) which account for revenue contributed by the Bishop Paiute Tribe, Kern Council of Governments and the Town of Mammoth Lakes.

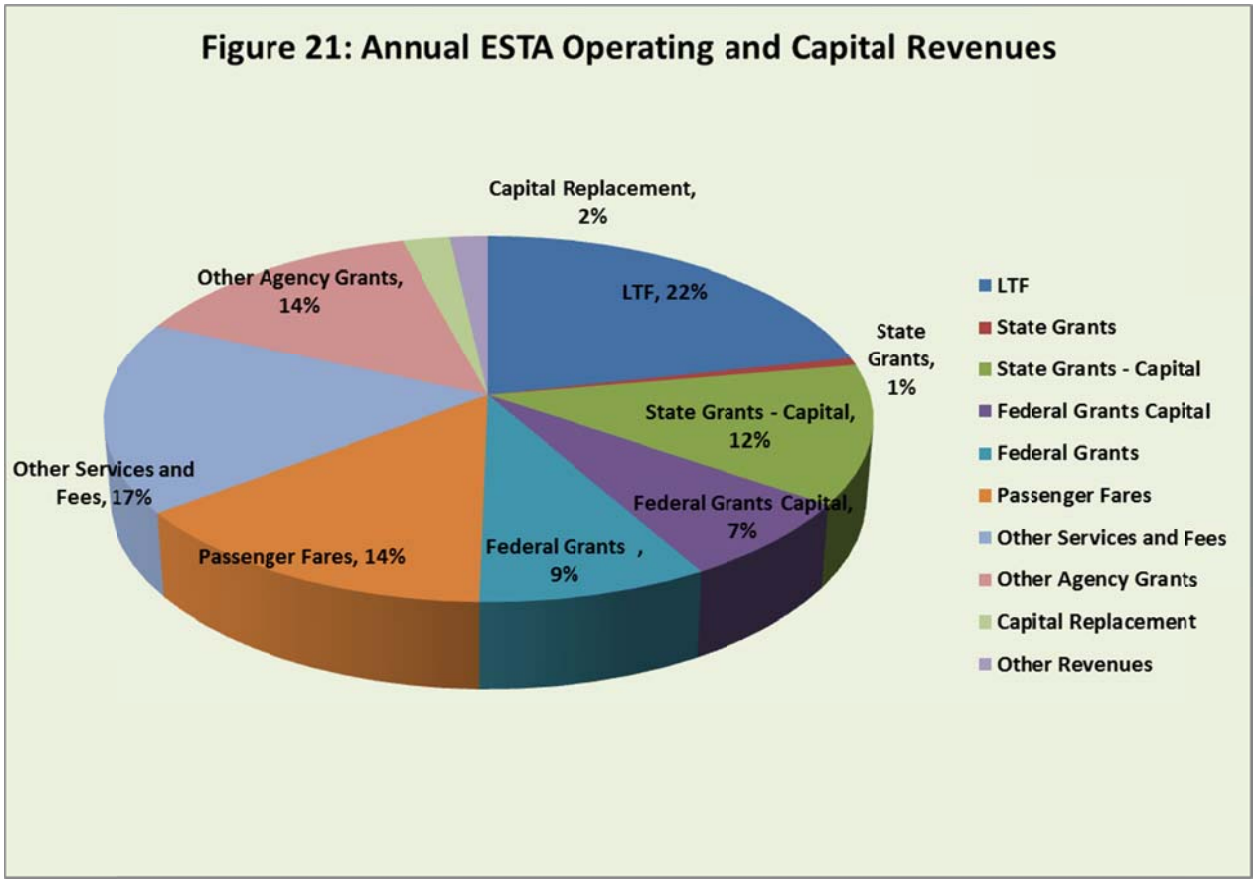
TABLE 18: ESTA Transit Services Revenues

Fiscal Year 2013-14 Actual Budget

Source		Revenue	% of Total
Federal and State Funding			
LTF		$1,222,489	21.6%
STA Funding		$0	0.0%
Federal Funding		$891,123	15.7%
Proposition 1B		$82,070	1.4%
State Grants		$652,939	11.5%
	Subtotal	*$2,848,621*	
Other Funds			
Services and Fees		$963,814	17.0%
Passenger Fares		$812,801	14.4%
Interest from Treasury		$3,109	0.1%
Other Agency Grants[(1)]		$805,852	14.2%
Capital Replacement		$130,000	2.3%
Motor Pool Charges		$835	0.0%
Sale of Fixed Assets		$8,185	0.1%
Miscellaneous Revenues		$30,966	0.5%
Operating Transfers In		$58,379	1.0%
	Subtotal	*$2,813,942*	
	Total Revenue	**$5,662,563**	100%

Source: ESTA FY 2013/14 Actual Budget

Note 1: Includes revenue from the Bishop Paiute Tribe for supplemental Bishop DAR service, from Kern Regional Transit for run between Inyokern and Lancaster, and from Town of Mammoth Lakes for service which goes beyond what could be funded with federal and state revenues.



Expenses

ESTA's operating expenses by budget line item for FY 2013-14 are presented in Table 19. As shown, systemwide operating costs totaled $3,828,848 per the actual FY 2013-14 ESTA budget. Salaries and benefits account for nearly 60 percent of operating expenses. Fuel and oil account for another 13.8 percent of operating expenses and maintenance of equipment account for 9.5 percent.

Cost Allocation Model

When developing and evaluating service alternatives, it is useful to have a cost model that can accurately show the financial impact of any proposed change. Typically a cost allocation model for public transit services allocates the total costs by service quantity (fixed, hours, and miles). Systemwide cost factors (cost per hour, cost per mile, and fixed costs) are then applied to the actual or proposed miles and hours for each route/service to estimate the operating cost of each service. As outlined above, ESTA operates a wide variety of transit services. For example, the 395 routes travel around 40 miles per vehicle service hour while some of the more geographically condensed services, such as Mammoth DAR, travel only 4 to 5 miles per vehicle hour operated. As such, the FY 2008-09 to 2010-11 Triennial Performance Audit recommended developing a methodology for determining operating costs on a route level which takes in to account these differences. In response to the recommendation, ESTA developed an operating cost model which considers how vehicle maintenance, fuel, administrative and operations

TABLE 19: ESTA Fiscal Year 2013-14 Operating Expenses

Line Item	Total Expense	% of Total
Salaries and Benefits	$2,284,559	59.7%
Insurance Premium	$180,511	4.7%
Maintenance of Equipment	$361,843	9.5%
Maintenance of Structures	$3,596	0.1%
Memberships, Office & Other Equipment	$3,103	0.1%
Office Supplies & Clothing	$10,547	0.3%
Accounting & Auditing Services	$37,940	1.0%
Employee Physicals	$4,813	0.1%
Advertising	$34,910	0.9%
Professional & Special Service	$56,000	1.5%
Rents & Leases-Equipment	$3,116	0.1%
Office, Space & Site Rental	$168,000	4.4%
General Operating Expense	$46,677	1.2%
Travel Expense	$446	0.0%
Mileage Reimbursement	$1,336	0.0%
Utilities	$35,413	0.9%
Fuel & Oil	$527,293	13.8%
Equipment	$10,367	0.3%
Operating Transfers Out	$58,379	1.5%
Total Operating Expenditures	**$3,828,848**	**100%**

Source: ESTA FY 2013-14 Actual Budget

salaries and benefits vary for each route (Table 20). Cost factors in Table 20 are based on the following methodology:

- **Maintenance Cost per Vehicle Service Hour** – Maintenance cost per mile was estimated for each vehicle type used for the different routes. These figures were then multiplied by the number of miles travelled per hour for each route.

- **Fuel Cost per Vehicle Service Hour** – Fuel costs for each route were estimated based on miles travelled per gallon for each vehicle type and assuming the cost of $3.66 per gallon of fuel.

TABLE 20: ESTA Operating Cost Allocation Model

Route/Service	Service Input Quantities: Service Hours	Miles	Maintenance Cost per Service Hour	Fuel Cost per Service Hour	Administrative Cost per Service Hour	Operating Salaries & Benefits per Service Hour	Other Operating Costs per Hour	Total Operating Cost per Hour	Total Operating Cost
Benton to Bishop	309	9,344	$6.98	$13.18	$15.69	$27.86	$9.58	$73.29	$22,646
Bishop DAR	10,129	104,883	$2.29	$5.83	$12.85	$31.89	$8.62	$61.49	$622,809
June Mtn. Shuttle	408	11,161	$11.77	$11.92	$9.76	$27.56	$8.91	$69.92	$28,527
Lancaster	1,636	75,810	$7.59	$19.49	$41.49	$32.17	$16.32	$117.07	$191,526
Lone Pine DAR	1,760	14,158	$1.95	$4.53	$13.18	$32.44	$8.79	$60.88	$107,152
Lone Pine/Bishop	1,362	58,416	$2.49	$16.52	$20.04	$33.78	$7.84	$80.66	$109,864
Mammoth DAR	2,390	11,137	$2.95	$2.44	$3.82	$27.24	$8.23	$44.68	$106,792
Mammoth Express	782	34,511	$4.06	$17.18	$34.21	$31.79	$12.57	$99.81	$78,048
Mammoth FR	15,227	216,744	$8.92	$8.98	$3.82	$27.24	$8.23	$57.19	$870,885
MMSA	8,812	112,964	$9.98	$11.44	$7.94	$28.79	$20.51	$78.66	$693,190
Mule Shuttle	59	657	$2.45	$6.27	$12.87	$31.94	$8.63	$62.16	$3,667
Nite Rider	783	11,985	$3.38	$8.62	$12.86	$31.91	$8.62	$65.38	$51,194
Other	256	2,846	$6.97	$7.02	$3.82	$27.27	$8.24	$53.32	$13,649
Reds Meadow	4,914	60,347	$6.13	$10.45	$3.77	$29.85	$18.64	$68.83	$338,245
Reno	2,620	110,860	$6.94	$17.80	$41.50	$32.18	$16.32	$114.74	$300,613
Tecopa	101	1,637	$3.95	$9.13	$13.11	$32.28	$8.74	$67.22	$6,789
Walker DAR	1,510	8,668	$1.32	$1.75	$15.46	$27.44	$9.44	$55.40	$83,654
Bridgeport - Gardnerville	324	6,891	$4.92	$10.96	$16.86	$29.93	$10.29	$72.96	$23,639
Total	**53,382**	**853,019**	--	--	--	--	--		$3,652,889

Source: ESTA

- **Administrative Cost per Vehicle Service Hour –** ESTA staff determined the total salaries and benefits for management and administrative personnel assigned on a pre-determined basis to ESTA's budget units.

- **Operating Salaries & Benefits per Vehicle Service Hour –** This cost factor represents total salaries and benefits for each budget unit minus administrative costs.

- **Other Operating Expenses per Vehicle Service Hour –** This cost factor represents all other operating expenses assigned to each budget unit.

All these cost factors are added together to determine total operating cost per hour per route and total operating cost per route. The service quantities (hours and miles) used in Table 20 represent figures from the most recent reports available and therefore are slightly different from those originally used to calculate operating costs in the FY 2013-14 budget. Therefore, the total operating cost figure for ESTA services systemwide in Table 20 does not exactly match that obtained from the FY 2013-14 budget in Table 19.

The cost model in Table 20 can be used to estimate the cost of implementing changes to a service, such as the operation of additional routes or changes in service span. It will be used as part of this study to evaluate the cost impacts of service alternatives. It should be noted that the cost model does not include depreciation or capital items (such as vehicle purchases) made during the fiscal year.

TRANSIT SERVICE SYSTEM PERFORMANCE

Eastern Sierra Transit Authority Transit System Performance

Table 21 presents operating and performance data for all ESTA routes for Fiscal Year 2013-14. This data is useful to conduct an analysis of ridership and operating data on a per route basis, including subsidy requirements and farebox recovery ratios, and is used to evaluate a number of productivity and service measures.

Passenger-Trips per Vehicle-Hour of Service

An important measure of service effectiveness is "efficiency," or productivity, defined as the number of **one-way passenger-trips provided per vehicle service hour**. The system averaged 18.2 passenger-trips per vehicle service hour. The MMSA routes had the highest ratio of passenger-trips per vehicle service hour, with 42.1, followed by Specials routes, with 40.1. The Walker DAR and Tecopa lines had the lowest, with respectively 1.1 and 1.2, passenger-trips per vehicle service hour. This data can be found in Table 21 and Figure 22.

Passenger-Trips per Vehicle-Mile of Service

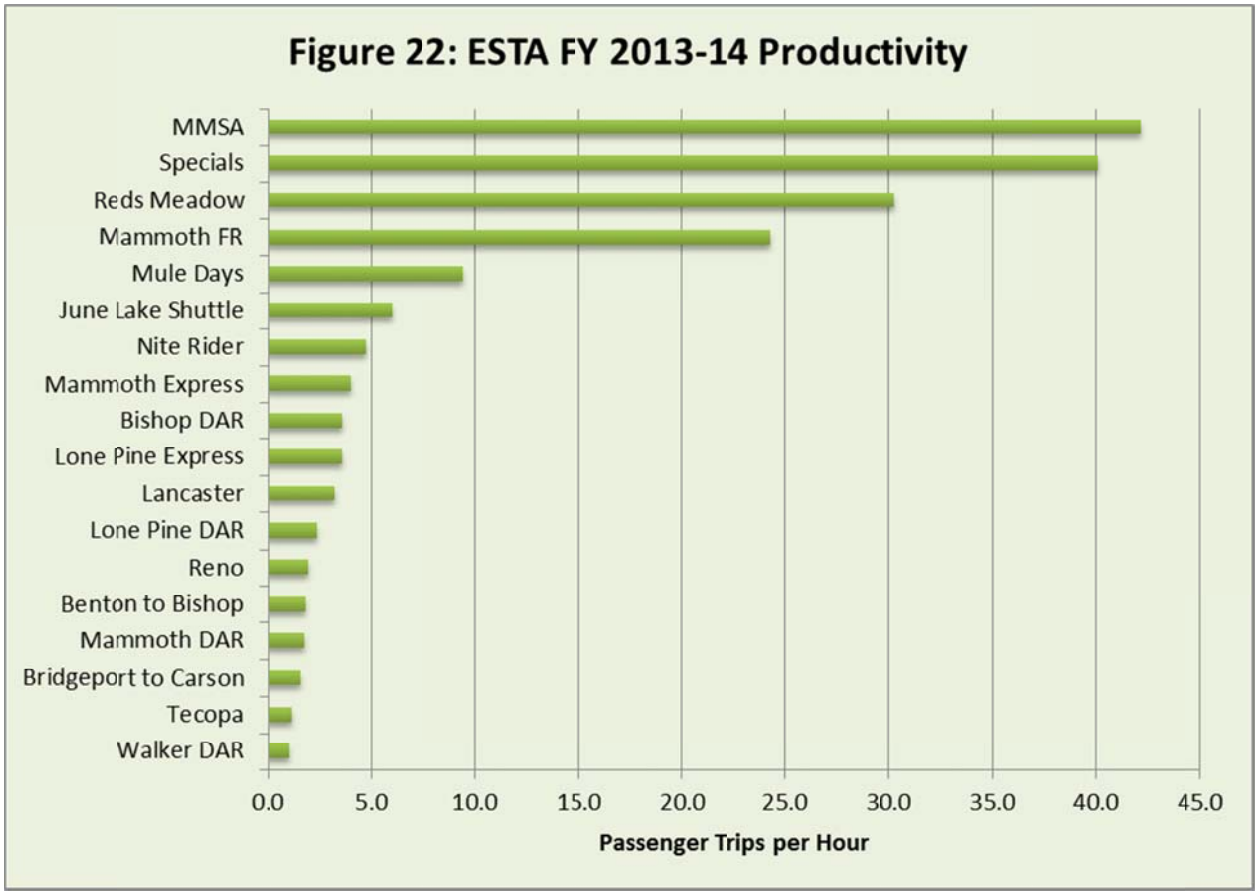
Given the very long lengths of some ESTA routes, it is also appropriate to consider the **passe-ger-miles of service delivered for each hour of bus service**. Overall, the ESTA system averaged 108 passenger-miles per vehicle service hour. By this measure, the US 395 routes and Reds Meadows are the most productive, providing between 226 and 272 passenger-miles for every vehicle-hour operated. On the opposite end of the spectrum, the dial-a-ride services have

TABLE 21: Operating and Financial Characteristics by Route

FY 2013-14

	Annual Operating Data							Performance Indicators							
	One-Way Passenger-Trips	Avg Trip Length	Annual Passenger-Miles	Vehicle Service Hours	Vehicle Service Miles	Total Operating Cost	Farebox Revenue	Operating Cost per Trip	Operating Cost per Hour	Psgrs per Veh-Hour	Psgr-Miles per Vehicle-Hr	Passengers per Veh-Mile	Public Subsidy per Passenger Trip	Public Subsidy per Psgr-Mile	Total Farebox Ratio
Mammoth Express	3,143	39	121,540	782	34,511	$78,048	$17,737	$24.83	$99.81	4.02	155	0.09	$19.19	$0.50	22.7%
Lone Pine Express	4,883	35	169,196	1,362	58,416	$109,864	$24,723	$22.50	$80.66	3.59	124	0.08	$17.44	$0.50	22.5%
Lone Pine DAR	4,179	4	16,716	1,760	14,158	$107,152	$10,362	$25.64	$60.88	2.37	9	0.30	$23.16	$5.79	9.7%
Tecopa	121	39	4,719	101	1,637	$6,789	$713	$56.11	$67.22	1.20	47	0.07	$50.21	$1.29	10.5%
Walker DAR	1,643	2	3,286	1,510	8,668	$83,654	$4,374	$50.92	$55.40	1.09	2	0.19	$48.25	$24.13	5.2%
Benton to Bishop	579	35	20,265	309	9,344	$22,646	$2,746	$39.11	$73.29	1.87	66	0.06	$34.37	$0.98	12.1%
Bridgeport to Carson	529	41	21,530	324	6,891	$23,639	$3,680	$44.69	$72.96	1.63	66	0.08	$37.73	$0.93	15.6%
Specials	10,267	--	--	256	2,846	$13,649	$0	$1.33	$53.32	40.11	--	3.61	$1.33	--	0.0%
Bishop DAR	36,494	2	72,988	10,129	104,883	$622,809	$86,237	$17.07	$61.49	3.60	7	0.35	$14.70	$7.35	13.8%
Mule Days	556	--	--	59	657	$3,667	$487	$6.60	$62.15	9.42	--	0.85	$5.72	--	13.3%
Nite Rider	3,718	2	7,436	783	11,985	$51,194	$14,631	$13.77	$65.38	4.75	9	0.31	$9.83	$4.92	28.6%
Mammoth FR	369,827	4	1,440,230	15,227	216,744	$870,885	$42	$2.35	$57.19	24.29	95	1.71	$2.35	$0.60	0.0%
Mammoth DAR	4,214	4	16,856	2,390	11,137	$106,792	$10,980	$25.34	$44.68	1.76	7	0.38	$22.74	$5.68	10.3%
Reno	5,238	119	625,417	2,620	110,860	$300,613	$97,532	$57.39	$114.74	2.00	239	0.05	$38.77	$0.32	32.4%
Lancaster	5,287	70	370,090	1,636	75,810	$191,526	$72,896	$36.23	$117.07	3.23	226	0.07	$22.44	$0.32	38.1%
Reds Meadow	148,548	9	1,336,932	4,914	60,347	$338,245	$436,336	$2.28	$68.83	30.23	272	2.46	-$0.66	-$0.07	129.0%
MMSA	371,292	4	1,485,168	8,812	112,964	$693,190	$0	$1.87	$78.66	42.13	169	3.29	$0.00	$0.47	0.0%
June Lake Shuttle	2,451	20	49,020	408	11,161	$28,527	$29,325	$11.64	$69.92	6.01	120	0.22	-$0.33	-$0.02	102.8%
Systemwide	**972,969**	**27**	**5,761,389**	**53,382**	**853,019**	**$3,652,889**	**$812,801**	**$3.75**	**$68.43**	**18.23**	108	**1.14**	**$2.92**	$0.49	**22.3%**

Source: ESTA, LSC



the lowest values, particularly for the Walker Dial-A-Ride (reflecting the small service area and low ridership)

Operating Cost per Passenger-Trip

The financial efficiency of a system can be measured by the **operating cost per one-way passenger-trip**, as presented in Table 21. Operating costs for each route were developed using the methodology referenced in Table 20. The average operating cost per passenger trip systemwide was $3.75. The most expensive routes per passenger trip are the US 395 North to Reno service ($57.39) and the Tecopa - Pahrump line ($56.11). The most cost efficient services in terms of operating cost per trip are Specials and $1.86 and the MMSA winter routes ($1.87).

Operating Cost per Vehicle Service Hour

Operating cost per hour is another key indicator of a transit system's cost efficiency (Figure 23). Overall, ESTA's operating cost per hour is $68.43. Mammoth DAR is quite cost efficient in terms of cost per service hour ($44.68) followed by Specials ($53.32) and Mammoth Fixed Routes ($57.19). The less cost efficient services according to this performance indicator are the long regional routes along US 395: 395 South to Lancaster ($117.07), 395 North to Reno ($114.74).

Farebox Recovery Ratio

Another measure of each route's efficiency is provided by the **farebox recovery ratio**, which is illustrated in Table 21 and compared by route in Figure 24. The farebox recovery ratio is particularly important as a measurement for meeting the mandated minimums required for state funding (10 percent). ESTA farebox revenues totaled $812,801 during the fiscal year 2013-14. Dividing this figure into the operating cost equates to an annual operating farebox recovery ratio of 22.3 percent. As presented in Table 21 and Figure 24, the farebox return ratio was highest on the Reds Meadow route (129.0 percent) followed by 102.8 percent on the June Lake Shuttle. At the other extreme, the farebox return ratio was only 5.2 percent on the Walker DAR. Services which are paid for through agreements with other agencies and no passenger fare is charged such as the fixed routes in Mammoth and Specials show a farebox ratio of 0 percent.

Public Subsidy per Passenger-Trip

As public transit services are mostly funded by a combination of federal, state, and local tax payer money, an important performance indicator is to determine the amount of public subsidy per passenger-trip. For services which are partially or wholly paid for with some type of tax payer money, **public operating subsidy** is determined by subtracting the fare revenue from the operating cost. The MMSA winter routes are completely paid for through a contract with MMSA; therefore no public dollars are spent on this service. Results are shown in Table 21 and

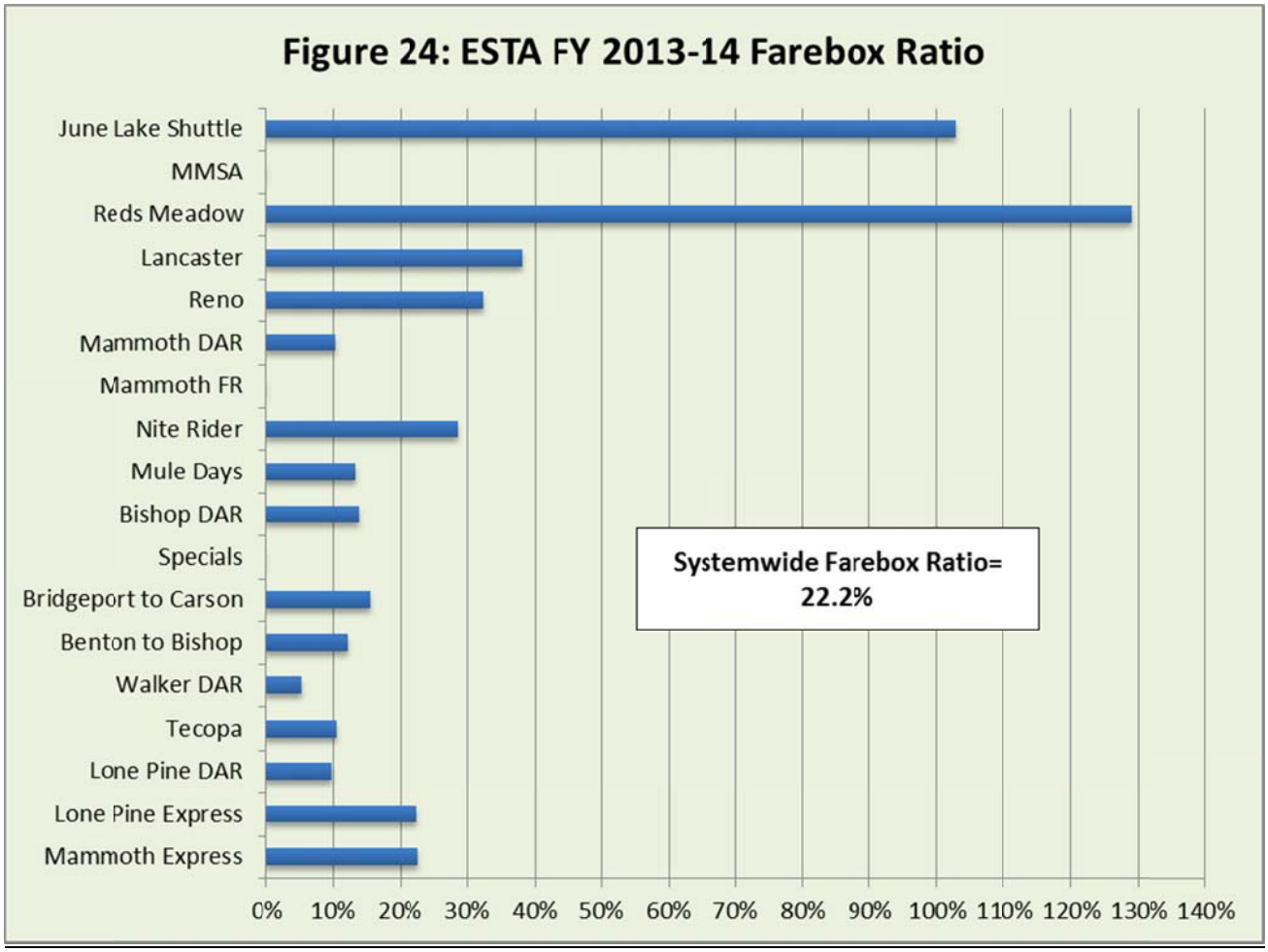
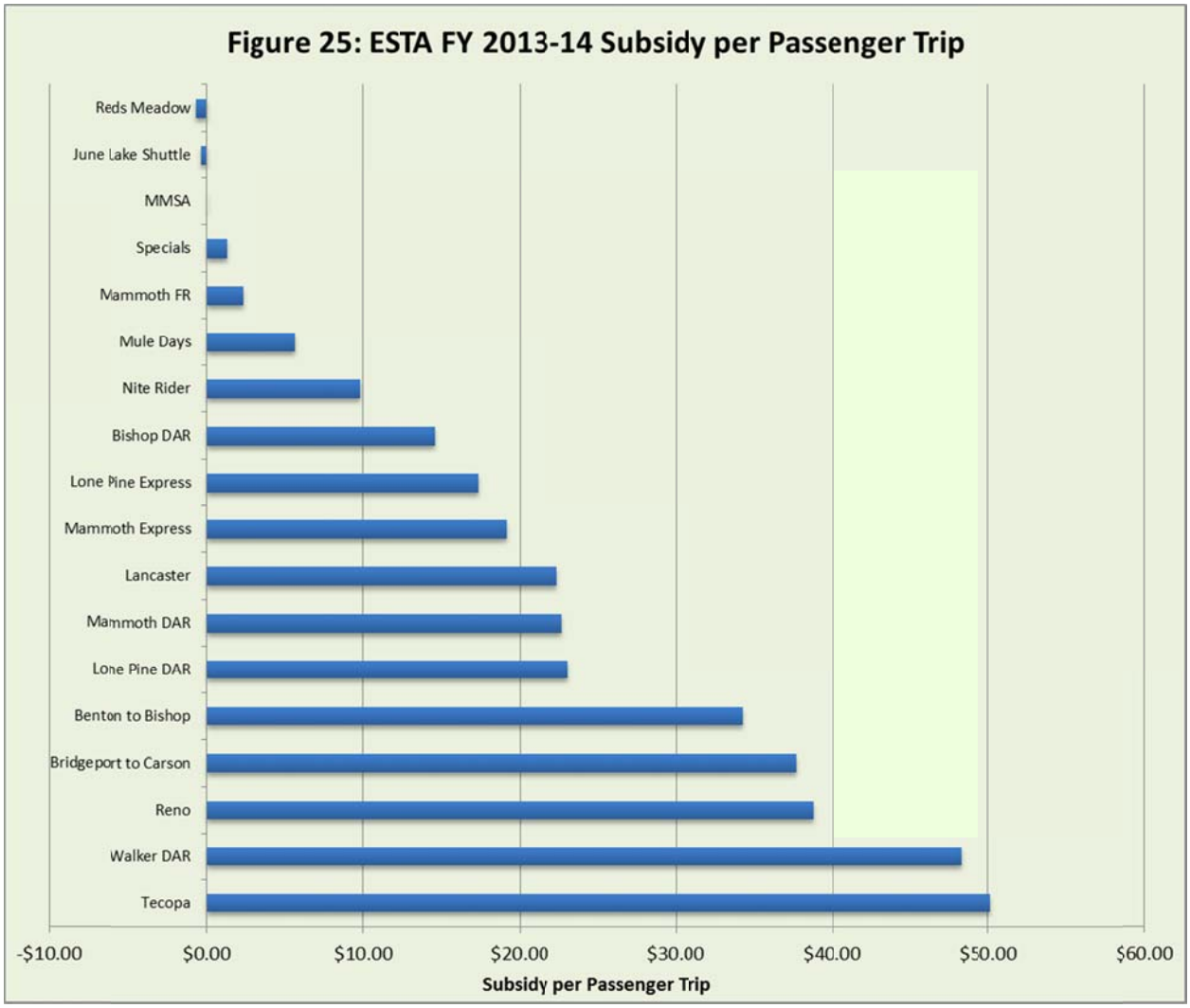


Figure 25. Within ESTA, the average public operating subsidy for all ESTA routes was $2.92 per passenger trip for FY 2013-14. Services which more than pay for themselves through passenger fares such as Reds Meadow and June Lake Shuttle have a negative public operating subsidy. Services which require the highest public operating subsidy are the Tecopa – Pahrump route ($50.21) and Walker DAR ($48.25).

Public Subsidy per Passenger-Mile

Another measure is the public subsidy that is required to provide one passenger-mile of mobility. While the average over all ESTA services is that $0.49 in subsidy yields one passenger-mile, the individual values range as high as $24.13 for the Walker Dial-A-Ride down to a net "profit" of $0.07 for every passenger-mile on the Reds Meadow service. The longer US 395 routes also perform well under this metric.

Overall this analysis shows that some of the Town to Town services such as Tecopa – Pahrump or the Walker DAR do not perform well in terms of productivity or cost efficiency. Even the 395 routes have a high operating cost per hour. However, these routes provide important connections to lifeline services between communities or outside Inyo and Mono County and are therefore an important part of public transit service in the region.



SUMMARY OF ESTA GOALS AND STANDARDS

The 2009 Short Range Transit Plan set forth four goals for ESTA public transit services:

1. ***Safe and Accessible Goal*** *- Continue to provide safe and convenient transportation services to the residents and visitors of Mono and Inyo counties for employment, shopping, education, medical, recreation and social service trips, while improving cost-effectiveness.*

2. ***Service Quality Goal*** *- Ensure that all transit programs can be provided at a high quality and are seamless to the user.*

3. ***Service Effectiveness and Ridership Goal*** *- Generate increased ridership among both residents and visitors, while retaining the existing ridership base.*

4. ***Service Cost-Efficiency Goal*** *- Provide public transportation services that are financially sustainable within existing and future potential private, local, state and federal funding programs and regulations in a cost-efficient manner.*

Within each goal, the SRTP identified objectives, minimum and target standards. As part of the performance analysis this SRTP update, ESTA's actual FY 2013-14 performance was compared with adopted standards (Table 22).

Safe and Accessible Goal

Standards identified under the Safe and Accessible Goal category include factors such as span of service or the length of time transit service can be accessed by the public and the number of accidents. Overall, current operations meet at least minimum objectives with one exception:

- Due to low ridership, the Tecopa – Pahrump line only operates two roundtrips per month, though the minimum standard calls for two roundtrips per week.

Providing service at the minimum objective levels, two times per week, may be excessive for some of the Town to Town routes with low ridership. Additionally, the 395 Routes may warrant separate standards from the other "life-line" services.

Service Quality Goal

Service quality goal standards encompass on-time performance, service frequency, customer satisfaction, and road calls. The service frequency standards could potentially be combined with the accessibility standards above. Again, ESTA generally meets standards with a few exceptions:

- On-time performance data for fixed route services is not available.

- Only 91.5 percent of the advance reservation DAR pickups were on-time, whereas the minimum standard calls for 95 percent on-time performance. It should be noted that only two months of data was available for advance reservation on-time performance so it is likely that the minimum standard would be met for a longer period of time. Additionally, the on-time standard for advance reservation DAR is a window of 5 minutes before and 15 minutes after the reservation time. This does not match ESTA's advertised standard of 10 minutes before and 10 minutes after the reservation time.

- The US 395 Route to Lancaster runs one roundtrip, three days per week, which is one day per week short of meeting the minimum set standard.

- Although passenger surveys are not conducted every two years as recommended in the minimum standard, specific surveys are periodically conducted as needed. For example, passengers were recently surveyed on the need to travel from Bridgeport all the way to Carson City instead of terminating the route in Gardnerville, after the new Walmart was constructed. Surveys showed that there was little need to travel to Carson City.

Service Effectiveness and Ridership Goal

Service effectiveness and ridership standards cover marketing and productivity. Service productivity is the number of one-way passenger-trips carried per vehicle service hour. As shown in Table 22, results are as follows:

- Marketing standards have been achieved.

- The Mammoth DAR, Town-to-Town routes, and Rural DAR all fall below the minimum passengers per hour productivity standard. However, the Mammoth Fixed Routes exceed target standards, as does ESTA services on a systemwide basis.

Service Cost Efficiency Goal

Cost efficiency is measured in terms of farebox recovery ratio (proportion of operating costs which are covered by passenger fares), operating subsidy (operating costs minus passenger fares) per passenger-trip, and operating cost per hour. As shown in Table 22, systemwide cost efficiency standards exceed the target but on a route per route basis not all standards are met:

- The farebox return ratio of seven percent on the Rural DAR falls below the minimum 10 percent standard, as shown in Table 22.

- The subsidy per passenger trip exceeds the maximum allowable subsidy standard for Mammoth and Rural DAR, Town-to-Town routes and 395 Service.

In the following categories the minimum standard is attained but the target standard is not achieved:

- The 395 Services, Bishop and Mammoth DAR, and Town-to-Town routes have farebox recovery ratios below those set in the target standards.

- While the Bishop DAR meets the minimum operating subsidy per passenger trip standard, operating subsidy would need to decrease by nearly 1/3 to meet the target standard.

As set in the previous SRTP, the minimum operating cost per vehicle revenue hour standard is no more than 110 percent of the average of 5 Northern California peer systems. The peer systems chosen for the evaluation are Sage Stage, Lassen Rural Bus, South Tahoe Transit, Redwood Coast Transit Authority, and El Dorado Transit. Cost data from the year 2013 is used for the Redwood Coast Transit Authority and Sage Stage. Data from the fiscal year 2012-13 is used for El Dorado Transit and South Tahoe Transit. Lassen Rural Bus offers the most recent cost data from fiscal year 2013-14. The average annual systemwide operating cost per hour for these transit systems is $86.70. As shown in Figure 26, ESTA's FY 2013-14 annual operating cost of $68.43 per hour is only 79 percent of the average peer cost, exceeding both the minimum and target standards.

Specific standards were not developed in the prior SRTP for specialized services such as Reds Meadow or June Lake Shuttle. Also in 2009, MMSA operated the winter fixed routes. Table 22 was reviewed with the ESTA board at their July meeting. Proposed changes to ESTA goals, objectives and standards discussed with the board will be outlined in the Alternatives Memorandum.

TABLE 22: Review of ESTA Performance Against Current Standards

Shading Indicates Does Not Meet Minimum Standard
Shading Indicates Meets Minimum Standard But Not Target Objective
Shading Indicates Meets Target Objective

Service			Minimum Standard	Target Standard	Current Status
SAFE AND ACCESSIBLE GOAL					
			Accessibility		
Mammoth Lakes	**Fixed Route**	Summer	7:00AM - 10:00PM	6:30AM - 1:00AM	7:00AM - 2:00AM
		Winter	7:00 AM - 1:00 AM	7:00 AM - 1:00 AM	7:00AM - 2:00AM
		Shoulder	7:00 AM - 6:00 PM	--	7:00AM - 10:00PM
	Dial-A-Ride	All	Match Fixed Route hours	--	8:00AM - 5:00 PM ADA available during fixed route hours
Bishop	**Dial-A-Ride**		Fixed Route Hours, 9:00 AM - 3:00 PM Sat and Sun	Only provide DAR to residents unable to use fixed route	DAR: M - Th 7:00AM - 6:00PM F - 7:00 AM - 2:00 AM Sat - 8:30 AM - 2:00 AM Sun - 8:00 AM - 1:00 PM
Town-to-Town			1 Round Trip, 2 days per week, Minimum Layover of 3 hours	6 days per week, 2 runs per day in each direction	Bridgeport - Gardnerville 1 RT, 1 day/week plus Reno route other 4 weekdays/week
					Tecopa: 1 RT, 2 times per month
					Benton - Bishop - 1 RT, 2 days per week
395 Routes			Not identified separately		Reno - 1 RT, 4 days per week Lancaster - 1 RT, 3 days per week Lone Pine X - 3 RT, 5 days per week Mammoth X - 4 RT, 5 days per week
Rural Dial-A-Ride			2 days per week, 9:00 AM to 3:00 PM	7 days per week, 8:00 AM to 5:00 PM Reduced service on weekends	Walker - 4 days per week, 8:00 AM - 4:30 PM Lone Pine - 5 days per week, 7:30 AM - 3:30 PM
			Total Accidents		
Systemwide			1.25 preventable accidents per 100,000 miles		1.24
			Training and Safety Plan		
Systemwide			100% Compliance With Regulations/Laws Covering Employee Selection, Drug Testing & Training	Minimum Requirements, Plus Supplemental Safety and Customer Service Training	Achieved
SERVICE QUALITY GOAL					
			On-Time Performance		
Fixed Route Service			No More Than 0.5% Early and At Least 95% Less Than 5 Minutes Late	0% Early and At Least 99% Less Than 5 Minutes Late	Not available
Advanced Reservation Dial-A-Ride			At Least 95% Pickups In Window 5 Minutes Before and 15 Minutes After Reservation Time	At Least 99% Pickups In Window 5 Minutes Before and 15 Minutes After Reservation Time	91.5% Onetime (Limited 2 months data) Standard does not match advertised "on time" window
Immediate Response Dial-A-Ride			95% Within 30 Minutes of Call	99% Within 30 Minutes of Call	95% of Bishop DAR within 30 min
			Average Daily Wait < 20 minutes		Bishop DAR average daily wait = 13 minutes
			Frequency		
Mammoth Lakes Fixed Route			30 Minutes	15 Minutes, Additional Service To Meet Demand in Peak Periods	15-30 Minutes, depending on season and route
US 395 Routes			1 Round Trip, 4 Days per Week	4 Trips Per Day, 7 Days per Week	Reno - 1 RT, 4 days per week
					Lancaster - 1 RT, 3 days per week
					Lone Pine X - 3 RT, 5 days per week
					Mammoth X - 4 RT, 5 days per week
			Customer Satisfaction		
Systemwide			Passenger Survey Every 2 Years	Passenger Survey Every 6 Months	Surveys for specific requested services
			Road Calls		
Systemwide			At Least 8,000 Miles Between Road Calls, for All Buses Within Normal Useful Life	At Least 12,500 Miles Between Road Calls, for All Buses Within Normal Useful Life	288,434 miles between road calls in FY 2013-14
SERVICE EFFECTIVENESS AND RIDERSHIP GOAL					
			Marketing		
Systemwide			Establish Regional Transit Brand		Achieved
			Provide Transit Passenger Information In a Variety of Formats		Achieved
			Create Visibility for the EST Network as well as Individual Services		Achieved
			Educate Users and Gatekeepers About Services and Benefits		Achieved
			Deliver Consistent, High-Quality Customer Service		Achieved
			Service Productivity -- Passengers Per Hour		
Bishop Dial-A-Ride			3.0	4.5	3.6
Mammoth Dial-A-Ride			3.0	5.0	1.8
Mammoth Fixed Route			18.0	20.0	24.3
Town-To-Town			2.5	4.0	1.2
Rural Dial-A-Ride			2.5	3.5	1.7
395 Service			2.5	3.5	3.2
Systemwide			8.0	10.0	18.2
SERVICE COST EFFICIENCY GOAL					
			Farebox Recovery Ratio		
Bishop Dial-A-Ride			10%	15%	14%
Mammoth Dial-A-Ride			10%	15%	10%
Town-To-Town			10%	15%	13%
Rural Dial-A-Ride			10%	12%	7%
395 Service			10%	40%	29%
Systemwide			10%	15%	22%
			Subsidy per Passenger Trip		
Bishop Dial-A-Ride			$15.00	$10.00	$14.70
Mammoth Dial-A-Ride			$15.00	$10.00	$22.74
Town-To-Town			$10.00	$7.00	$40.74
Rural Dial-A-Ride			$15.00	$10.00	$35.70
395 Service			$15.00	$10.00	$24.48
Systemwide			$6.50	$5.00	$2.92
			Cost per Vehicle Revenue Hour		
Systemwide			No More Than 110% of Average of 5 Northern California Peer Systems	No More Than 90% of Average of 5 Northern California Peer Systems	79%

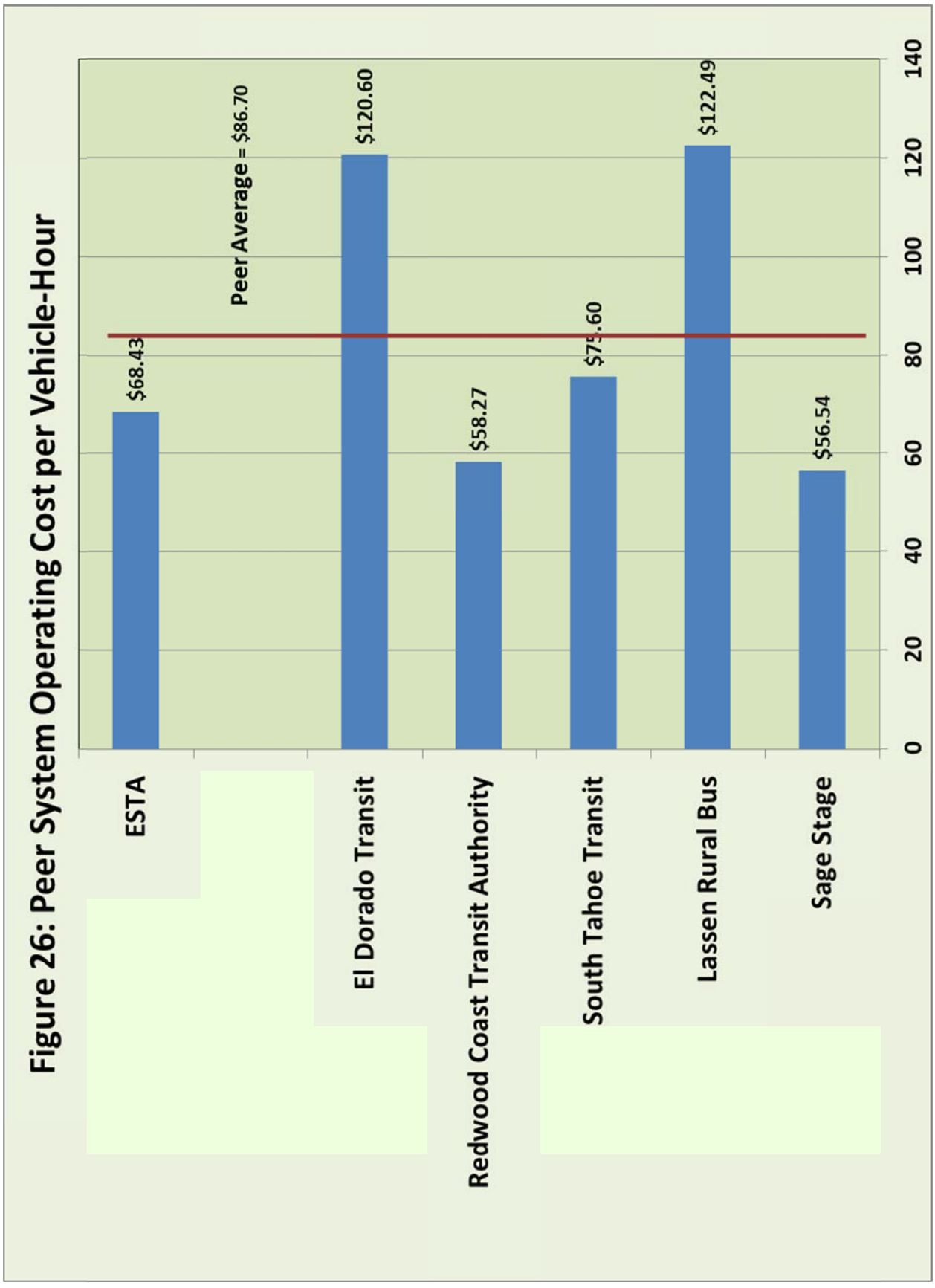


Figure 26: Peer System Operating Cost per Vehicle-Hour
Peer Average = $86.70
$68.43
$120.60
$58.27
$75.60
$122.49
$56.54
ESTA
El Dorado Transit
Redwood Coast Transit Authority
South Tahoe Transit
Lassen Rural Bus
Sage Stage
0
20
40
60
80
100
120
140

This page left intentionally blank.

Chapter 4
Peer Review

A good measuring stick for transit performance is to compare the transit system with similar transit agencies. Table 23 compares select performance indicators for ESTA transit services and similar peer transit operators. Relevant individual peer systems were chosen in order to compare the productivity and economic attributes separately for Regional routes, Local routes, and Dial-A-Ride routes. In total, data was collected for the following peer systems:

- Redwood Coast: The Redwood Coast Transit Authority operates as the primary transit provider in Del Norte County. RCT offers seven fixed routes (four local and three regional), as well as a Dial-A-Ride service. All routes are available Monday through Saturday. Fare discounts are available on the fixed routes to seniors and disabled riders, and children 6 and under ride free. This peer review process only analyzed the regional routes within RCT. Distances travelled on the regional routes range from 18 – 94 miles. The regional routes connect residents of Smith River and Crescent City to intercity transit services in Arcata as well as residents of rural Gasquet with Crescent City.

- Sage Stage: Sage Stage Transit, located in Modoc County, provides regional intercity transportation connections, as well as a DAR services. Only the regional routes were considered for the purposes of this peer review analysis. Sage Stage offers four regional routes, which include service between: Klamath Falls and Alturas (on Wednesdays only), Redding and Alturas (on Monday and Friday), Canby and Alturas (on Monday and Friday), and Reno and Alturas (on Monday, Wednesday, and Friday). Fare discounts are available to children (ages 0 to 12), seniors, and disabled persons.

- South Tahoe Transit: South Tahoe Transit, formerly known as "BlueGo," provides transit throughout South Lake Tahoe and beyond. South Tahoe Transit offers local and regional fixed route service, demand-response service, and winter and summer shuttles. The local, regional, and DAR service were evaluated as part of this peer review process. All three local routes (routes 50, 53 and 23) are offered every day of the week. The regional routes travel from Carson City to Minden/Gardnerville (route 19x), Stateline to Minden/Gardnerville (route 20x), and Stateline to Carson City (route 21x). All regional routes are available on weekdays, and routes 20x and 21x are available on weekends. Discounted fares are available to senior, disabled, and veteran riders. The demand-response program includes a door-to-door service available to seniors, veterans, and disabled persons.

- Park City Transit: Park City Transit offers free local transit services and DAR services within the Park City area. The local transit services were evaluated as part of the peer review process. There are 7-8 local routes, depending on the season, that run throughout the week.

- Mountain Rides: Mountain Rides provides local, DAR, and commuter vanpool services within Blain County, Idaho. Buses within Ketchum, Sun Valley and Hailey are free, and buses within the Valley range from $3.00-4.00. Three out of the seven total routes are seasonal.

TABLE 23: ESTA Peer Review

	Operating Data			Performance Indicator				
	Ridership	Vehicle Service Hours	Vehicle Service Miles	Passenger-trips per Vehicle Hour	Passenger-trips per Vehicle Mile	Farebox Ratio	Cost per Vehicle Revenue Hour	Operating Subsidy per Pax Trip
Regional Routes								
Redwood Coast Transit	41,605	8,732	256,664	4.76	0.16	34%	$31.85	$4.42
Sage Stage	2,632	2,512	96,541	1.05	0.03	--	--	--
South Tahoe Transit	50,146	10,785	265,406	4.65	0.19	--	--	--
Peer Average	*31,461*	*7,343*	*206,204*	*3.49*	*0.13*	*34%*	*$31.85*	*$4.42*
ESTA	**19,780**	**7,134**	**297,469**	**2.77**	**0.07**	**30%**	**$102.81**	**$25.96**
Local Routes								
Park City Transit	1,096,924	42,087	536,469	26.10	2.00	0%	$71.47	$2.74
Mountain Rides	520,236	28,528	471,122	18.20	1.10	9%	$73.41	$3.68
South Tahoe Transit	680,569	34,907	417,520	19.50	1.60	--	--	--
Vail Transit	3,141,676	70,076	587,015	44.80	5.40	0%	$54.23	$1.21
South Teton Area	973,702	41,009	811,645	23.70	1.20	18%	$74.62	$2.58
Peer Average	*1,282,621*	*43,321*	*564,754*	*26.46*	*2.26*	*7%*	*$68.43*	*$2.55*
ESTA	**892,118**	**29,361**	**401,216**	**30.40**	**2.20**	**24%**	**$65.77**	**$1.64**
DAR								
Lassen Rural Bus	14,172	2,697	8,169	5.25	1.73	--	$44.98	--
South Tahoe Transit	17,640	6,845	88,943	2.58	0.20	--	--	--
Amador Regional Transit	13,332	2,151	12,532	6.20	1.06	6.66%	$94.21	$14.19
Peer Average	*15,048*	*3,898*	*36,548*	*4.68*	*1.00*	*6.66%*	*$69.60*	*$14.19*
ESTA	**46,530**	**15,789**	**138,846**	**2.95**	**0.34**	**12.2%**	**$58.28**	**$17.37**

Source: Peer transit agencies, ESTA, National Transit Database

- Vail Transit: Vail Transit provides free local transit and paratransit to the town of Vail, Colorado. The local routes were utilized for this peer review process. The five local routes operate daily throughout the year.

- START Bus: The START Bus provides local and regional fixed transit, as well as paratransit, throughout Teton County and beyond. The local routes were utilized for this peer review process. There are two local routes, the Town Shuttle and Teton Village route. Both routes operated daily throughout the year. The Town Shuttle is free, but the Teton Village route costs $1.00-$3.00. Free or discounted fares are available to youth (ages 12 and under), student, and senior riders.

- Lassen Rural Bus - Lassen Rural Bus (LRB), offers local, regional, and DAR transit throughout Lassen County. For the peer review process only DAR services were reviewed. DAR service is provided on weekdays to disabled riders for a set price of $1.75 per trip.

- Amador Transit: Amador Transit offers local, regional, and DAR transit throughout Amador County. For the peer review process only DAR services within Amador Transit were reviewed. The curb-to-curb DAR service is provided on weekdays for disabled passengers in Jackson, Sutter Creek, and certain areas of Pine Grove. Fares range from $2.00-$4.00 depending on the trip distance.

Regional Routes

For ESTA, the routes considered "regional routes" include the US 395 Routes and Town-to-Town routes. As shown in Table 23, ridership varies widely on the selected peer transit services from only 2,632 annual one-way passenger-trips per year on Sage Stage to 50,146 passenger-trips per year on South Tahoe Transit. ESTA carries around 19,780 one-way passenger-trips. A similar pattern exists for service levels on the various services. ESTA's regional routes vehicle service hours of 7,134 are similar to the peer average of 7,432. ESTA's annual vehicle miles of 297,469 are greater than the peer average of 205,785.

ESTA's average productivity on regional routes is relatively low, with fewer passenger-trips per vehicle hour and mile than both Redwood Coast Transit and South Tahoe Transit. ESTA does surpass Sage Stage Transit in terms of both passenger-trips per vehicle hour and per vehicle mile.

For regional routes, peer financial data is only available for Redwood Coast Transit. ESTA's farebox return ratio (the ratio of farebox revenues to total operating costs), achieves 30 percent, far surpassing RCT's 17 percent. However, ESTA's costs per vehicle hour and cost per passenger-trip is greater than that of RCT's. While ESTA has a cost of $102.81 per vehicle hour, RCT only requires $61.48 per hour. Similarly, ESTA requires an operating subsidy of $25.96 per passenger trip, while RCT only requires an operating subsidy of $13.11 per passenger trip (Table 23).

ESTA's costs per hour and per passenger-trip are relatively high due to the longer travel distances, higher average operating speeds (more mile-related costs per hour and per passenger) and the administrative costs associated with managing multiple grants.

Local Routes

Ridership on the peer local routes also varies greatly from 680,569 on South Tahoe Transit to 3.1 million on Vail Transit. ESTA comes in below the peer average of 892,118 trips. Ridership on the fare free systems are significantly greater than the other services. ESTA service hours and miles are also less than the peer average of 43,321 hours and 564,754 miles, respectively.

Average productivity in terms of passenger-trips per vehicle hour and mile was measured on ESTA's local routes (comprised of Mammoth Fixed Routes, MMSA, Reds Meadow and June Lake Shuttle). Per Table 23, compared to peer local routes, ESTA's productivity is impressive, surpassing four out of the five peer transit operators. The only local transit system with higher productivity levels than ESTA is Vail Transit, which is an entirely free service.

Financial data is available for all local peer systems except for South Tahoe Transit (Table 23). Out of all of the analyzed local systems, ESTA local routes bring in the highest farebox return ratio, at 24 percent. It is important to note, however, that both Park City and Vail Transit offer free services, so both systems have a farebox ratio of zero percent. ESTA has a relatively low cost per vehicle hour (averaging $65.77) compared to Park City Transit, Mountain Rides, and South Teton Transit (all of which have a cost per vehicle hour of over $70).

Dial-A-Ride Services

For Dial-A-Ride services, ESTA's ridership and service levels are significantly greater than the other peers. This is likely representative of the fact that ESTA has such a wide service area with several different DAR services.

As shown in Table 23, ESTA's Dial-A-Ride programs fall within the lower productivity range compared to the peer transit systems. While Lassen and Amador Transit Dial-A-Ride programs had over 5 passenger-trips per hour and over 1 trip per mile, ESTA and South Tahoe Transit Dial-A-Ride programs only generated less than 3 passenger-trips per hour and less than 0.4 passenger-trips per mile. Note that Amador Dial-A-Ride's relatively high number of passenger-trips per hour reflects that the programs serves several programs with high numbers of riders at specific locations.

Even though ESTA's Dial-A-Ride services have the lowest farebox return ratio of all ESTA route types, it surpasses Amador Transit Dial-A-Ride programs in farebox return ratios. In terms of cost per vehicle hour, ESTA falls in the middle at $58.28, far below Amador Transit's hourly cost of $94.21 and greater than Lassen Rural Bus's hourly cost of $44.98. Out of the peer Dial-A-Ride systems with financial data available, ESTA does require the largest operating subsidy per passenger trip at $17.37, which is more than that of Amador Transit.

Chapter 5
Service Alternatives

This chapter presents the analysis of a wide range of potential service alternatives for the ESTA Transit system. Alternatives regarding service changes or additions to the system are presented first. These alternatives are discussed for 395 Routes, Dial-A-Ride, Mammoth Fixed Routes, and Special Events services.

It should be noted that these are simple options for discussion at this point, and no firm recommendations are presented in this document. Input received regarding the various alternatives will be carefully considered in developing an overall short-range plan for the Eastern Sierra Transit Authority, in the next element of the planning study.

US 395 ROUTES TO LANCASTER AND RENO

Five or Six Days A Week Service on US 395 North Route to Reno

The US 395 North route currently operates one round trip on Mondays, Tuesdays, Thursdays and Fridays. It provides a morning northbound trip as well as an evening southbound trip. US 395 North is a major regional route, providing essential transportation to urban resources, such as connections to outside travel and prominent medical facilities. The distinct value in this service suggests that adding additional days of service could better serve the residents of Inyo and Mono Counties. Per ESTA, it is highly likely that 53-11F grants will provide funding to cover at least 55 percent of the required operating subsidies on the Reno and Lancaster routes. In turn, the applicable alternatives include analysis of potential costs with and without the 53-11F funds.

A good indication of travel demand along the US 395 corridor on differing days of the week can be gained through the review of Caltrans travel data. Traffic volumes for every day over a year on US 395 traffic at Gerkin Road (south of Bishop) was reviewed, and the relative traffic by day of week was used as the basis for establishing potential ridership levels resulting from the addition of 395 service days.

Implement Wednesday Service

The addition of Wednesday service, illustrated in Table 24, would provide comprehensive weekday service along the US 395 North route. This implementation aids in simplifying the schedule for riders and integrating further scheduling needs. It is estimated that this Wednesday service would produce 1,010 additional annual one-way passenger trips, or 20 trips per Wednesday. This service alternative would not require additional vehicles, but it would increase annual operating costs by an estimated $38,400 per year[1]. Subtracting $21,200 in additional fare revenues, the net increase in subsidy requirements is forecast to be $17,200 per year. As shown, the 53-11F grant is expected to account for $9,500 in operating costs, resulting in a realized operating subsidy of $7,700.

[1] Marginal operating cost requirements were estimated using the Cost Model presented in Technical Memorandum One.

TABLE 24: Service Alternatives for US 395 Routes

	Marginal Operating Characteristics				Ridership Impact (One-Way Trips)		Annual		
	Add'l Vehicles Required	Operating Days	Annual Vehicle Hours	Operating Cost	Daily	Annual	Farebox Revenue	Subsidy Required	Local Subsidy
Year-Round Alternatives									
395 N to Reno									
Provide Reno Service on Wednesdays	--	51	638	$38,400	20	1,000	$21,200	$17,200	$7,700
Provide Reno Service on Saturdays	--	51	638	$38,400	20	1,000	$21,400	$17,000	$7,700
Provide Reno Service on Wednesdays and Saturdays	--	104	1,300	$78,300	16	1,700	$36,200	$42,100	$18,900
395 S to Lancaster									
Provide Lancaster Service on Tuesday	--	51	506	$31,300	18	900	$12,900	$18,400	$8,300
Provide Lancaster Service on Thursday	--	51	506	$31,300	20	1,000	$14,500	$16,800	$7,600
Provide Lancaster Service on Tuesday and Thursday	--	101	1,002	$62,100	16	1,600	$23,300	$38,800	$17,500
Provide Lancaster Service on Tuesday, Thursday and Saturday	--	153	1,517	$94,000	13	2,000	$29,400	$64,600	$64,600
Mammoth Express									
Increase Mammoth Express by 1 SB and NB Run on Weekdays	--	252	547	$41,200	1.6	400	$2,000	$39,200	
Implement Saturday Service on Mammoth Express	--	51	342	$25,800	10	500	$2,900	$22,900	
Lone Pine Express									
Increase Lone Pine Express by 1 SB and NB run on Weekdays	--	252	630	$37,900	2.4	600	$2,900	$35,000	
Implement Saturday Service on Lone Pine Express	--	51	367	$22,100	14	700	$3,700	$18,400	
Seasonal Alternatives									
395 N to Reno									
Provide Saturday Service During Summer	--	11	138	$14,600	36	400	$7,800	$6,800	$3,100
Provide Saturday Service During Winter	--	26	325	$19,600	15	400	$8,000	$11,600	$5,200
Provide Saturday Service During Peak Summer and Winter	--	37	463	$34,200	52	800	$15,800	$18,400	$8,300
395 S to Lancaster									
Provide Saturday Service During Summer	--	11	109	$11,800	27	300	$4,400	$7,400	$3,300
Provide Saturday Service During Winter	--	26	258	$16,000	15	400	$6,500	$9,500	$4,300
Provide Saturday Service During Peak Summer and Winter	--	37	367	$27,800	43	700	$10,900	$16,900	$7,600
Mammoth Express									
Provide Saturday Service During Summer	--	11	74	$6,900	9	100	$800	$6,100	
Lone Pine Express									
Provide Saturday Service During Summer	--	11	79	$6,400	18	200	$1,100	$5,300	

Note: These projections are based on ESTA financial data from FY 2014/15

Implement Saturday Service

Revising the schedule to provide the current weekday service, as well as Saturday service, could offer unique benefits to riders. In general, Saturday service accommodates riders who are not able to travel within the traditional workweek. In addition, Saturday service offers further alignment with train, bus, and flight connections for riders who rely on the US 395 North route for weekend inbound and outbound travel connections. While it would not generally serve travel for medical purposes, it could provide opportunities for day recreation trips or for more flexible access to intercity connections, such as for leisure travel.

It is estimated that Saturday service would generate 1,020 additional annual passenger-trips, suggesting the difference between implementing Wednesday versus Saturday service is negligible. The cost of Saturday service is equal to that of Wednesday, at $38,400 per year. Subtracting $21,400 in additional fare revenues, the net increase in subsidy requirements is forecast to be $17,000 per year. As shown, the 53-11F grant is expected to account for $9,400 in operating costs, resulting in a realized operating subsidy of $7,700.

Implement Saturday Service Seasonally

Separate options include the addition of Saturday service on the 395 North route during peak summer and/or winter months. In providing this seasonal service, ESTA could help to meet the needs during heightened travel times, while maintaining cost efficiency. As shown in Table 24, alternatives were evaluated to include Saturday service during the peak summer period, winter period, or during both seasons.

As illustrated, the addition of Saturday service during the summer would result in an additional 400 one-way passenger-trips per year (or 36 per Saturday of service). While this service is expected to require $8,300 in operating funds, the cost is offset by the estimated $7,800 in farebox revenue. In turn, this service would require an operating subsidy of $500, or a mere $200 with the application of the 53-11F funds.

Found in Table 24, the addition of Saturday service during the winter months would result in an estimated 400 additional one-way passenger-trips (amounting to 15 per Saturday of service). Representing a longer service period than in the summer months, this alternative would culminate in $19,600 worth of operating costs. Accounting for the $8,000 in farebox revenue, winter Saturday service would require a total of $11,600 in required operating subsidies. As shown, the 53-11F grant is expected to account for $6,400 in operating costs, resulting in a realized operating subsidy of $5,200.

The provision of Saturday service during both the peak winter and summer months ensures that weekend service is provided during all of the peak travel months. As shown in Table 24, this addition would amount to 800 annual passenger trips, or 52 per Saturday of service. This service would necessitate $27,900 in additional operating costs. Accounting for the expected farebox revenue of $15,800, as well as the $6,700 in 53-11F grant funding, this alternative would amount to require $5,400 in operating subsidies. In turn, there is a marginal difference between the required operating subsidies for winter only and annual Saturday service.

Implement Wednesday and Saturday Service

In combining these alternatives, ESTA could maximize schedule consistency. This system change would generate an increase of 1,700 passenger-trips per year, considering that some existing passengers would shift to the new days of service. Accounting for the $36,200 in projected fare revenue, the service would still require a significant annual operating subsidy of $42,100. The potential $23,200 in F3-11F funding results in a realized required operating subsidy of $18,900.

Four, Five, or Six Days a Week Service on US 395 South to Lancaster

The US 395 South route currently operates on Mondays, Wednesdays and Fridays only. The route to Lancaster provides a morning southbound trip, and a later northbound trip. The current schedule does not meet the minimum set standard of 1 roundtrip, 4 days per week.

There are six completed on-board 395 South surveys that were collected in the summer of 2015. Out of these surveys, two respondents were traveling on 395 South for medical/dental purposes, one respondent was traveling for recreational purposes, and one respondent was traveling to the train.

Additional Weekday Service

Passengers traveling for medical/dental purposes could benefit from increased weekday service, as healthcare appointments are usually more available during the weekdays. At present, a trip that cannot be completed during a single day effectively requires staying over for two nights. Adding more consistent weekday service could also make the service easier to market, and for riders to understand.

This study first evaluated adding either Tuesday or Thursday service. Initiating service on either Tuesday or Thursday would require additional operating costs of $31,300. Based on the relative travel demand by day of week and the marginal ridership generated by transit service expansion, the Tuesday service would generate an estimated 900 annual passenger-trips, and the Thursday service would generate an estimated 1,000 annual passenger-trips. In turn, the Tuesday service would generate an estimated $12,900 in farebox revenue, requiring $18,400 in operating subsidies. Accounting for the potential $10,100 in 53-11F funds, this service would require $8,300 in realized subsidies. The Thursday service would generate $14,500 in fare revenues, requiring $16,800 in operating subsidies. The potential $9,200 in anticipated 53-11F grant funds results in a realized required operating subsidy of $7,600.

Another option would be to add regular comprehensive weekday service throughout the week. This additional service would generate an estimated 1,600 annual one way passenger-trips, resulting in a 32% increase in total ridership on the Lancaster route. The service would require $62,100 in additional expenses. With an expected fare revenue of $23,300, the total operating subsidy required amounts to $38,800. Accounting for the potential $17,500 in 53-11F funds, the service would require a realized operating subsidy of $21,300.

Additional Weekday Service and Saturday Service

In order to explore possibility of greatly expanding the Lancaster service to maximize ridership, the study evaluated the possibility of implementing weekday and Saturday service. As aforementioned, Saturday service offers unique benefits to passengers traveling for outbound travel connections and outside of the workweek. This doubling in service is expected to increase ridership by a substantial 41 percent, creating 2,010 additional annual passenger-trips. This service alternative would cost an estimated $94,000. The service would generate roughly $29,400 in fare revenue, resulting in a required annual operating subsidy of $64,600.

Implement Saturday Service Seasonally

Separate options include the addition of Saturday service on the 395 Lancaster route during peak summer and/or winter months. Similar to the 395 North alternatives, this seasonal extension helps to efficiently meet transit needs, while also requiring relatively little cost output. As shown in Table 24, alternatives were evaluated to include Saturday service during the peak summer period, winter period, or during both seasons.

The addition of Saturday service during the summer would result in an additional 300 one-way passenger-trips per year (or 27 per Saturday of service). While this service is expected to require $6,800 in operating funds, the service is estimated to generate $4,400 in farebox revenue. In turn, this service would require an operating subsidy of $2,400. Accounting for the $1,300 in potential 53-11F grant funding, the alternative would require a realized subsidy of $1,100.

Also shown in Table 24, the addition of Saturday service during the winter months would result in an estimated 400 additional one-way passenger-trips, representing 15 per Saturday of service. This alternative would culminate in $16,000 worth of operating costs. Accounting for the $6,500 in farebox revenue, winter Saturday service would require a total of $9,500 in required operating subsidies. As shown, factoring in the potential $5,200 in 53-11F grant funding, the service would require a realized operating subsidy of $4,300.

In providing Saturday service during both the peak winter and summer months, ESTA could provide comprehensive weekend service, while also keeping costs at a minimum. As shown in Table 24, this addition would amount to 740 annual passenger trips, or 44 per Saturday of service. This service would necessitate $22,800 in additional operating costs. Accounting for the expected farebox revenue of $10,900, as well as the $6,500 in 53-11F grant funding, this alternative would amount to require $5,400 in operating subsidies.

MAMMOTH AND LONE PINE EXPRESS ROUTES

Add Express Evening Roundtrip on Weekdays

Mammoth Express

At present, the last departure times on the Mammoth Express occur at 6:10 PM and 7:00 PM, ending at 7:00 PM and 7:50 PM. There have been several requests (via the on-board surveys) for extension of service into later hours. As a commuter route between Bishop and Mammoth,

later service could help to accommodate workers in the service industry who may be required to work later hours. This later route could also benefit riders wishing to participate in evening dining, shopping, or social events. This study evaluated the possibility of extending the Mammoth Express route by one more evening roundtrip on weekdays. In this scenario, a run bus would depart Bishop at around 8:00 PM, arrive in Mammoth at around 8:50 PM, and return to Bishop by 10:00 PM.

The potential ridership on evening services is evaluated by considering the existing Mammoth Express annual ridership, as well as the relative ridership for evening services on other transit programs providing such service. As shown in Table 24, the additional evening roundtrip would increase ridership by an estimated 370 annual one-way passenger-trips, equating to roughly 1.5 per service day. The cost of expanding this service amounts to $41,200 per year. Subtracting the additional fare revenues of $2,000, the subsidy needed would amount to $39,200 per year.

Lone Pine Express

A similar analysis was conducted to measure the effects of extending the Lone Pine Express by one evening roundtrip. The new evening run would depart Lone Pine at around 7:50 PM, arrive in Bishop at around 9:00 PM, and return to Lone Pine by 10:20 PM. Utilizing Lone Pine annual ridership data, as well as relative evening ridership ratios on other transit systems, this additional run would result in 570 one-way passenger-trips per year. This additional route would amount to $37,900 in additional annual operating expenses. Accounting for the $2,900 in farebox revenue, this alternative would require a yearly subsidy of $35,000.

Extend Express Service to Run on Saturdays

A desire for Saturday service on the Mammoth and Lone Pine Express was identified during the public meetings and through the on-board surveys. In addition, the establishment of a ski team at Bishop High School increases the demand for Saturday transportation between Bishop and Mammoth. For both Mammoth Express and Lone Pine Express, Saturday ridership levels were forecasted using relative Saturday ridership compared to weekday ridership on several similar peer systems.

Mammoth Express

In order to maintain consistency and route clarity, the Mammoth Express Saturday service would operate with the same run times and stops as the weekday service. As shown in Table 24, the potential Saturday ridership amounts to 500 annual passenger-trips, or 10 passenger-trips per Saturday. This figure accounts for the additional ridership resulting from the Bishop Ski Team. Adding another day of service to the route would require a $25,800 annually. Subtracting $2,900 in anticipated fare revenue, the additional service would necessitate $22,900 in operating subsidies.

A separate option, also shown in Table 24, includes the addition of Mammoth Express Saturday service during summer only. This service would provide a surplus 100 annual passenger-trips, or 9 per Saturday of service. The expected farebox revenue of $800 would slightly offset the $5,600 in operating costs.

Lone Pine Express

In general, the Lone Pine Express has higher ridership levels than the Mammoth Express. With limited local services, many Lone Pine residents rely on Bishop to perform errands, shopping, and recreational activities. Saturday service would grant Lone Pine residents the ability to meet these needs outside of the work week. An evaluation of potential ridership suggests that this Saturday service would result in 740 annual passenger-trips, or 15 per Saturday. This service would cost $22,100 per year, requiring $18,350 in operating subsidies after the $3,750 in fare revenue are subtracted.

As shown in Table 24, another alternative includes the addition of Saturday service solely during the summer months. This service would amount to 200 additional passenger-trips, or 18 per Saturday of service. With an operating cost of $4,800 and farebox revenues of $1,100, the service would require $3,700 in required operating subsidies.

MAMMOTH FIXED ROUTES

Earlier Service on Mammoth Fixed Routes

A common request is for earlier morning service on the Mammoth fixed routes. At present, Mammoth fixed routes begin operation at 7:00 AM throughout the year. Early morning service could help accommodate certain commuters, such as service workers who need to arrive well before mountain opening. The potential need for earlier service is further legitimized when examining similar peer systems. Aspen, Colorado, and Park City, Utah are two mountain towns with high transit activity that offer service before 7:00 AM. Ridership information gathered from these systems, as well as current ridership by route data on Mammoth Fixed Routes, were used in calculating potential ridership for early Mammoth routes. A range of potential early morning options, shown in Table 25, were evaluated to assess the costs and benefits of implementing 6:00 AM service on various routes.

Purple Line

Providing annual daily service one hour earlier, at 6:00 AM, on the Purple line would increase overall ridership by approximately 1,300 passenger-trips per year. As shown in Table 25, this increase in service would require an additional operating budget of $16,100 per year. A separate, more cost-effective option includes exclusively offering this service during the busy winter period. This alternative would increase Purple Line ridership by 800 annual passenger-trips, while only requiring $7,900 in operating costs.

Gray Line

A separate analysis was performed to examine the benefits on implementing early service on the Gray line. In general, the Gray line has lower ridership levels than the Purple line, and it is arguably less targeted towards the commuter population. With this in mind, earlier service on the Gray line would increase ridership by an estimated 500 passenger-trips per year. The increased service would require an additional operating budget of $16,100. Providing this

TABLE 25: Service Alternatives for Mammoth Fixed Routes

	Marginal Operating Characteristics				Ridership Impact (One-Way Trips)		Annual	
	Add'l Vehicles Required	Operating Days	Annual Vehicle Hours	Operating Cost	Daily	Annual	Farebox Revenue	Subsidy Required
Year-Round Alternatives								
Extend Purple Line Morning Service by 1 hour	0	356	356	$16,100	4	1,300	$0	$16,100
Extend Gray Line Morning Service by 1 hour	0	356	356	$16,100	2	500	$0	$16,100
Extend Purple Line Evening Service by 1 hour	0	356	356	$16,100	27	9,600	$0	$16,100
Extend Gray Line Evening Service by 1 hour	0	356	356	$16,100	12	4,100	$0	$16,100
Extend Mammoth Purple Line to run 1 hour Earlier and Later	0	356	712	$32,300	27	9,700	$0	$32,300
Extend Mammoth Gray Line to run 1 hour Earlier and Later	0	356	712	$32,300	12	4,200	$0	$32,300
Implement Green Line Evening Service (6 -10 PM)	0	356	1,424	$64,500	83	29,700	$0	$64,500
Seasonal Alternatives								
Extend Purple Line Morning Service by 1 hour During Winter	0	175	175	$7,900	4	800	$0	$7,900
Extend Gray Line Morning Service by 1 hour During Winter	0	175	175	$7,900	2	400	$0	$7,900
Extend Purple Line Evening Service by 1 hour During Winter	0	175	175	$7,900	33	5,700	$0	$7,900
Extend Gray Line Evening Service by 1 hour During Winter	0	175	175	$7,900	16	2,700	$0	$7,900
Implement Evening Service with Green Line (6 -10 PM) During Winter	0	175	700	$31,700	126	22,100	$0	$31,700
Implement Green Line Evening Service (6 -10 PM) During Winter and summer	0	251	1,004	$45,500	117	29,300	$0	$45,500
Implement Green Line Evening Service (6 - 2 AM) During Winter	0	175	1,400	$63,400	148	26,000	$0	$63,400
Implement Green Line Evening Service (6 - 2 AM) During Winter and Summer	0	251	2,008	$91,000	137	34,300	$0	$91,000
Extend Red Line Morning Service by 1 hour During Winter	0	175	263	$11,900	7	1,200	$0	$11,900
Implement Blue Line from 6 - 10 During Peak Summer and Winter	0	251	2,008	$91,000	107	26,900	$0	$91,000
Implement Blue Line from 6 - 2 AM During Peak Summer and Winter	0	251	3,012	$136,500	136	34,200	$0	$136,500

Note: These projections are based on ESTA financial data from FY 2014/15

service exclusively in the winter months would result in 400 additional passenger-trips, and require $7,900 in additional operating expenses.

Red Line

During the winter, the Red Line operates every 20 minutes (using 3 buses) in order to accommodate the high passenger traffic traveling through downtown Mammoth and the Village. Earlier service on this line during the winter would operate at 6:00 AM, 6:20 AM, and 6:40 AM. This would generate an estimated 1,200 additional annual passenger-trips at a cost of $11,900.

Additional Evening Service on Existing Mammoth Fixed Routes

At present, the majority of Mammoth Fixed Routes end by 6:00 PM. Depending on the season, either the Red Line or Town Trolley provides evening service until 10:00 PM or 2:00 AM. On-board ridership data for the Mammoth Fixed Routes during July and February of 2014 were reviewed, that indicate that evening ridership (after 6:00 PM) is relatively high, ranging from an average of 20-112 passenger-trips per hour. These ridership levels, in conjunction with on-board survey responses and relative hourly ridership patterns in similar mountain resort communities, suggest that there is a demand for further local Mammoth evening service. This has the benefit of providing expanded transit options to access jobs (such as restaurant positions), shopping, and evening social events.

The potential ridership on evening services is evaluated by considering the existing hourly ridership trends on the Town Trolley, as well as the relative ridership for evening services on other transit programs providing such service. As shown in Table 25, a range of potential evening service options were evaluated, ranging from 1 to 8 additional hours of service per day (with services ending as late as 2:00 AM). Options were considered for the existing routes, as well as through the creation of a new route.

Evening Service on Purple Line

Extending Purple Line service by one hour (until 7:00 PM) year-round has the potential to increase ridership by 9,600 annual passenger-trips. This addition would require a marginal operating cost of $16,100. Adding this service exclusively during the winter period would generate 5,700 passenger-trips per year, at a cost of $7,900.

Evening Service on Gray Line

Running the Gray Line until 7:00 PM year-round would increase ridership by 4,100 passenger-trips and require $16,100 in additional funding. Offering Gray Line 6:00-7:00 PM service solely during the winter months would increase ridership by 2,700 passenger trips. This additional winter service would require $7,900 in marginal operating budget.

Implement Both Early and Later Service

A separate alternative includes extending morning and evening hours on either the Purple or Gray Line. This option would include year-round service from 6:00 AM to 7:00 PM. Implementing this alternative would lead to an additional 9,700 passenger-trips on the Purple

Line and 4,200 passenger-trips on the Gray Line. The extension would cost an estimated $32,300 on either line.

Addition of Evening Green Line

In determining which route to extend into the evening, it is important that the areas with high evening traffic are targeted. Consequently, ESTA and LSC collaborated to pinpoint busy evening stops and areas in order to create the "Green Line," a merger of the Purple and Gray Lines. The Green Line, shown in Figure 27, services Mammoth Mountain RV Park, Park & Ride, Old Mammoth Rd, Vons, Manzanita Rd, Lupin St, Meridian Blvd, and Juniper Springs Resort. This would provide much more convenient evening service in many areas, including several that have strong ridership demand.

A range of potential Green Line evening services were evaluated, with services starting at 6:00 PM and ending in a range between 10:00 PM or 2:00 AM. In addition, options were considered to weigh the benefits of implementing the Green Line during Winter only, Winter and Summer only, or Year-Round. In all analyses, the Green Line operates on 30-minute intervals using one bus. The data used to establish potential ridership levels on the Green Line includes ridership trends on the Purple Line, as well as evening ridership trends on Mammoth Fixed Routes and other regional peer systems with similar evening services.

Evening Service from 6-10 PM during Winter

Implementing Green Line service from 6:00 to 10:00 PM during the winter months is expected to draw 22,130 passenger-trips per year. This service would require an additional annual operating budget of $31,700. With highest ridership during the winter, this option necessitates the least amount of additional service, while also meeting the demands of the relatively strong winter transit use.

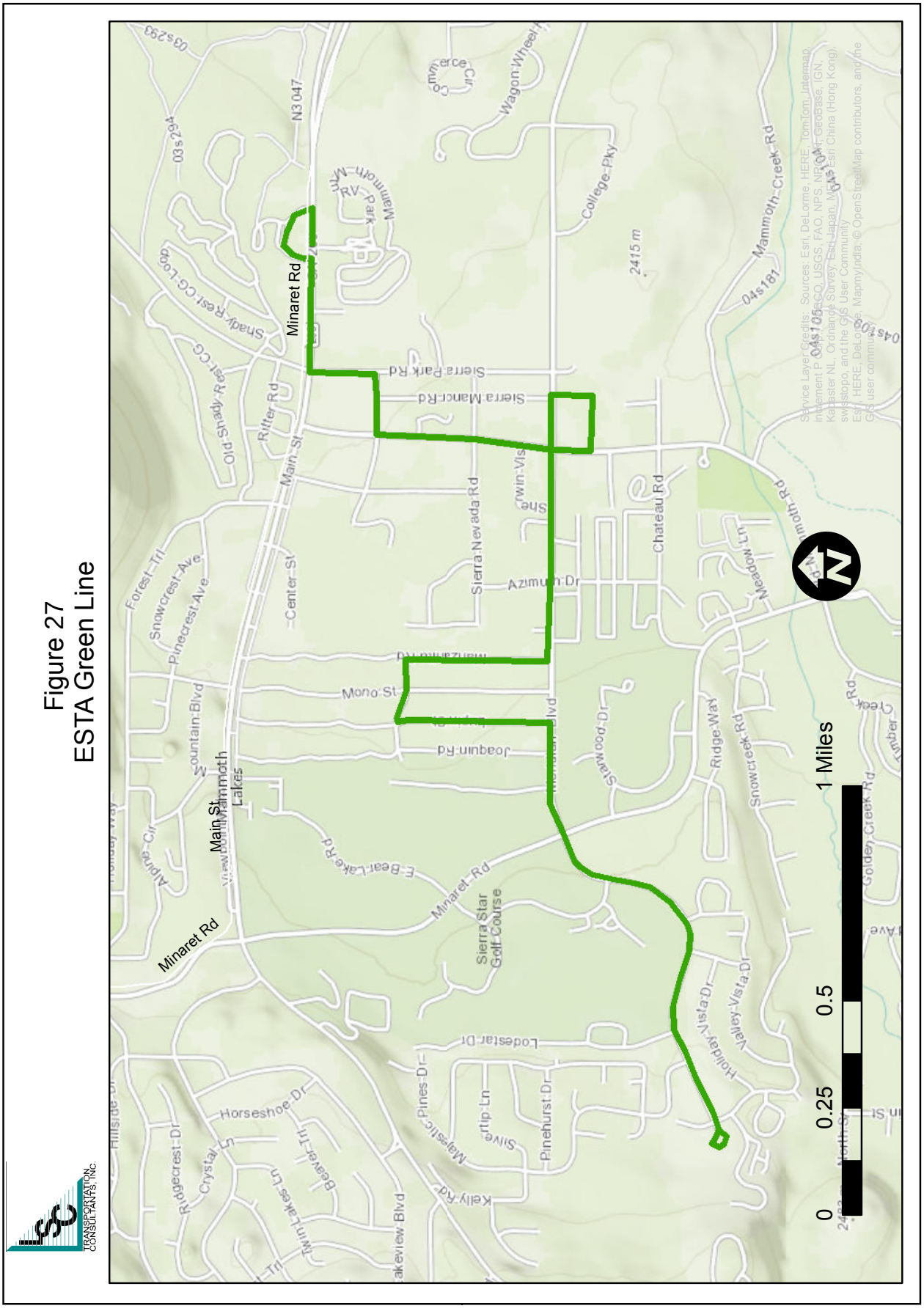
Evening Service from 6-10 PM during Winter and Summer

The introduction of Green Line service from 6:00 to 10:00 PM during the peak winter *and* summer periods aims to accommodate evening transit needs during all of the busy visitor months. This service would lead to an estimated 29,280 additional annual passenger-trips at a marginal cost of $45,500.

Year-Round Evening Service from 6-10 PM

Implementing year-round evening service from 6:00 to 10:00 PM on the Green Line aims to ensure that there are two evening buses (serving a large portion of areas) available during peak seasons and off-seasons. This year-round addition would target visitor populations, while also ensuring that local transit users could grow accustomed to steady evening service. It would particularly help to serve residents with year-round evening jobs, and those with evening Cerro Cosa classes. This service expansion would draw 29,700 annual passenger-trips at a cost of $64,500.

Figure 27
ESTA Green Line



Winter Evening Service from 6 PM-2 AM

Extending Green Line service until 2:00 AM aims to supplement transportation options for those utilizing night-life options or work evening hours who cannot or do not wish to drive. Demand for transit options past 10:00 PM recently led to the introduction of a Town Trolley route from 10:00 PM to 2:00 AM during the summer months, in addition to the existing service in the winter.

Implementing Green Line service from 6:00 PM to 2:00 AM exclusively during the winter would result in 25,950 additional passenger-trips per year. This service would require approximately $63,400 in additional operating costs.

Winter and Summer Evening Service from 6 PM-2 AM

Green Line service until 2:00 AM during peak summer and winter months is the highest level of additional evening service considered. While this addition would cost an estimated $91,000 per year, it would result in a significant 34,340 annual passenger-trips.

Addition of Evening Blue Line during Peak Winter and Summer

As an alternative to the Green Line, establishing the Mammoth Blue Line would target similar busy areas, but also include service along Minaret Rd to The Village. This alternative, shown in Figure 28, would work to comprehensively accommodate passengers traveling for nightlife and evening activities, while also ensuring to provide travel for employees who may be working through the evening hours. The Blue Line alternative is only being considered for implementation in the peak winter and summer seasons. As shown in Table 25, to separate alternatives were analyzed to weigh the benefits and drawbacks of establishing the Blue Line service to run from either 6 PM-10 PM or 6 PM-2 AM. Potential ridership was generated using factors from hourly Red Line ridership, Purple and Gray Line ridership, and headway elasticity analysis.

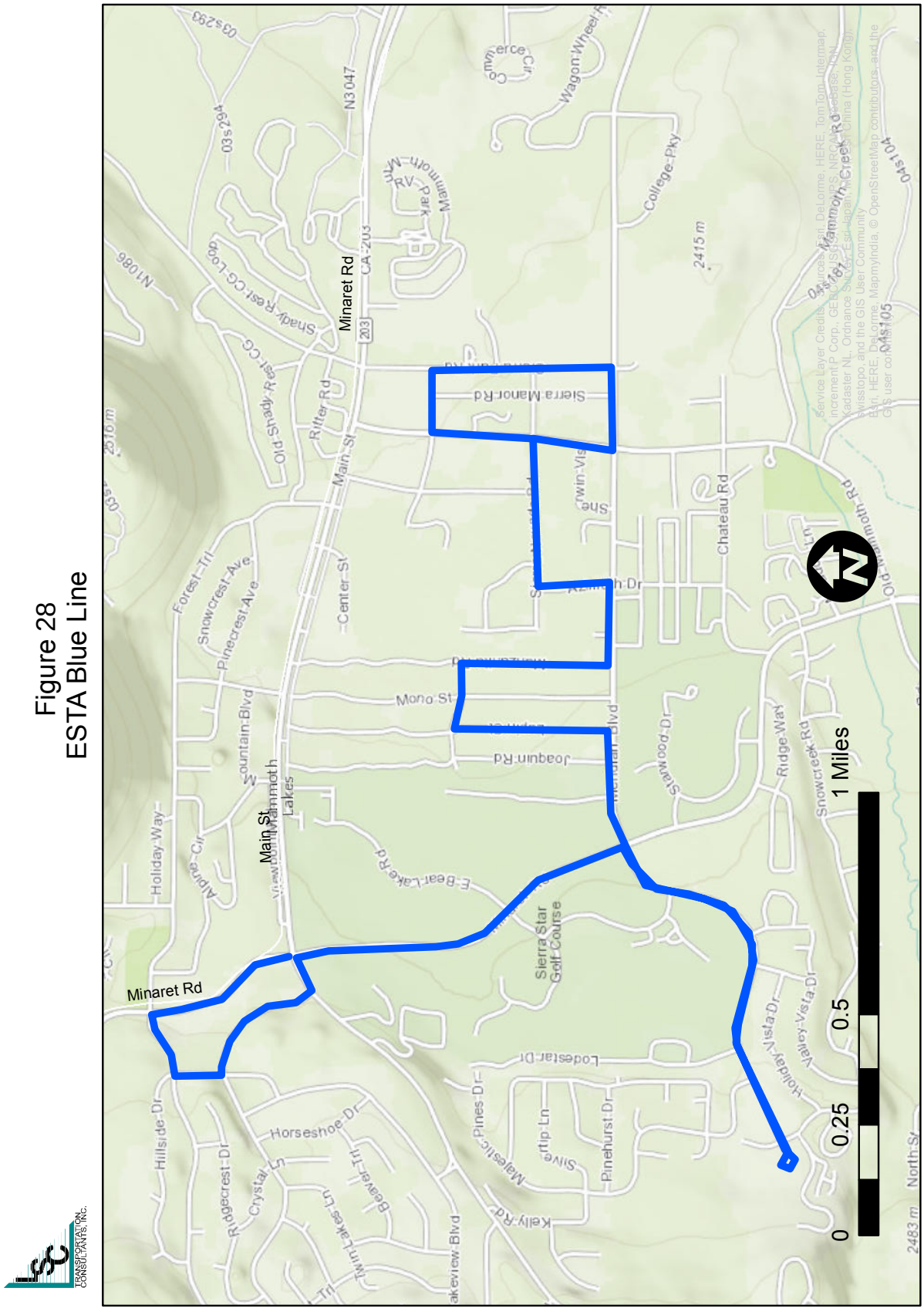
Blue Line Service from 6 PM-10 PM

The addition of the Blue Line from 6 PM-10 PM would include 20 minute headways, utilizing two buses operating. As shown in Table 25, this service would result in an additional 26,900 annual passenger-trips at a cost of $91,000.

Blue Line Service from 6 PM-2 AM

The addition of the Blue Line from 6 PM-2 AM would include 20 minute headways, utilizing two buses operating from 6 PM-10 PM. Upon 10 PM, due to lower passenger demand, the service would transfer to running with one bus every 45 minutes. As shown in Table 25, this service would result in an additional 34,200 annual passenger-trips at a cost of $136,500.

Figure 28
ESTA Blue Line



DIAL-A-RIDE

Sunday Limited Service on Bishop DAR

Within the Dial-A-Ride community and on-board surveys, provision of later Sunday Bishop DAR service was frequently cited as a request. At present, Bishop DAR operates limited hours on Sunday, from 8:00 AM to 1:00 PM. A reasonable operating plan for Sunday DAR service would include service until 3:00 PM, which would allow for riders to participate in a variety of Sunday afternoon activities.

ESTA's driver logs from February of 2014 grant insight into the Sunday Bishop DAR ridership. Using these ridership trends, the extended Sunday service would generate 2 additional passenger-trips per Sunday, culminating in 100 per year. This service totals to $4,500 in annual operating costs. Accounting for the $200 in additional farebox revenues, the service will require an operating subsidy of around $4,300.

Extend Weekday Evening Service on Bishop DAR

At present, the Monday through Thursday service on Bishop DAR runs until 6:00 PM. Out of the summer 2015 On-Board surveys, nearly 50 percent of Bishop DAR respondents requested later evening service. Extending the weekday service by one hour (until 7:00 PM) has the benefit of providing more meaningful options for transportation to-and-from evening jobs, social events, and errands.

The potential ridership on evening services is evaluated by considering current Bishop hourly ridership, along with the relative evening ridership trends on similar systems that provide such service. As shown, extending Bishop DAR hours to operate until 7:00 PM on Monday through Thursday would result in 700 annual passenger-trips, or roughly 3 per day. Implementing the service would require $8,800 in additional operating budget. Subtracting the $1,600 in fare revenue, the Bishop evening service would require a total annual operating subsidy of $7,200.

Implement Lone Pine Senior Outings

At the community meetings, participants identified the need for regular service for outings by Lone Pine residents (specifically senior residents). While Lone Pine currently utilizes Dial-A-Ride and the Lone Pine Express, there is no weekend service available. A possible alternative to increase Lone Pine transit availability includes a reservation-only bi-monthly roundtrip service between the Lone Pine McDonalds stop and the Bishop Kmart stop. Service would operate every-other Saturday as long as four participants placed advanced reservations. The service would allow for a relatively long layover in Bishop to ensure ample time for activities and errands. An example of a viable trip time would be a Lone Pine departure time of 8:30 AM and Bishop departure time of 3:00 PM.

An analysis of a similar program, the Grizzly Flat service in El Dorado County, provides insight into the ridership trends for a service of this nature. Using this data, as well as current Lone Pine Dial-A-Ride use, this alternative would draw an estimated 410 annual passenger-trips (as shown in Table 26). The Saturday trip eliminates the need for purchase of a new vehicle through enabling the use of the Lone Pine DAR van. Assuming that all offered trip times

generate sufficient ride requests to trigger the service, the implementation of this option would cost $8,200 annually. Subtracting the $1,000 in fare revenues, this service would require a net increase in subsidy requirements of $7,200 per year. It is likely that only about half of the trips will be operated. This minimizes the operating cost to $4,200 per year, requiring an annual operating subsidy of $3,200.

TABLE 26: Service Alternatives for Dial-A-Ride Routes

	Marginal Operating Characteristics				Ridership Impact (One-Way Trips)		Annual	
	Add'l Vehicles Required	Operating Days	Annual Vehicle Hours	Operating Cost	Daily	Annual	Farebox Revenue	Subsidy Required
Year-Round Alternatives								
Extend Bishop DAR Service By 2 Hours On Sunday	0	52	104	$6,100	2	100	$200	$5,900
Expand Bishop Monday-Thursday Evening Service By 1 Hour	0	201	201	$8,800	3	700	$1,600	$7,200
Add Additional Bishop DAR Bus During Peak Weekday Service Hours	1	252	1,008	$44,200	19	4,700	$10,400	$33,800
Add Additional Bishop DAR Bus During 7 AM - 6 PM On Weekdays	1	252	2,772	$121,500	25	6,300	$14,000	$107,500
Implement Lone Pine Senior Outings	0	51	204	$8,200	8	400	$1,000	$7,200
Seasonal Alternatives								
Mammoth DAR Weekend Service During Summer	0	23	207	$5,800	9	200	$400	$5,400
Weekend Summer Bishop Creek Shuttle Service	0	77	308	$13,500	12	900	$3,500	$10,000
7 Days per Week Transportation from Bishop to Whitney Portal	0	77	616	$27,000	14	1,100	$4,200	$22,800

Note: These projections are based on ESTA financial data from FY 2014/15

Mammoth DAR Saturday Service during Summer

While the on-board surveys only included two Mammoth DAR respondents, both identified the need for weekend service. While Mammoth Fixed Routes are available on the weekends, general public DAR is not. Rather complementary paratransit service is available to qualified individuals within a three-quarter mile radius of the fixed route. There are portions of Mammoth Lakes which are not service by the fixed route and could be served by DAR. An example is Shady Rest Park, which is utilized for a variety of sport and recreational activities on the weekends in the summer.

Under this Option, Mammoth DAR Saturday service would operate during the normal Mammoth DAR hours of 8:00 AM to 5:00 PM during the summer months. The potential ridership is impacted by the fact that many of the existing Mammoth DAR users are traveling to and from the preschool and daycare centers, which are only open during weekdays. Considering this fact as well as relative Saturday DAR ridership demand in other communities, the Saturday service would generate an estimated 160 annual passenger-trips. This service would incur an operating cost of $5,800 annually. Subtracting the $400 in passenger fares, Mammoth DAR Saturday service would require an annual operating subsidy of $5,400.

Bishop Creek Shuttle Service

The Bishop Creek area represents one of the key recreation destinations for residents and visitors in Inyo County. Given the area's popularity, the study analyzed the possibility of providing seasonal service along Bishop Creek. This alternative includes twice-daily 7 days per week service from the Bishop City Hall to Lake Sabrina and South Lake during the summer period of June 22nd – September 7th. The shuttle should provide two roundtrips per day in order to accommodate riders participating in activities that span a day (or multiple days). It is estimated that this service would generate 900 annual passenger-trips, or 12 per day of service. Due to the relatively long route length, fares should be comparable to those of the Mammoth Express routes. In order to provide a reasonably affordable service, it is recommended that the fares be set at the lower-end of Mammoth Express fares, or $4.00/$3.50 for regular and discounted riders (respectively). This alternative would require an annual operating cost of $13,500, necessitating an annual operating subsidy of $10,000.

Whitney Portal Shuttle Service

In the past decades, several studies, including the 2013 Whitney Portal Alternative Transportation Study, have referenced the need for shuttle service to the Whitney Portal. This alternative includes service between Lone Pine and the Whitney Portal during the summer months. In order to avoid the capital costs of accruing a separate vehicle, the service would necessitate the use of one of the vehicles from the Bishop Dial-A-Ride fleet. The vehicle would be stored at the Bishop facility, and travel to and from Lone Pine once each day of service. Once in Lone Pine, the service would include six roundtrips between Lone Pine and the Whitney Portal. This schedule accounts for ample time to make the 44 minute roundtrip, as well as accommodating a 1 hour driver break.

Using visitor data from the 2013 Whitney Portal Alternative Transportation Study, this study analyzed the potential ridership and cost impact from implementing this service. As presented in Table 26, this service would require an annual operating cost of $27,000. The service would result in an estimated 1,100 annual passenger-trips, or 14 per day of service. It is advised that fares be set to the lower-end of the Mammoth Express fares, costing regular riders $4.00 and discount riders $3.50 per one-way trip. In turn, the alternative would generate $4,200 in farebox revenue, necessitating an operating subsidy of $22,800.

Increase Overall Service on Bishop DAR

The onboard surveys yielded several comments for additional Bishop DAR buses. In recent years, Bishop DAR has provided the most annual trips out of any non-Mammoth ESTA service (with 39,466 one-way passenger-trips in FY 2014-15). Though Bishop DAR already operates up to 5 vehicles at once, the large number of riders could warrant additional vehicles. Using the TCRP Project B-28 ADA Complementary Paratransit Estimation Tool, there is potential demand in the Bishop area for an estimated 46,000 annual passenger-trips. This demand indicates there is roughly 5,500 unserved potential trips, which could be the result of limits on DAR availability.

To assess the options regarding an additional Bishop DAR vehicle, two separate alternatives were examined, as shown in Table 26. The first alternative includes the addition of a vehicle during peak service hours (for 4 hours per day) on Monday through Friday of each week. This

service would generate an estimated 4,700 annual passenger trips, amounting to an average of 19 per service day. The annual cost for this service is expected to be $44,200. The estimated annual farebox revenue of $10,400 requires an annual operating subsidy $33,800.

The second alternative examines the possibility of providing a supplementary vehicle on weekdays during the entire daytime operating hours of 7:00 AM to 6:00 PM. This service would require significantly more in operating funds, with $121,500 in annual operating costs. The potential ridership, however, would also increase to 6,300 additional riders every year, or an average of 25 daily riders. In turn, the required operating subsidy would amount to $107,500.

SPECIAL EVENT ALTERNATIVES

Attendants of the ESTA community meetings requested further service for local Special Events, specifically Mule Days and the Lone Pine Film Festival. These alternatives do not include potential ridership figures, as it is difficult to predict the response to these unique services.

Lone Pine to Mule Days

Mule Days occurs annually for six days (surrounding Memorial Day) in Bishop. Per suggestions at the ESTA Bishop community meeting, Mule Days service is needed between Lone Pine and the event. This study evaluated the option of providing two roundtrips between Lone Pine and Bishop on each day of the event. As shown in Table 27, Lone Pine Mule Days service would require $1,000 in annual operating expenses, assuming the service could utilize an existing DAR vehicle. It is important to note that the potential fare revenues are not forecasted, but will presumably help to offset the additional operating costs.

TABLE 27: Service Alternatives for Special Events

	Marginal Operating Characteristics				Annual	
	Add'l Vehicles Required	Operating Days	Annual Vehicle Hours	Operating Cost	Farebox Revenue	Subsidy Required
Lone Pine to Mule Days (2 roundtrips)	0	6	48	$2,100	--	$2,100
Lone Pine Film Festival	0	4	12	$500	--	$500

Note: These projections are based on ESTA financial data from FY 2014/15

Lone Pine Film Festival

At the community meetings, attendants requested that ESTA serve the Lone Pine Film Festival. The Lone Pine Film Festival, which runs for three days every fall, is arguably the main entertainment event in Lone Pine each year. An alternative to meet this request includes local DAR service for four total hours during each day of the event. As shown in Table 27, this service would culminate in an annual cost of $500. Again, it is reasonable to assume that a portion of this cost will be accounted for with fare revenue.

COMPARISON OF SERVICE ALTERNATIVES

Table 28 presents a summary of the annual quantities of the various alternatives discussed above. In addition, Figure 29 presents a comparison of the annual ridership impacts of the various options. As shown, these have a wide range of potential ridership. The greatest potential ridership increase is generated by the Mammoth Green Line alternatives, ranging between 22,130 and 34,340 additional passenger-trips per year. This is followed by extended hours on the existing Mammoth Purple Route (up to 9,700 trips per year), and additional Bishop Dial-A-Ride service (up to 6,310 passenger-trips per year).

A comparison of the impact on annual operating subsidy requirements is shown in Figure 30. Not surprisingly, those options with the greatest ridership potential also have the greatest subsidy requirements. The additional Bishop DAR bus throughout all weekdays would require $107,500 in additional funding, followed by 8 hours of Green Line evening service in both summer and winter ($91,000). Additional days of US 395 service is also relatively costly. At the other extreme, there are many alternatives that would require less than $5,000 per year in additional public funding.

Performance Analysis

The right columns of Table 28 present a performance analysis of the various service alternatives, considering the following performance measures:

- The **passenger-trips per vehicle-hour of service** is a good measure of the productivity of the options for the shorter routes. This measurement tool is not as effective at gauging the productivity of longer routes, such as the US 395 routes. As also shown in Figure 31, this measure ranges up to 32.6 passengers per vehicle hour for the additional one hour of winter Purple Route service. The Green Line alternatives also have relatively high productivity, ranging as high as 31.6. The values in Table 28 are shaded depending on whether this measure meets the adopted minimum performance standard (in green) or the adopted target standard (in blue). As shown, target standard are achieved for Purple Line and Green Line options, as well as for expansion of Bishop DAR service.

- The **subsidy per passenger-trip** standard, also shown in Figure 32, indicates "better" alternatives as lower figures. The best options by this measure are the Green Line options (as low as $1.43 per passenger-trip), Purple Route extensions, and increased Mammoth Express and Lone Pine Express options. Those that achieve the minimum and target standards are also indicated in Table 28. In addition to those mentioned above, extension of the Gray Line hours in winter and Bishop DAR expansion achieve one or both of these standards. At the other extreme, extending Mammoth Express by one northbound and southbound trip on weekdays is calculated to require over $98 per new passenger-trip.

- The **marginal farebox return ratio** relates the increase in fare revenues to the increase in operating costs. Note that this does not pertain to the free-fare Mammoth fixed route service. All of the 395 Route expansions perform well be this measure, along with most of the Bishop DAR expansion options.

TABLE 28: ESTA Service Alternative Performance Analysis

Achieves Minimum Standard
Achieves Target Standard

Alternative	Avg psgr trip length	Vehicle Required	Operating Days	Annual Quantities: Vehicle Hours	Operating Cost	Daily	Ridership	Passenger-Miles	Farebox Revenue	Subsidy Required	Performance Analysis: Passengers per Vehicle-Hr	Subsidy per Psgr	Farebox Ratio	Psgr-Miles per Veh-Hr	Subsidy per Psgr-Mi
395 Routes															
Year-Round Alternatives															
395 N to Reno															
Provide Reno Service on Wednesdays	119	0	51	638	$38,400	20	1,000	119,400	$21,200	$7,740	1.6	*$3.48*	*55%*	*187*	*$0.06*
Provide Reno Service on Saturdays	119	0	51	638	$38,400	20	1,000	119,400	$21,400	$7,650	1.6	*$3.44*	*56%*	*187*	*$0.06*
Provide Reno Service on Wednesdays and Saturdays	119	0	104	1,300	$78,300	16	1,700	203,000	$36,200	$18,945	1.3	*$5.01*	*46%*	*156*	*$0.09*
395 S to Lancaster															
Provide Lancaster Service on Tuesday	70	0	51	506	$31,300	18	900	63,000	$12,900	$8,280	1.8	*$4.14*	*41%*	*125*	*$0.13*
Provide Lancaster Service on Thursday	70	0	51	506	$31,300	20	1,000	70,000	$14,500	$7,560	2.0	*$3.40*	*46%*	*138*	*$0.11*
Provide Lancaster Service on Tuesday and Thursday	70	0	101	1,002	$62,100	16	1,600	112,000	$23,300	$17,460	1.6	*$4.91*	*38%*	*112*	*$0.16*
Provide Lancaster Service on Tuesday, Thursday and Saturday	70	0	153	1,517	$94,000	13	2,000	140,000	$29,400	$29,070	1.3	*$6.54*	*31%*	*92*	*$0.21*
Mammoth Express															
Increase Mammoth Express by 1 SB and NB Run on Weekdays	39	0	252	547	$41,200	2	400	15,500	$2,000	$39,200	0.7	*$98.00*	*5%*	*28*	*$2.53*
Implement Saturday Service on Mammoth Express	39	0	51	342	$25,800	10	500	19,300	$2,900	$22,900	1.5	*$45.80*	*11%*	*56*	*$1.19*
Lone Pine Express															
Increase Lone Pine Express by 1 SB and NB run on Weekdays	35	0	252	630	$37,900	2	600	20,800	$2,900	$35,000	1.0	*$58.33*	*8%*	*33*	*$1.68*
Implement Saturday Service on Lone Pine Express	35	0	51	367	$22,100	14	700	24,300	$3,700	$18,400	1.9	*$26.29*	*17%*	*66*	*$0.76*
Seasonal Alternatives															
395 S to Lancaster															
Extend Lancaster by 1 day (Saturday) during Winter	70	0	26	258	$16,000	15	400	28,000	$6,500	$4,275	1.6	*$4.81*	*41%*	*109*	*$0.15*
Extend Lancaster by 1 day (Saturday) during Summer	70	0	11	109	$11,800	27	300	21,000	$4,400	$3,330	2.8	*$5.00*	*37%*	*193*	*$0.16*
395 N to Reno															
Extend Reno by 1 day (Saturday) during Winter	119	0	26	325	$19,600	15	400	47,800	$8,000	$5,220	1.2	*$5.87*	*41%*	*147*	*$0.11*
Extend Reno by 1 day (Saturday) during Summer	119	0	11	138	$14,600	36	400	47,800	$7,800	$3,060	2.9	*$3.44*	*53%*	*348*	*$0.06*
Mammoth Express															
Implement Saturday Service on Mammoth Express during Summer	39	0	11	74	$6,900	9	100	3,900	$800	$6,100	1.4	*$61.00*	*12%*	*53*	*$1.56*
Lone Pine Express															
Implement Saturday Service on Lone Pine during Summer	35	0	11	79	$6,400	18	200	6,900	$1,100	$5,300	2.5	*$26.50*	*17%*	*87*	*$0.77*
Dial-A-Ride															
Year-Round Alternatives															
Extend Bishop DAR Service By 2 Hours On Sunday	2	0	52	104	$6,100		100	200	$200	$5,900	1.0	*$59.00*	*3%*	*2*	*$29.50*
Expand Bishop Monday-Thursday Evening Service By 1 Hour	2	0	201	201	$8,800		700	1,400	$1,600	$7,200	3.5	*$10.29*	*18%*	*7*	*$5.14*
Add Additional Bishop DAR Bus During Peak Weekday Service Hours	2	0	252	1,008	$44,200		4,700	9,400	$10,400	$33,800	4.7	*$7.19*	*24%*	*9*	*$3.60*
Add Additional Bishop DAR Bus During 7 AM - 6 PM On Weekdays	2	0	252	2,772	$121,500		6,300	12,600	$14,000	$107,500	2.3	*$17.06*	*12%*	*5*	*$8.53*
Implement Lone Pine Senior Outings	4	0	51	204	$8,200		400	1,600	$1,000	$7,200	2.0	*$18.00*	*12%*	*8*	*$4.50*
Seasonal Alternatives															
Mammoth DAR Weekend Service During Summer	4	0	23	207	$5,800		200	800	$400	$5,400	1.0	*$27.00*	*7%*	*4*	*$6.75*
7 days per Week Summer Bishop Creek Shuttle Service	19	0	77	308	$13,500		900	17,100	$3,500	$10,000	2.9	*$11.11*	*26%*	*56*	*$0.58*
7 Days per Week Transportation from Bishop to Whitney Portal	11	0	77	616	$27,000		1,100	12,100	$4,200	$22,800	1.8	*$20.73*	*16%*	*20*	*$1.88*
Extend Bishop DAR Weekday Service by 2 Hours During Academic Year	2	0	158	316	$13,900		950	1,900	$2,100	$11,800	3.0	*$12.42*	*15%*	*6*	*$6.21*
Mammoth Fixed Routes															
Year-Round Alternatives															
Extend Purple Line Morning Service by 1 hour	2	0	356	356	$16,100		1,300	3,100	$0	$16,100	3.7	*$12.38*	*0%*	*9*	*$5.19*
Extend Gray Line Morning Service by 1 hour	2	0	356	356	$16,100		500	1,200	$0	$16,100	1.4	*$32.20*	*0%*	*3*	*$13.42*
Extend Purple Line Evening Service by 1 hour	2	0	356	356	$16,100		9,600	22,900	$0	$16,100	27.0	*$1.68*	*0%*	*64*	*$0.70*
Extend Gray Line Evening Service by 1 hour	2	0	356	356	$16,100		4,100	9,800	$0	$16,100	11.5	*$3.93*	*0%*	*28*	*$1.64*
Extend Mammoth Purple Line to run 1 hour Earlier and Later	2	0	356	712	$32,300		9,700	23,200	$0	$32,300	13.6	*$3.33*	*0%*	*33*	*$1.39*
Extend Mammoth Gray Line to run 1 hour Earlier and Later	2	0	356	712	$32,300		4,200	10,000	$0	$32,300	5.9	*$7.69*	*0%*	*14*	*$3.23*
Implement Green Line from 6 -10 PM	2	0	356	1,424	$64,500		29,700	70,900	$0	$64,500	20.9	*$2.17*	*0%*	*50*	*$0.91*
Seasonal Alternatives															
Extend Purple Line Morning Service by 1 hour During Winter	2	0	175	175	$7,900		800	1,900	$0	$7,900	4.6	*$9.88*	*0%*	*11*	*$4.16*
Extend Gray Line Morning Service by 1 hour During Winter	2	0	175	175	$7,900		400	1,000	$0	$7,900	2.3	*$19.75*	*0%*	*6*	*$7.90*
Extend Purple Line Evening Service by 1 hour During Winter	2	0	175	175	$7,900		5,700	13,600	$0	$7,900	32.6	*$1.39*	*0%*	*78*	*$0.58*
Extend Gray Line Evening Service by 1 hour During Winter	2	0	175	175	$7,900		2,700	6,400	$0	$7,900	15.4	*$2.93*	*0%*	*37*	*$1.23*
Implement Green Line from 6 -10 PM During Winter	2	0	175	700	$31,700		22,100	52,800	$0	$31,700	31.6	*$1.43*	*0%*	*75*	*$0.60*
Implement Green Line from 6 - 10 PM During Winter and Summer	2	0	251	1,004	$45,500		29,300	69,900	$0	$45,500	29.2	*$1.55*	*0%*	*70*	*$0.65*
Implement Green Line from 6 PM - 2 AM During Winter	2	0	175	1,400	$63,400		26,000	62,100	$0	$63,400	18.6	*$2.44*	*0%*	*44*	*$1.02*
Implement Green Line from 6 - 2 AM During Winter and Summer	2	0	251	2,008	$91,000		34,300	81,900	$0	$91,000	17.1	*$2.65*	*0%*	*41*	*$1.11*
Extend Red Line Morning Service by 1 hour During Winter	2	0	175	263	$11,900		1,200	2,900	$0	$11,900	4.6	*$9.92*	*0%*	*11*	*$4.10*
Implement Blue Line from 6 - 10 PM During Peak Summer and Winter	2	0	251	2,008	$91,000		26,900	64,200	$0	$91,000	13.4	*$3.38*	*0%*	*32*	*$1.42*
Implement Blue Line from 6 - 2 AM During Peak Summer and Winter	2	0	251	3012	$136,500		34,200	81,600	$0	$136,500	11.4	*$3.99*	*0%*	*27*	*$1.67*
Special Events															
Lone Pine to Mule Days (2 roundtrips)	35	0	6	48	$2,100		--	--	--	$2,100	--	--	--	--	--
Lone Pine Film Festival	35	0	4	12	$500		--	--	--	$500	--	--	--	--	--

- Because some ESTA services travel long distances, it is appropriate to consider the **passenger-miles per vehicle-hour of service**. Due to the combination of high travel speeds and good ridership impacts, the US 395 expansion options generate up to 187 passenger-miles per vehicle-hour. At the other extreme, Bishop DAR extension of Sunday service serves only 2 passenger-miles per hour.

Figure 29: Service Alternatives Annual Passenger-Trips

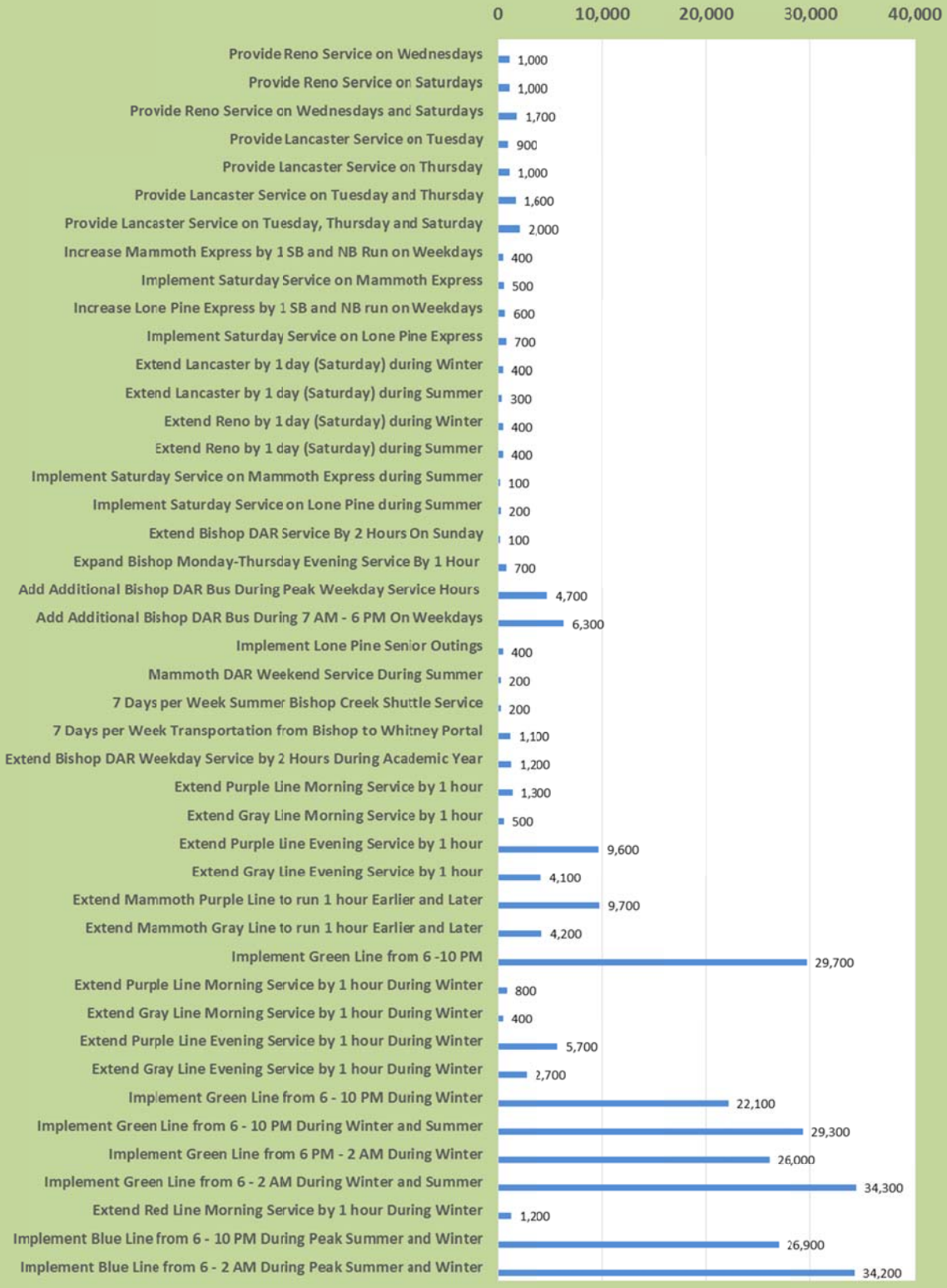


Figure 30: Service Alternatives Annual Operating Subsidy

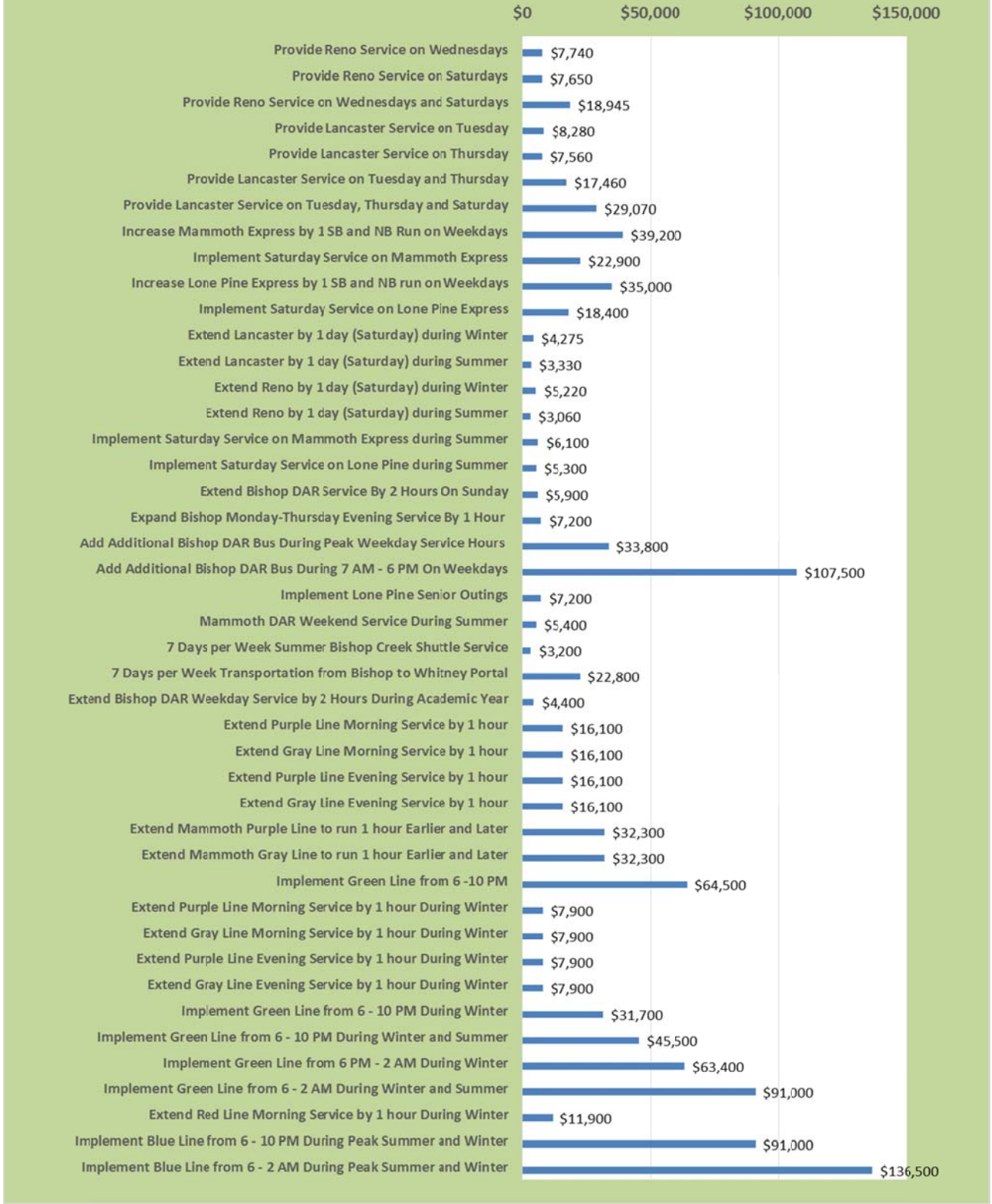


Figure 31: Service Alternatives Passenger-Trips per Vehicle-Hour of Service

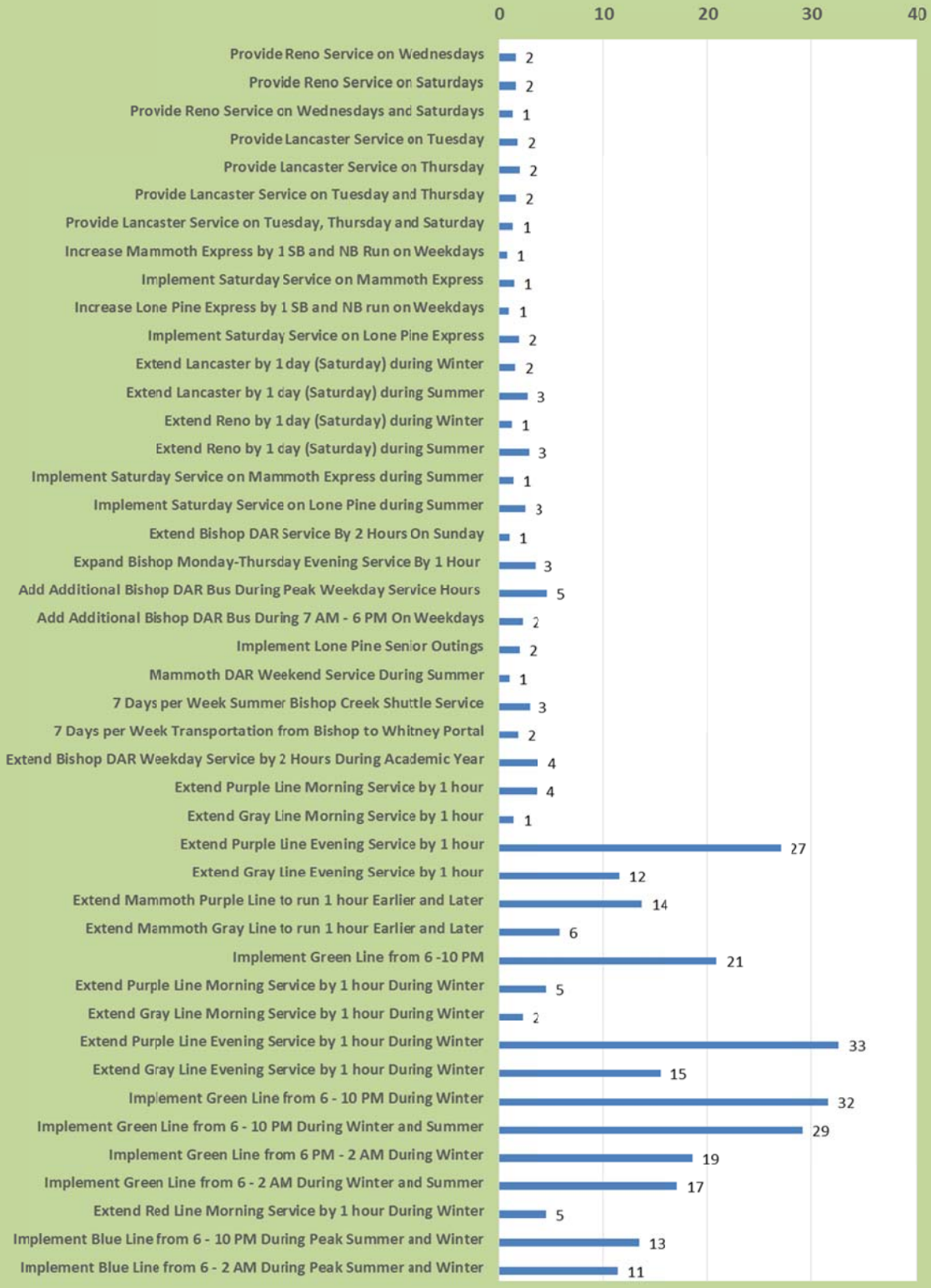
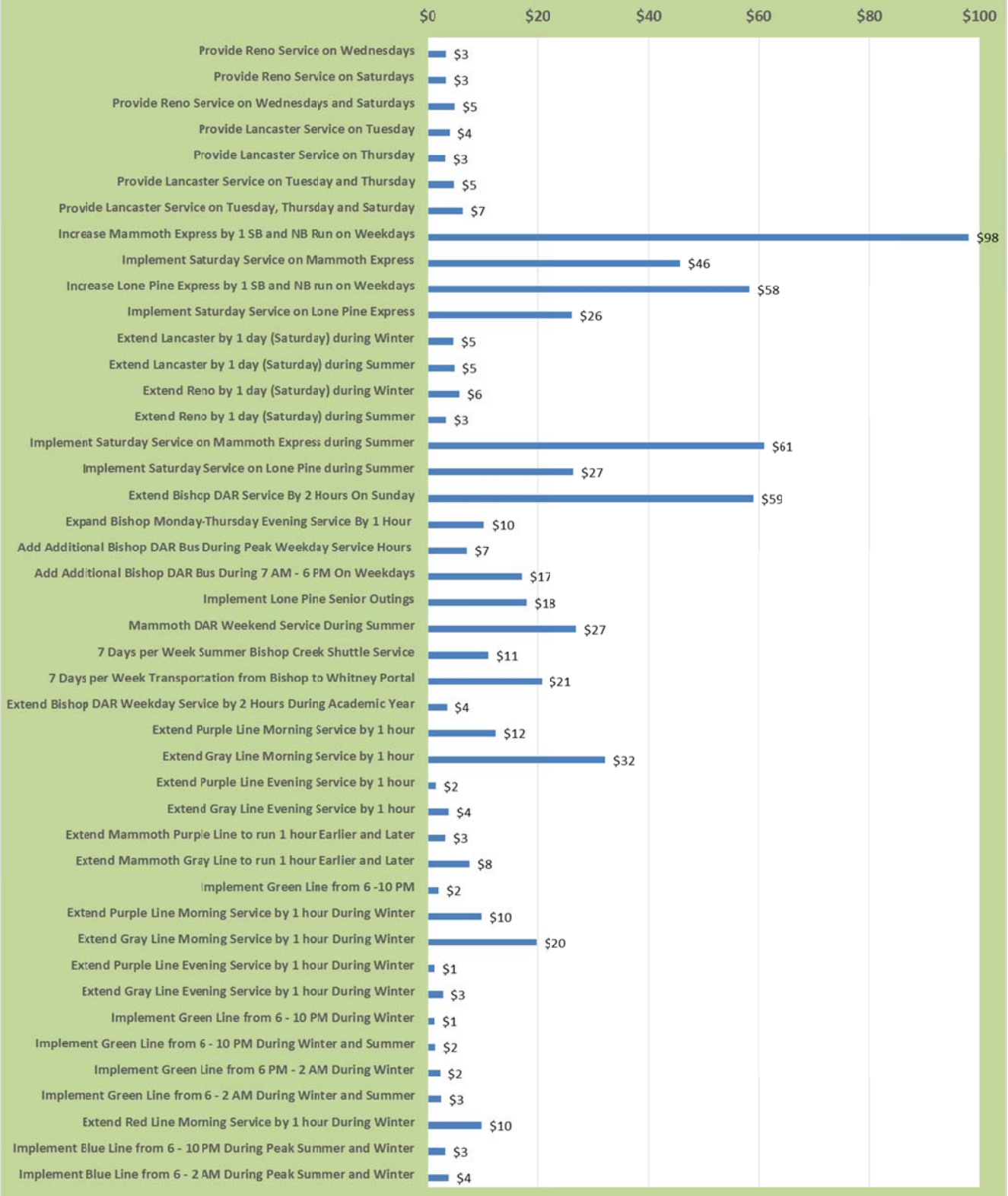


Figure 32: Service Alternatives Subsidy per Passenger-Trip



- Finally, the **subsidy per passenger-mile** relates the level of passenger service provided (in miles) to the impact on the ESTA operating budget. This measure is a useful tool in gauging the performance of longer routes, such as the US 395 routes. This measure is also shown in Figure 33, again reflecting the wide range in performance by the alternatives. The expansion of US 395 service performs well by this measure, including the Mammoth Express and Lone Pine Express options, requiring between $0.14 and $0.46 per passenger-mile. The Green Line evening service also performs well, ranging from $0.60 to $1.11.

Based upon this performance evaluation, we can draw the following conclusions:

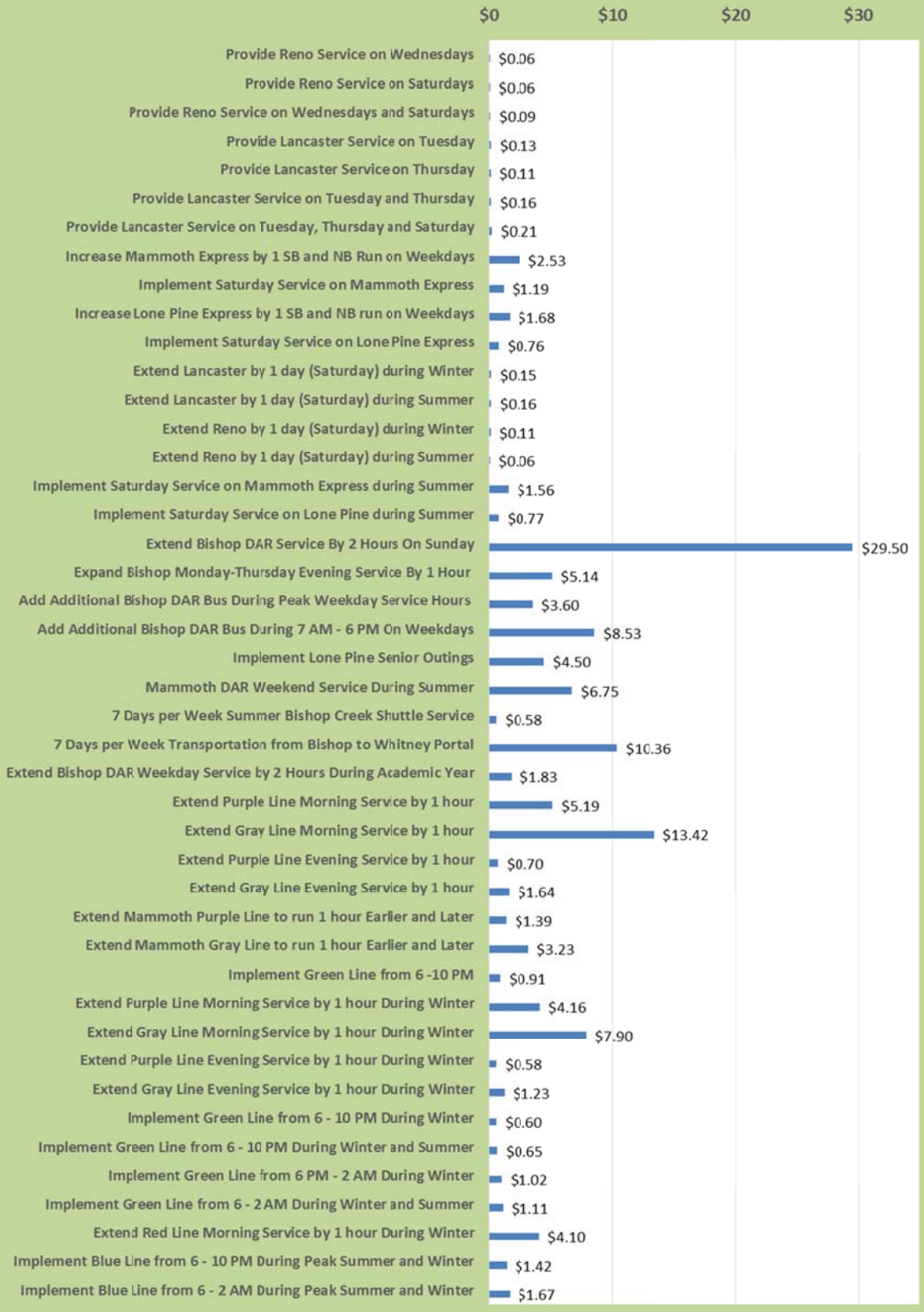
- The establishment of a Green Line providing expanded evening service in Mammoth Lakes stands out as a good alternative, and the best means of increasing evening service. Operating this route until 10 PM in the off-seasons and until 2 AM in the winter achieves both the productivity and service cost efficiency minimum standards, and extending summer evening hours until 2 AM is close to achieving these standards.

- Expansion of Bishop DAR service achieves standards, for the additional peak bus as well as the additional hour of operation on Mondays through Thursdays. Of these two, the expansion of peak number of buses is the better performing option.

- Expansion of Mammoth Express and Lone Pine Express services meets service cost efficiency and farebox ratio standards, though the productivity of these alternatives is relatively low. Of the two routes, Lone Pine Express improvements outperform Mammoth Express improvements.

- The additional days of service on the US 395 North and US 395 South routes perform well with regards to farebox return ratio and are cost-effective in terms of the subsidy required per additional passenger-mile. However, the subsidy per passenger-trip served is quite high. Of these options, the best performer is providing service to Lancaster on Thursdays, followed by additional days of service to Reno.

Figure 33: Service Alternatives Subsidy per Passenger-Mile



This page left intentionally blank.

Chapter 6
Capital Alternatives

This chapter discusses the key capital elements of the transit program serving Inyo and Mono Counties. First, options regarding the transit center are presented. This is followed by an assessment of changes to bus stops. In addition, van donations, bus tracking technology, and trolley acquisitions are evaluated.

CAPITAL IMPROVEMENTS

Fleet Improvements

As shown in Table 29, between FY 2016/17 and FY 2020/21, a total of 25 existing vehicles in the ESTA fleet will warrant replacement. The total vehicle replacement costs will culminate in an estimated $2 million. This figure does not include costs for vehicles currently due or overdue for replacement.

Additional Bishop Stop on US 395 Route

At present, Vons/Kmart stop is the only US 395 route bus stop in Bishop. While this location offers shopping, it is roughly a mile from many of the downtown Bishop amenities. Public input, stemming from the community surveys and The Hostel California (the sole hostel located in Bishop), identified the need for a central downtown US 395 bus stop. Specifically, the owner of The Hostel California, claimed that 1-2 hostel visitors per day are inhibited from using transit service due to the distance of the bus stop.

The Bishop City Hall and Library offer an existing opportunity for a bus stop in close proximity to downtown Bishop. The proposed location for the bus stop is at Warren and Church St. As a previous Dial-A-Ride stop location, the area offers ample room for the buses to turn around. The location also includes an outdoor shelter, multiple benches, and garbage bins. With its close position to the existing route, the additional hours and miles required to implement this stop are relatively negligible. The necessary capital improvements for the new stop are minimal, including signage and marketing. At $300 per sign, the stop will require an estimated $1,200 to enact. In turn, this route addition promises improved rider accessibility at an insignificant cost.

Upgrades to the Village at Minaret Stop

Construct Shelter

Per ESTA, the Village at Minaret St. stop is one of the most utilized bus stops in Mammoth. The high activity stop, coupled with the frequency of skier/snowboarder use, suggests that there is significant need for a shelter at this location. This need was also identified at the Mammoth Public Meeting. In order to implement a shelter (at least 13' wide, ADA accessible, and equipped with a bench and trash bin), site expansion and construction is required. This project is estimated to cost between $40,000 and $50,000 in renovations.

TABLE 29: Schedule of Vehicle Useful Life Expiration Over Short-Range Plan Period

Vehicle #	Vehicle Capacity	Fiscal Year Through 15/16	16/17	17/18	18/19	19/20	20/21	After 20/21
200	14 Psgr	X						
201	14 Psgr	X						
202	14 Psgr	X						
300	5 Psgr	X						
301	5 Psgr	X						
302	5 Psgr	X						
303	5 Psgr	X						
657	5 Psgr	X						
675	16 Psgr	X						
676	16 Psgr	X						
679	12 Psgr	X						
684	16 Psgr	X						
685	16 Psgr	X						
686	13 Psgr	X						
687	15 Psgr	X						
688	15 Psgr	X						
689	15 Psgr	X						
691	15 Psgr	X						
692	15 Psgr	X						
693	15 Psgr	X						
694	15 Psgr	X						
695	15 Psgr	X						
696	15 Psgr	X						
697	15 Psgr	X						
698	15 Psgr	X						
699	15 Psgr	X						
600	18 Psgr	X						
601	15 Psgr	X						
602	15 Psgr		X					
603	15 Psgr		X					
604	15 Psgr		X					
605	15 Psgr		X					
606	15 Psgr		X					
607	20 Psgr		X					
608	15 Psgr			X				
609	15 Psgr			X				
610	15 Psgr			X				
611	15 Psgr			X				
612	14 Psgr			X				
613	14 Psgr			X				
614	14 Psgr			X				
615	14 Psgr			X				
616	20 Psgr				X			
704	23 Psgr	X						
705	25 Psgr	X						
706	33 Psgr			X				
707	25 Psgr			X				
708	25 Psgr			X				
709	21 Psgr		X					
710	25 Psgr					X		
711	25 Psgr					X		
712	25 Psgr					X		
713	25 Psgr						X	
714	25 Psgr						X	
715	25 Psgr						X	
BT2	16 Psgr	X						
BT3	16 Psgr	X						
BT4	16 Psgr	X						
BT5	16 Psgr	X						
BT6	16 Psgr	X						
BT7	16 Psgr	X						
TRL9	28 Psgr	X						
TRL7	28 Psgr	X						
TRL5	28 Psgr	X						
TRL8	28 Psgr	X						
TRL6	28 Psgr	X						
TRL1	28 Psgr	X						
801	39 Psgr							X
802	39 Psgr							X
803	39 Psgr							X
804	39 Psgr							X
805	39 Psgr							X
806	39 Psgr							X
807	39 Psgr							X
808	39 Psgr							X
809	39 Psgr							X
810	39 Psgr							X
811	39 Psgr							X
812	39 Psgr							X
TOTAL		**36**	**7**	**11**	**1**	**3**	**3**	**12**
Subtotal: Cutaway		**32**	**7**	**10**	**1**	**3**	**3**	**0**
Subtotal: Bus		**0**	**0**	**1**	**0**	**0**	**0**	**12**
Subtotal: Trolley		**6**	**0**	**0**	**0**	**0**	**0**	**0**

Source: ESTA 2015 Vehicles List
FTA Useful Life of Transit Buses and Vans, April 2007

Increase Signage

Currently, the Village at Minaret St. stop only contains a posted schedule and trash bin. The popularity of the stop necessitates, at minimum, greater visibility. Four additional signs to highlight the stop location and information could benefit the high number of visiting transit users. At $300 per sign, this alternative would require a one-time expense of $1,200.

Other Bus Stop Improvements

The Town of Mammoth Lakes *Main Street Plan*, finalized in February of 2014, identifies several goals regarding the current Mammoth Lakes bus shelters. The Plan points out that "Main Street lacks continuous pedestrian and bike facilities," and in the future, bus stops should be "integrated into the street with improved access and design."

In order to provide continuous and improved bus shelters, the plan suggests that all 13 bus stop locations include bus shelters. Each of these bus stops would then act as a "transit plaza streetscape cluster," with:

- Small or large bus shelter
- Bench
- Trash/recycling bin
- Planter(s)
- Bike rack(s)
- Pedestrian signage
- Public art element
- Ski lockers inside the bus shelter

The plan also points out the need for smart transit technology, including phone apps and/or LED signs displaying route information at each shelter.

Adopt Caltrans-Owned Stops

In the adoption of the bus shelters, ESTA could perform uniform upgrades to all of the shelters serviced. In order to meet the lofty goals of the Mammoth Main Street Plan, a unified bus stop improvement strategy is necessary. The primary obstacle in ESTA's acquisition of the Caltrans bus shelters is finances. While it is difficult to produce an exact figure, it is estimated that the demolition and rebuilding of the shelters (including the amenities listed above) would cost around $40,000-$50,000 per shelter. In total, the entire project would cost $240,000 to $300,000. The bus shelter conversion would also necessitate the transfer of the burden of maintenance costs to ESTA, amounting to $13,000 annually. In order to alleviate the cost associated with transferring bus shelter ownership, state funding should be provided in order to finance the shelter upgrades, prior to transfer out of Caltrans ownership.

Accounting for the shelters currently owned by ESTA (assuming they also require an average of $40,000 in renovation funds per shelter) the overall project will require $80,000-$100,000 per year for five years, totaling $400,000 - $460,000 by 2021. Upon completion of converting and updating the ten shelters, ESTA can then examine cost and benefits of converting the remaining three stops (mentioned in the Main Street Plan) to shelters.

In order to alleviate the cost associated with transferring bus shelter ownership, the renovations could be performed on a gradual timeline. If ESTA assumes ownership of the six Caltrans shelters by 2016, it could perform two shelter renovations per year. This timeline allows for

economic flexibility, while also ensuring that the renovation goals are met within a reasonable timeframe. Assuming an average of $40,000-$50,000 per shelter, ESTA will need to allocate $80,000-$100,000 annually to the shelter improvement project. In order to account for the shelters currently owned by ESTA (assuming they also require an average of $40,000 in renovation funds per shelter) the overall project will require $80,000-$100,000 per year for five years, totaling $400,000 - $460,000 by 2021. Upon completion of converting and updating the ten shelters, ESTA can then examine cost and benefits of converting the remaining three stops (mentioned in the Main Street Plan) to shelters.

Hospital Van Donation

The ESTA fleet currently includes 25 specialized transit vans which are used for DAR operations, as well as 8 specialized vans that are currently used as backup vehicles. FTA service life policy dictates that light-duty small buses and vans are eligible for replacement after 4 years/100,000 miles. Fourteen of the vans currently in operation have logged over 4 years of service. The additional 8 backup vehicles have at least 7 years of service, and many have total mileages of over 100,000. Typically, retired vehicles are sold in the open market.

Another option for vehicle disposal includes the donation to a human service organization. This alternative, as outlined in ESTA's Capital Asset Policy, is plausible when the cost to sell the vehicle outweighs its market value. The purpose of the donation must be outlined and approved by the Executive Director, and the donation must be voted supported by the Board of Directors. This option has the benefit of keeping the vehicle in use in the community, and potentially relieving demand for ESTA Dial-A-Ride services.

In particular, the Northern Inyo Hospital has transportation needs that are infeasible for ESTA to directly serve. Currently, there is a need for patient transportation between the Northern Inyo Hospital and areas in western Nevada (particularly Fish Lake and Tonopah). There is also need for transportation from the Hospital to the nearby long-term care center. A recent hospital policy prohibits patients from walking to the care center. This establishment necessitates a method to transport patients to the nearby center. Pursuant to ESTA's Capital Asset Policy, it would be feasible to donate one or more vehicles to the hospital for use. Per ESTA, this alternative has been denied by the hospital.

Implement Intelligent Transportation Systems Technologies

The rapid spread of new communications and information technologies provides expanding opportunities for public transit. In particular, Intelligent Transportation Systems (ITS) technologies can improve operations (particularly for Dial-A-Ride services) and enhance the convenience to passengers through better real-time information, aid in efficient data collection and analysis, and improve the convenient of fare payment. ESTA should continue to monitor advancement in ITS applications for transit, and implement where a net benefit to the service can be provided.

One proven ITS strategy with benefits to ESTA is Automatic Vehicle Location (AVL), which identifies and transmits the geographic location of the vehicle. AVL has amassed recent popularity among mass transit systems throughout the country. AVL technology offers numerous potential benefits to transit providers and users, including:

- Better schedule adherence
- Supplementary information for dispatchers, leading to improved management and timely reactions to service disruptions
- Reduced driver obligations through allowing for automated “next stop” announcements
- Increased data collection capabilities through combination with automatic passenger counters and electronic farebox technology
- Enhanced clarity for passengers with regards to route timing and on-board navigation
- Improved security through a covert alarm feature

The benefits of AVL tracking are evident in terms of system value rather than cost savings (TCRP Report 73, 2008). While the costs of AVL systems vary, previous studies performed by LSC Transportation Consultants suggest that they require initial expenditures of $8,000 to $10,000 per bus, with additional annual $1,000 maintenance fees. In turn, implementing the technology on 50 buses within ESTA’s vehicle fleet would require a base fee of $4,000,000 to $5,000,000, with annual fees of $50,000.

Mammoth Lakes Central Transit Hub

There is currently no central transit hub serving ESTA in Mammoth Lakes. Per the public meetings and ESTA Board advisory committee, the provision of a central transit hub in Mammoth is vital to the function of the growing transit service. As seen in other similar mountain resorts, a Transit Hub has a variety of benefits to a transit program:

- It provides the space for direct transfers between local buses as well as to/from regional services. Particularly if local routes are expanded, it allows convenient scheduling that lets individual passengers directly walk between connecting buses without a transfer wait.
- It serves as a permanent and very visible transit “presence” within the community, raising the overall awareness of public transit. This is particularly important to raise awareness for the many visitors to the region.
- It provides space for transit personnel breaks, as well as passenger information staff.
- It can provide direct connections with other transit services, such as YARTS.
- Beyond transit, it can serve as a hub for other transportation alternatives, such as by providing information on regional hiking/biking trails and by providing an air compressor and even repair tools for bicycles.

As a long-term capital investment, it is important for a transit center to be able to accommodate the needs of the transit program for at least the next twenty years. Recommended program elements, considering the long range service scenario, are as follows:

- **Bus Bays**

  - Mammoth Fixed Routes – 7 (+1 for potential future)
  - US 395 Routes – 2
  - Mammoth DAR - 1
  - Total – 11 bays, requiring approximately 605 linear feet of curb

- **Building Program**

  - Climate-controlled waiting area -- approximately 1,500 square feet
  - Driver restrooms and break area -- approximately 450 square feet
  - Transit information counter -- approximately 150 square feet
  - Custodial closet and mechanical/service space – Approximately 100 square feet
  - Total – Approximately 2,200 square feet

- **Other Elements**

  - Outdoor shaded passenger waiting area with benches, totally approximately 1,500 square feet in area
  - Two parking spaces for transit staff
  - Bicycle parking
  - Space for public art
  - Parking for regional transit passengers, if it can be accommodated onsite. However, this is not the key purpose of a new transit center site in Mammoth.

At a minimum, this program can be accommodated in a parcel of approximately 0.7 acres in size (assuming that 4 bus bays can be provided along the adjacent street right-of-way).

Transit Center Costs

Table 30 presents a planning-level estimate of capital costs associated with a new downtown transit center. As shown, total costs (site preparation, construction, engineering, permitting and construction management costs) are estimated to be on the order of $2.2 million. This figure does not include land acquisition costs or costs associated with remediation of hazardous wastes. The estimate assumes that adequate utilities are available to the site, and will vary based upon the final site selected.

Site Location Considerations

Moving forward, a number of potential alternative sites should be analyzed for suitability. Thus far, sites for consideration include the downtown Park & Ride lot, the town-owned land near the Snowcreek Athletic Club, and the Village near the Community Center. The following are key considerations in identifying the location of a transit center:

- Adequate size to accommodate the transit program

- Proximity to the center of the local transit service area, to minimize out-of-direction travel time and costs.

TABLE 30: Summary of Probable Costs Mammoth Transit Center

	Units		Unit Cost	Cost
Hard Cost				
Demolition	43,000	SF	$ 3	$ 129,000
Transit Center				
Transit Passenger Uses	1,500	SF	$ 120	$ 180,000
Driver Restrooms, Break Area, Counter	600	SF	$ 140	$ 84,000
Building Support Uses	100	SF	$ 100	$ 10,000
Signage				$ 10,000
Furnishings and Fittings				$ 50,000
Subtotal: Transit Building Costs	2,200	SF		$ 334,000
Bus Bays/Concrete Pavement Circulation	18,333	SF	$ 20	$366,700.00
Shelters	5	EA	$ 12,000	$ 60,000
Platform/Pedestrian/Bicycle Space	7,750	SF	$ 15	$ 116,300
Subtotal: Circulation and Exterior Space				$ 543,000
Subtotal: Demo, Building, Circulation and Exterior Passenger Space				*$ 1,006,000*
Landscaping (incl. seating walls)	15,000	SF	$ 10	$ 150,000
Lighting	43,000	SF	$ 1.50	$ 74,500
Access Improvements		EA		$ 250,000
Total Construction Costs				$ 1,480,500
Soft Costs				
Site Design & Engineering			18%	$ 266,500
Environmental				$ 50,000
Building Permit				$ 15,000
Utility Tap Fees				$ 8,000
Legal				Staff
Construction Management			12%	$ 177,700
Contingency			18%	$266,500
Total Soft Costs				$ 783,700
Total Probable Project Costs				**$ 2,264,200**

Note: Excludes any hazardous waste remediation and land acquisitions costs.

- Convenience for regional services, including Mammoth Express, US 395 North and YARTS routes
- Convenient access for regional transit routes that minimize out-of-direction travel
- Adequate access, avoiding excessive delays for transit routes
- Compatibility with nearby land uses. In particular, transit centers can have noise impacts on nearby residences.

- Convenience to major trip destinations. As the single location most accessible by public transit, it benefits the overall effectiveness of transit services if there is a concentration of transit trip generators (shopping, community facilities, public offices, etc.) within a convenient walk distance of the transit center.

- High visibility, enhancing the community's awareness of transit services

- Appropriate zoning and consistency with community plans

- Availability of adequate utilities

- Lack of known hazardous soils

Convert Gray Line Bus to Trolley

In accordance with ESTA's goals, this study evaluated the feasibility of converting the Gray Line to run using a trolley instead of bus. At present, ESTA owns a trolley that is allocated for special events in the summer. ESTA has ordered an additional trolley to be delivered in the spring of 2016.

Assuming one of the aforementioned trolleys would be suitable for use on the Gray Line, the main obstacle in trolley conversion is spatial. Currently, the turnaround on Old Mammoth Road does not allow proper turnaround area for a trolley from ESTA's fleet. In order to implement viable turnaround space, there are two primary options.

One option includes extending the route to travel along Red Fir Road and eventually turnaround at the second Red Fir Road/Old Mammoth Road intersection. This alternative requires roughly 0.5 miles in additional travel, resulting in approximately 2 extra minutes of travel time each run. This option is complicated by the travel on Red Fir Road, which is not typically plowed to allow for two separate lanes. It is also important to consider the impact that this regular travel would have on the residential community along Red Fir Road. The prospect of this travel route has spurred significant opposition in the past.

A separate option involves expanding the turnaround area at the intersection of Old Mammoth Road and Red Fir Road that is currently utilized. For this alternative, the road would need to be widened by 16 – 18 feet at the southwest and southeast corners. While this would not necessitate further land acquisition, the renovation would require a minimum of $50,000 to complete.

MANAGEMENT ALTERNATIVES

Modifications to Performance Standards

Based upon the performance review, peer system review, and Board input, the following changes to current performance standards (as discussed above in Chapter 2):

- For the 395 routes and the Town-to-Town routes, service effectiveness standards based on passenger-trips are not appropriate given the very long trip lengths. Rather, standards should be based on passenger-miles, reflecting the benefit of these services in carrying passengers long distances. The Service Productivity standard for these routes (currently 2.5 to 4.0 passengers per hour) should instead be replaced with a minimum standard of 100 passenger-miles per vehicle-hour and a target standard of 200 passenger-miles per vehicle-hour. The existing 395 routes meet both of these standards, while the Mammoth Express and Lone Pine Express routes meet the minimum standard but not the target standard. These standards will encourage steps to improve productivity of the town-to-town routes, while ensuring that future changes in the 395 routes do not unduly reduce productivity.

- Similarly, the cost-efficiency subsidy per passenger-trip standard is not appropriate for the Town-to-Town and 395 Routes, and should be replaced with subsidy per passenger-mile standards. A minimum standard of no more than $0.60 per passenger-mile and a target standard of no more than $0.50 is recommended. All 395 and Town-To-Town routes meet both standards, and compare favorably with other ESTA services.

- The on-time performance standard for advanced reservation DAR (currently set at a minimum standard of 95% and a target standard of 99%) is not realistic, and should be modified to 90% and 95%, respectively. While existing service (at 91.5%) will meet the minimum standard, these revised standards will still encourage improvement to achieve the target standard. In addition, the definition of the on-time window in the standards should be revised to match ESTA's definition (10 minutes before to 10 minutes after the advertised time).

- The passenger survey standard (every 2 years as a minimum, and every 6 months as a goal) is excessive, given the cost and staff time needed to conduct these surveys. Both the minimum and target standards should be revised to "Every 5 years, or when specific service changes are considered."

- Given the low density of demand for DAR services in rural areas and in Mammoth Lakes, the service productivity standards for these services should be reduced to 2.0 (minimum) and 3.0 (target). While both services will still be just under the minimum standard, they will be close.

- Similarly, the subsidy per passenger-trip standards for Mammoth and Rural DAR are too strict, given the realities of serving these areas. These standards should be revised to $40

minimum/$25 target. This would indicate that the Rural DAR services are meeting the minimum standard, and the Mammoth DAR is meeting the target standard.

It should also be noted that DAR services required under the ADA must be provided by federal law, regardless of whether standards are achieves. Also, any monetary standard needs to be updated periodically to reflect the rate of inflation. Finally, no specific standards should be set by ESTA for the specialized services such as June Lake Shuttle or Reds Meadows. As these are operated by ESTA for other organizations, it is appropriate to defer to the funding entity to determine appropriate performance standards.

In-House Vehicle Maintenance

All maintenance of ESTA's vehicle fleet is conducted by other organizations rather than by ESTA staff. The large majority of the vehicle maintenance is provided by Britts Diesel and Automotive and by Bishop Ford (both in Bishop) for vehicles based in Bishop or Lone Pine, and by the Town of Mammoth Lakes for vehicles based in Mammoth Lakes.

While there are many public transit organizations that contract for vehicle maintenance capability, larger transit systems typically conduct vehicle maintenance "in-house" using transit employees. Given the geographic spread of ESTA vehicles, the ownership of some of the fleet by other entities and the costs associated with moving vehicles long distances simply for maintenance purposes, the potential for in-house maintenance is greatest for those vehicles based in Bishop and Lone Pine. This totals 31 vehicles, which average approximately 457,000 vehicle-miles per year.

A key consideration is the impact that shifting vehicle maintenance in-house would have on annual costs. Over the last two years, the total ESTA expenses for maintaining these vehicles has averaged $72,200 per year. If maintenance were to be provided in-house, the data provided in the National Center for Transportation Research's *Florida Bus Maintenance Staffing Practices* indicates that a minimum of four full-time mechanics (including one lead mechanic/supervisor) would be necessary to maintain the ESTA Bishop/Lone Pine Fleet. The California State Controller's Office publishes information on the salary and benefit costs of all public employees in California. A reasonable unit cost for ESTA mechanic staff can be identified from the current costs for Inyo County Road Department vehicle maintenance shop staff. Heavy equipment mechanics total salary and benefit costs average approximately $84,000, while the Road Shop Supervisor's total annual costs are approximately $97,000. For three mechanics and one supervisor, this indicates that the annual salaries and benefits for an ESTA vehicle maintenance staff would be approximately $349,000 per year – approximately $275,000 more than the costs for contracted maintenance. In addition, providing the facility needed to house in-vehicle maintenance (a minimum of 3 maintenance bays, plus other storage and shop specialized space) would add at least $500,000 to the cost of the operations facility.

The other factor that should be considered is whether in-house vehicle maintenance could address any existing maintenance-related issues. For instance, other transit systems (particularly in rural areas with limited private maintenance options) sometimes experience long delays in getting repairs completed (which can result in missed runs) or poor work that requires repairs to be redone. ESTA staff reports, however, that this is not presently the case for the ESTA system. The service vendors maintain the transit vehicles in a reasonably timely manner,

repairs only infrequently need to be redone, and preventive maintenance work is conducted according to the schedules. While there could be improvements in the contractor's ability to maintain the vehicles in a timely manner, this does not warrant the substantially higher ongoing operations costs that in-house vehicle maintenance would require. There may, however, be minor maintenance tasks (fluids, light bulb replacement, etc.) that could be considered for an expanded ESTA staff, once the Bishop operations facility improvements are completed.

FINANCIAL ALTERNATIVES

Peer Fare Analysis

As a basis for a review of fares, information regarding the fare structure of similar transit services was summarized, as discussed below.

US 395 Routes

Table 31 illustrates the fare structures (regular and discounted) for ESTA's regional 395 Routes alongside seven California peer systems. This peer evaluation was used to determine the relative fare standard among regional California transit services, as well as to assess whether it is viable to raise ESTA's fares on the 395 Routes. The peer systems were selected based on the criteria that they service California and include similar regional route services. The following peer systems were included in the analysis:

TABLE 31: Regional Route Fare Structure Peer Analysis

	Regular Fare	Discount Fare	Fare per Mile
B-Line	$2.00	$1.00	$0.07
Monterey Salinas Transit	$1.50 - $12.00	$0.75 - $6.00	$0.11
Sage Stage	$18.00 - $50.00	$13.50 - $38.00	$0.35
Yolobus	$2.00	$1.00	$0.09
Merced The Bus	$3.00	$1.50	$0.08
Gold Coast Transit	$1.50	$0.75	$0.06
San Luis Obispo RTA	$3.00	$1.50	$0.09
Average Peer Fare	*$4.45 - $10.50*	*$2.90 - $7.10*	*$0.12*
Mammoth Express	$3.00 - $7.00	$1.75 - $6.00	$0.17
Lone Pine Express	$3.50 - $7.25	$3.00 - $6.50	$0.13
US 395 to Reno	$3.50 - $59.00	$3.00 - $53.00	$0.22
US 395 to Lancaster	$2.00 - $39.00	$2.00 - $36.00	$0.16
Average Regional Fare	*$3.00 - $33.00*	*$2.45 - $30.00*	*$0.17*

Source: Websites of respective transit agencies

1. *B-Line* - Butte County, CA: B-Line, or Butte Regional Transit, travels throughout Chico, Oroville, Paradise, and between Butte County communities. B-Line is managed and operated through BCAG (Butte County Association of Governments), which is comprised of members from Biggs, Gridley, Oroville, Paradise, and Butte County. B-Line Paratransit, also operated by BCAG, is available to ADA riders within ¾ miles of any Butte Regional Transit fixed route in the town limits of Chico, Paradise, Oroville and Biggs. For an extra fare, paratransit service is also available up to three miles outside of ADA town boundaries.

2. *Monterey Salinas Transit* – Monterey County: Monterey-Salinas Transit is the result of a Joint Powers Agreement between the City of Salinas and Monterey Peninsula Transit Agency. The several areas served through the transit agency include Carmel, Del Rey Oaks, Gonzales, Greenfield, King City, Marina, Monterey, Pacific Grove, Salinas, Sand City, Seaside, Soledad and the remaining areas within Monterey County. Monterey Salinas Transit also provides ADA paratransit service within a service corridor of ¾ mile within regular routes.

3. *Santa Cruz Metro* – Santa Cruz County: Santa Cruz Metro is public transit agency that operates throughout the urban and rural areas of Santa Cruz, California. The agency operates through four transit centers and nine sub-regions, including the areas of UC Santa Cruz, Scotts Valley, Cabrillo, Watsonville, and North Coast. Metro Paratransit, dubbed "ParaCruz," provides ADA transit within ¾ mile of any fixed route.

4. *Sage Stage Transit* – Modoc County: Sage Stage Transit is operated by the Modoc Transportation Agency. Sage Stage provides regional transportation within Alturas and between Alturas and other areas of Modoc County and beyond. Sage Stage's Dial-A-Ride services are available to general public riders within 10 miles of Alturas.

5. *Yolobus* – Yolo County: The Yolobus, operated by the Yolo County Transportation District, provides city, inter-city, and rural transit services within Yolo County. The several notable areas that are served by Yolobus include Davis, Sacramento, Woodland Sacramento International Airport, Cache Creek Casino Resort, and numerous smaller towns within Yolo County. Yolobus Special, a contracted service through First Transit, provides local and intercity ADA transportation in Yolo County. Route deviations of ¾ mile are available in rural communities.

6. *The Bus* – Merced County: The Bus, which acts as the only public transit system in Merced County, is operated by a Joint Powers Authority. The Bus offers local services around UC Merced, Merced, Los Banos and Atwater, as well as five inter-city commuter routes. The Bus offers deviated fixed routes for public and ADA riders that are available in designated "paratransit areas" within Merced County. Separate curb-to-curb paratransit service is provided for ADA riders in every city, community and town.

7. *Gold Coast Transit (GCT)* – Ventura County: The Gold Coast Transit District is a result of a Joint Powers Agreement between the Cities of Ojai, Oxnard, Port Hueneme and San Buenaventura. Gold Coast Transit provides service to local and intercity regions, as well as some rural and unincorporated areas of Ventura County. GCT's Paratransit Service, dubbed

"ACCESS," provides curb-to-curb transportation for senior and disabled riders to any location within GCT's service area.

As shown, the average regional one-way peer fare ranges from $4.45 - $10.50 for regular riders and $2.90 - $7.10 for discount riders. Also illustrated in Table 31, the low end of ESTA's average fares are in line with the low end of the peer fares, with an average of $3.00 for regular riders and $2.45 for discount riders. However, ESTA's long-range fares are generally higher than those of the peers, with average long-range regional routes costing $33.00 for regular riders and $30.00 for discount riders. Additionally, ESTA's largest fare of $59.00 outweighs the highest peer fare of $50.00 (belonging to Sage Stage). In turn, ESTA's fares for longer routes are higher than those within the majority of the peer systems. ESTA's fares are relatively comparable to those in Sage Stage, however, which is the peer system with regional routes most similar to ESTA's 395 routes.

In order to adequately assess the fare levels, it is also important to examine the fare cost per mile. This is a key indication of the level of service provided for the total fare cost. As shown in Table 31, passenger costs per mile range from $0.06 – $0.35 (averaging at $0.12) among the peer systems. In contrast, ESTA's 395 Routes require passengers to spend $0.13 - $0.22, or an average of $0.17, per mile. This data suggests that the per-mile costs required for ESTA's regional routes are substantially higher than in most of the peer systems (more than twice the peer average). It is important to note that Sage Stage Transit requires a higher cost per mile ($0.35) than any of the ESTA regional routes.

Dial-A-Ride Routes

A similar peer fare evaluation was performed for ESTA's Dial-A-Ride routes using the paratransit fares from the same seven peer systems as used above. Table 32 illustrates Dial-A-Ride fare structures for ESTA's four Dial-A-Ride systems alongside the peer paratransit fares.
As shown, ESTA's Dial-A-Ride fares are in line with the peer system base paratransit fares: while the lowest fare is slightly higher than the peer average, the highest fare is slightly lower than the peer average. Peer paratransit fares average at $2.40 - $4.50, and ESTA's DAR fares average at $2.55 - $4.75. The highest peer paratransit fare is $7.00, which surpasses ESTA's peak DAR fare of $6.30. Also shown in Table 32, ESTA and Sage Stage are the only transit agencies in the fare study that allow the general public to utilize DAR services.

Fare Increase Discussion

In considering the appropriateness of a fare increase, the following should be considered:

- ESTA most recently increased fares in 2011. Since that time, general inflation has been relatively modest, reducing the need for an increase to address rising costs.

- The minimum farebox return ratio (proportion of operating costs generated by fares) that ESTA is required to meet as an overall system is 10 percent, in accordance with the Transportation Development Act. Per the most recent Transit Performance Audit, ESTA is far above this minimum standard.

TABLE 32: Dial-A-Ride Fare Structure Peer Analysis			
	Lowest Fare	**Highest Fare**	**Rider Eligibility**
B-Line	$2.75	$2.75	ADA and Riders 70+
Monterey Salinas Transit	$3.00	$7.00	ADA
Sage Stage	$1.00	$3.00	General Public
Yolobus	$3.00	$5.00	ADA
Merced The Bus	$0.75	$5.00	ADA
Gold Coast Transit	$3.00	$3.00	ADA and Riders 65+
San Luis Obispo RTA	$3.00	$6.00	ADA
Peer Average	*$2.40*	*$4.50*	
Bishop Dial-A-Ride	$2.40	$4.20	General Public
Mammoth Dial-A-Ride	$2.40	$4.20	General Public
Lone Pine Dial-A-Ride	$2.40	$4.20	General Public
Walker Dial-A-Ride	$3.00	$6.30	General Public
Average ESTA DAR	*$2.55*	*$4.75*	
Source: Websites of respective transit agencies			

- The minimum standard for the farebox return ratio for the 395 Routes (as defined in ESTA's stated Goals and Objectives) is 10 percent, and the target standard is 40 percent. A comparison of FY 2014/15 fare revenues with the total annual operating costs indicates that the farebox return ratio for FY 2014/15 is 35 percent. This farebox return ratio surpasses the minimum standard, and nearly reaches the target standard.

- The minimum standard for the farebox return ratio for ESTA's DAR routes (as defined in ESTA's stated Goals and Objectives) is 10 percent. The target farebox return ratio standard is 12 percent for rural routes and 15 percent for Bishop and Mammoth Dial-A-Ride. A comparison of FY 2014/15 fare revenues with the total annual operating costs indicates that the farebox return ratios are 14.6 percent (Bishop DAR), 8.9 percent (Lone Pine DAR), 8.4 percent (Mammoth DAR) and 7.2 percent (Walker DAR). While Bishop DAR almost reaches the target set standard, none of the remaining DAR programs meet the minimum set standard. The low farebox return ratios among the Mammoth, Walker, and Lone Pine DAR systems also fail to meet the 10 percent minimum farebox return ratio required by the Transportation Development Act.

- As discussed above, ESTA's fares are relatively high or in line in comparison with those of peer systems.

- As a substantial proportion of the residents of the ESTA service area live below or close to the poverty line, a fare increase could be a significant economic burden.

In sum, there is little current need to consider a fare increase, and good reasons to not do so.

Fare Decrease Discussion

An analysis was performed to assess the financial and ridership impacts of decreasing Dial-A-Ride fares. As shown in Table 33, decreasing the Bishop Dial-A-Ride fares by 15 percent would have the greatest impact on ridership, resulting in a surplus 30,200 annual passenger-trips. This establishment would also result in an additional $43,900 in annual fare revenue. Within the other DAR systems, a 15 percent fare decrease would lead to 2,700 (Lone Pine DAR), 2,200 (Mammoth DAR) and 1,500 (Walker DAR) additional one-way passenger-trips. This would result in annual fare increases of $4,300, $3,600, and $2,800, respectively.

Table 33: Impact of Dial-A-Ride Fare Decrease

	Additional One-Way Passenger-Trips		Annual
	Daily	*Annual*	*Change in Fare Revenue*
Decrease Bishop DAR Zone 1 Fares by 15 Percent	6	2,300	-$8,800
Decrease Lone Pine DAR Zone 1 Fares by 15 Percent	-14	-3,600	-$8,700
Decrease Mammoth DAR Zone 1 Fares by 15 Percent	-11	-2,800	-$7,200
Decrease Walker DAR Zone 1 Fares by 15 Percent	-10	-2,000	-$5,500

Pass Analysis

ESTA currently provides monthly and multiple-ride discount passes for frequent Dial-A-Ride users. A peer analysis was performed to examine similar pass options using several relevant regional transit agencies located in California. The study results suggest that DAR passes are not a standard practice, as ESTA is the only agency offering this option. As a personalized door-to-door service, unlimited passes for a DAR system allow for the potential misuse of the DAR services. The risk and rarity involved in DAR pass systems suggests it is not an efficient or necessary option to provide.

Participate in the Nationwide Interline Ticketing Program

While the 395 intercity services to Reno and Lancaster have been successful, there remains an opportunity to make the services a greater tourism generator and more fully self-supported. Tourists traveling to and from the US 395 corridor often rely on connections from other travel agencies, particularly Greyhound. This is reflected by the fact that US 395 North route stops at the Reno Greyhound Station, and there also is an opportunity for Greyhound connection in Mojave. “One-ticket” ticketing to Eastern Sierra communities from throughout the US is available through participation in the Interline Ticketing Program operated by the National Bus Traffic Association (NBTA). Currently, ESTA has explored with Greyhound the opportunity of interlining the US 395 intercity routes, allowing them to be including in the Greyhound scheduling website. Along with this, there are opportunities to increase revenue by serving as a

local ticket agent, and by handling package express. Under this program, Greyhound provides training, leases a computer, and provides software. These services would enhance the value of the route for local citizens and business as well as for tourists.

The NBTA, a non-profit association located in Washington D.C., is the manager of the Interline Revenue Clearing House and the Tariff Publisher for the Intercity Bus Industry. The NBTA offers intercity bus service providers an opportunity to issue an interline ticket or "thru ticket." This thru ticket allows a passenger to buy a single ticket to travel to a final destination that may require transportation from two or more bus service providers. For example, if a passenger wished to travel from Baton Rouge, Louisiana to Denver, Colorado, they could purchase one ticket for a single fare, though they might be on several carriers. The intercity bus service provider located in their town would provide the ticket and collect the fare. The ticket would be sent to the clearinghouse, where the amount due each carrier would be calculated based on the proportion of miles of service they provided between the two trip ends. The provider that collected the fare would send a portion of the revenue to the Clearinghouse to be redistributed to the intercity bus providers.

Tickets may be distributed through an Automated Ticketing System. The most common are Greyhound's TRIPS/MAX system and the Gateway/Galaxy software system used by several carriers. The process is used to determine the billing carrier's proportionate share of ticket revenue, which is a function of miles transported to thru trip miles ("mileage prorate"). Payment is made through the Interline Revenue Clearing House. The Association operates the Interline Revenue Clearing House, which provides for the monthly settlement of credit and debit accounts electronically. Each month, the carriers submit billing invoices to reclaim their portions of the thru ticket revenue, in addition to other categories of charges associated with bus operations, such as facilities rents, fuel, maintenance, etc. Carriers can submit their invoices requesting payment from other carriers online through the Association's website at www.bustraffic.org, as well as view the amounts that they owe. Net payments are deposited and credited to the appropriate accounts through an electronic funds transfer.

To participate, ESTA would enter into a sponsorship arrangement with an NBTA member carrier (in this case, Greyhound), which would secure a membership application. ESTA would pay a nominal annual membership fee to the Association. This would allow ESTA to sell tickets to intercity destinations on the sponsoring carrier's ticket stock from destinations originating on the sponsored carrier's operating lines. ESTA would honor tickets of NBTA member carriers from intercity points of origin terminating on the sponsored carrier's operating lines. The sponsoring NBTA member carrier would secure all applicable reclaims.

ESTA could participate either as an interline provider, a ticket agent for Greyhound, or a Packages Express agent, or a combination of these. Some of the benefits and challenges of each are discussed below.

ESTA as an Interline Transit Provider

As an interline provider, tickets would be sold to passengers wanting to make intercity trips which would pass through Reno or Mojave, with ESTA providing the service along the US 395 portion. While the ticket would be sold and issued as a Greyhound ticket, ESTA would be reimbursed on the pro-rated mileage of the portion of the trip provided by ESTA, which would

generally be $0.05 to $0.10 per mile. This is lower than the current fares that range from roughly $0.15 to $0.30 per mile. The major benefit of this would be that out-of-area travelers would take advantage of the Greyhound ticketing service to use the ESTA service without ESTA having to market or administer the service directly, and it would increase the awareness of ESTA services and likely boost ridership.

ESTA would have administrative tasks to establish itself as an interline provider, and would have to regularly send reports and requests for reimbursement, but administrative time and costs would be minimal. Greyhound would provide the computer software and training, and technical support.

ESTA as a Greyhound Ticket Agent

In addition to interlining, ESTA could become an actual Greyhound ticket agent able to sell tickets for any Greyhound (and interlined) services in the country. The benefit is that ESTA would earn commissions on the sales, which currently are 20 percent of most sales or 10 percent of 7+ day advanced tickets. Sales can be made by phone with a credit card, in person, or through the driver with a credit card. However, the actual ticket would need to be printed and provided by ESTA, requiring a person-to-person exchange, typically through a manned customer service location. This would require ESTA to provide staff and a location for sales, or to meet the bus to deliver printed tickets.

The commitment to selling tickets requires training of multiple staff members. The person selling tickets must be very familiar with the process and an untrained driver or dispatcher could not simply fill in for this position. Furthermore, because this is part of a for-profit enterprise, the position (or the portion of the position dedicated to sales) would need to be funded with non-TDA monies, such as commissions from ticket sales. At the same time, if duties of an existing employee were shifted over to the Greyhound business, this would be a reduction in operating cost which would slightly improve the transit's farebox return ratio.

ESTA as a Packages Express Agent

Many ticket agents also become Packages Express agents or receive freight. As with bus ticketing, sending packages requires a trained counter person to be available during at least prime business hours. Furthermore, the package express location needs to be visible and accessible to the public. Setting up a package express location at the Bishop maintenance and operations facility would require a space with scales and a customer service counter. Additionally, the US 395 buses would need to stop at the bus facility to pick up packages, or a driver would need to meet the buses at the current Bishop or Mammoth stops to deliver packages. Package pick-ups would be scheduled to have the least interference with the passenger schedules.

OTHER FUNDING SOURCES

ESTA already does a good job of accessing available State and Federal funding sources. Federal Transit Administration (FTA) funds include the 5310 competitive grant program, 5311 formula apportionment, 5311(f) intercity bus grants, 5316 JARC funding, and 5320 alternative transportation in parks grant.

Going forward, there are two additional funding sources that should be considered:

- The **Federal Transportation Administration Section 5339 Bus and Bus Facilities** provides $428 Million nationwide. It is available to fixed-route operators for bus purchase or rehabilitation, for bus operations facilities and for transit passenger facilities. This could be a potential funding source for major capital improvements, such as a Mammoth Lakes Transit Hub.

- The **Low Carbon Transit Operations Program (LCTOP)** is an element of the Transit, Affordable Housing and Sustainable Communities Program established by the passage of Senate Bill 862 in 2014. These funds are generated by greenhouse gas reduction funds ("Cap and Trade" funds). In 2014, $25 Million was appropriated statewide, while going forward 5 percent of total Greenhouse Gas Reduction Fund revenues will be allocated to LCTOP. Funds are allocated under a formula by Caltrans. The program is intended to reduce greenhouse gas emissions, with a focus on low-income communities (for those areas that include areas designated as disadvantaged communities). For funds allocated in 2015/16, the Inyo/Mono region is eligible for $58,000. These funds must be targeted to transit operations, fare programs, or capital improvements that enhances/expands transit mode share and that reduces greenhouse gas emissions. While the program is intended to focus on disadvantaged communities, the State has not designated any disadvantaged community areas in Inyo or Mono Counties. Funding levels are expected to grow substantially over coming years.

The following Plan presents service programs, capital improvements, management Plan elements and financial strategies to guide the improvement of public transit services in Inyo and Mono Counties over the coming five years, within the constraints of realistic funding projections. This chapter presents the individual Plan elements in brief, based on the substantial discussions presented in previous chapters; the reader is encouraged to refer to previous chapters for additional background on the Plan elements. Note that the improvements recently implemented to the Mammoth Express route are not discussed below, but are included in the overall ridership and cost figures.

SERVICE PLAN

The following service enhancements are recommended.

395 Routes

395 North and South: Provide Comprehensive Weekday Service

Overall mobility along the Eastern Sierra will be significantly improved by providing consistent five-days-a-week year-round service on the 395 routes connecting the communities along the US 395 corridor between Lancaster and Reno. Five days per week service on the US 395 North and South routes will provide valuable scheduling consistency and increase travel options for the residents and visitors of Inyo and Mono Counties. On the US 395 North route, this Plan element requires the addition of regular Wednesday service. The US 395 South route to Lancaster will necessitate two additional days of service (on Tuesday and Thursday) to meet this goal. As shown in Table 34, by the end of the 5-year Plan this enhancement will produce 1,200 additional annual one-way passenger-trips on the US 395 North route, and 1,800 passenger-trips per year on the US 395 South route, for a total of 3,100. As part of this strategy, farebox revenues and 5311(F) grant funding are expected to cover the operating costs. These changes should be implemented at the start of Fiscal Year (FY) 2016-17.

395 North and South: Provide Saturday Service during Summer Season

The addition of Saturday service on the 395 North and South during summer will allow increased capacity and options for regional travel, while also targeting the period of highest annual ridership on the routes. This should also encourage increased visitor activities and economic benefits to the region. By the end of five-year period, this Plan element will increase ridership by 500 passenger-trips per year on 395 North and 300 passenger-trips per year on 395 South. As part of this strategy, farebox revenues, 5311(F) grant funding and toll credits are expected to cover the operating costs. These changes should be implemented in the summer of 2016.

TABLE 34: ESTA SRTP Estimated Ridership

Plan Element	FY16-17	FY17-18	FY18-19	FY19-20	FY 20-21	5-Year Plan Total
Base Case Ridership	1,016,400	1,026,600	1,037,000	1,047,600	1,058,500	5,186,100
Decrease Mammoth Express Pass Costs	1,100	1,200	1,200	1,200	1,200	5,900
395 Reno: Provide Saturday Service During Peak Summer	400	400	400	500	500	2,200
395 Reno: Provide Comprehensive Weekday Service	1,000	1,100	1,100	1,100	1,200	5,500
395 Lancaster: Provide Saturday Service During Peak Summer	300	300	300	300	300	1,500
395 Lancaster: Provide Comprehensive Weekday Service	1,500	1,700	1,800	1,800	1,800	8,600
Expand Lone Pine Express by One Daily Northbound Run	1,100	1,200	1,300	1,300	1,300	6,200
Mammoth Evening Service (6PM to 10PM) During Winter & Summer	0	0	23,800	27,400	31,000	82,200
Extend Bishop DAR Service by 2 Hours on Weekdays	700	900	1,100	1,100	1,100	4,900
Outdoor Recreation Pilot Program	$160	$1,500	$2,000	$2,200	$2,400	$8,260
Plan Element Subtotal	*5,200*	*7,100*	*31,800*	*35,700*	*39,600*	*119,400*
Total Ridership	1,022,700	1,034,900	1,070,000	1,084,500	1,099,300	5,311,400

Expansion of Lone Pine Express: Provide Northbound Afternoon Run

The Lone Pine Express acts as a fundamental service for the communities of Lone Pine, Independence, and Big Pine. Many of the residents within these communities rely on travel to Bishop to access urban services, such as larger stores and medical services. The addition of a midday northbound trip will help ensure that travelers between Southern Inyo County and Bishop have ample layover time before the 6:30 PM southbound departure. As shown in Table 34, this year-round supplemental service will result in an increase of 1,300 annual passenger-trips. This service should be implemented in FY 2016-17.

Enhance Mammoth Lakes Summer and Winter Evening Service

A popular passenger request is to expand local Mammoth Lakes evening service in both the summer and winter seasons. Service is currently limited to two vehicles providing service along a single corridor between Canyon Lodge and Snowcreek via Main Street and Old Mammoth Road. This leaves substantial portions of the community unserved. In particular, there is a need for service along the Meridian Boulevard corridor beyond 6:00 PM when the Purple and Grey routes stop service. In addition to serving visitors, this could also serve employees and students taking evening classes. There are a variety of route options that could expand the service area, including one-way loops or a new route. ESTA and the Town of Mammoth Lakes should jointly consider modifications or expansion of service to address this need. As a "placeholder", costs for operation of a third vehicle in the evening are assumed in the Plan, starting in Fiscal Year 2018/19.

Dial-A-Ride Routes – Extend Bishop Dial-A-Ride Hours of Service during the Academic Year

In a November 2015 meeting between ESTA and Eastern Sierra College Center (Cerro Coso College), it became evident that there were unaddressed transportation needs for students. Most notably, several classes begin and end at 6:00 PM, slightly after the end of Bishop DAR service. To address this need, expansion of the Bishop DAR evening service to accommodate the student needs is recommended. This Plan element includes the extension of operation of one DAR vehicle by two hours on Mondays through Thursdays during the academic calendar. While the primary purpose of this route extension is to target student needs, the service will also be available to the general public during the new times. This Plan element is expected to generate upwards of 1,100 passenger-trips per year after the preliminary introduction stage. This service has already been approved for the spring of 2016. Presuming successful spring 2016 implementation, this service will continue at the start of FY 2016-17.

Outdoor Recreation Pilot Program

Public transportation to outdoor recreation destinations within the study area (such as Bishop Creek, Whitney Portal, Rock Creek, Convict Lake, Sonora Pass and Soda Springs) has the potential to greatly improve public access to extensive natural resources and the activities provided by these areas. The 2003 US Forest Service Report entitled Field Report, Eastern Sierra Expanded Transit System identified the limited availability of transportation options to these high-traffic areas, as well as the growing need to meet the transportation needs of an

increasing visitor population. Unlike traditional transit routes, these services could widen the demographic base of riders on ESTA.

While the exact Outdoor Recreation Pilot Program routes should be identified upon further analysis, it is important to account (in terms of finances and service growth) for these kind of services within the Plan. To reflect the overall program, two potential routes (to Bishop Creek and Whitney Portal) were included as Plan elements. Under current conditions, it is estimated that these services will together generate 2,400 annual passenger-trips. In general, it is difficult to project the potential impact of these outdoor recreation services. As such, their usefulness needs to be evaluated though a pilot program. The pilot program will begin and end in the summer of FY 2017 – 18. At the end of the first year, the services will be evaluated individually to determine whether or not they have potential to reach the minimum set standards set forth in ESTA's Goals and Objectives. This analysis will dictate whether any of the programs are to be continued through the future, and/or expanded to other recreational destinations.

Promote Utilization of Vanpool Program

As presented in Chapter 3, ESTA's current Vanpool program is currently not in operation due to low levels of interest and participation. The Vanpool program offers an economically and environmentally sound alternative for regional commuters. As such, it is important that ESTA continue to identify mechanisms to promote the utilization of this program, in addition to identifying barriers to the program's success. In particular, staff should meet with major public and private employers in the region to define interest in vanpooling and potential employee commute patterns that could form effective vanpools.

Summary: Short Range Transit Service Enhancements

As shown in Table 34, overall these service enhancements are forecast to increase annual ESTA ridership by 39,600 passenger-trips, by the end of the Plan period. This is equivalent to a 4 percent increase over "base case" forecasts, and will – along with expected growth in ridership on existing services – result in an estimated 1,099,300 passenger-trips by FY 2000-21. Beyond simply increasing ridership, these service enhancements will expand regional access, increase evening service, enhance access to recreation and education, and overall expand economic activity.

Additional Service Enhancements for Consideration – 2021 to 2026

Beyond the service improvements planned for the coming five years, there are several additional improvements to Eastern Sierra Transit Authority services that are recommended for consideration over the longer term:

- Implement additional Mammoth evening service between 10:00 PM to 2:00 AM during peak seasons
- Implement US 395 Reno and Lancaster Saturday service during the winter season
- Implement Mammoth Express and Lone Pine Express Saturday service

- Extend Bishop Dial-A-Ride Sunday service

- Provide earlier service on the Mammoth Purple, Gray or Red Lines

If conditions change over the course of the five-year SRTP Planning period (such as shifts in ridership demand), one or more of these longer-range service strategies could be considered for earlier implementation.

CAPITAL IMPROVEMENTS

Transit services require ongoing capital investment in facilities and rolling stock. Capital investments in both vehicles and passenger facilities can also attract additional riders, while improving the quality of service and safety/security of existing riders. In addition, new advancements in communications technologies can significantly benefit public transit programs. Information on the Capital Plan elements is presented in Table 35.

Transit Fleet Improvements

Foremost, the ongoing replacement of the transit fleet is essential for the long-term sustainability of the ESTA program. The following vehicles will require replacement over the coming years:

- 2016/17: 7 Cutaway Buses, 1 Trolley
- 2017/18: 1 Bus, 10 Cutaway Buses
- 2018/19: 1 Cutaway Bus
- 2019/20: 3 Cutaway Buses
- 2010/21: 3 Cutaway Buses

Note that none of the service enhancements increase the peak number of buses in operation, instead expanding the use of the existing fleet into additional days and hours of service.

Transit Center and Bus Stop Improvements

This Plan includes a program to enhance passenger facilities at key bus stops in Mammoth Lakes, and through the implementation of a central transit hub in Mammoth. As discussed in greater detail in Chapter 6, above, the following changes will be pursued:

- Transfer in ownership of the six Caltrans-owned bus stops in Mammoth Lakes. As set forth in Chapter 6, prior to this transfer, state or municipal funding should be provided to replace these bus shelters, benches, passenger waiting areas and street lighting.

- Additionally, renovation of the four Mammoth bus shelters currently owned by the Town of Mammoth Lakes. These renovations are in line with the goals set forth in the 2014 *Mammoth Main Street Plan*. These improvements may be undertaken by Caltrans, the Town of Mammoth Lakes, ESTA, or any combination of the three entities.

TABLE 35: ESTA SRTP Capital Plan

Plan Element	FY16-17	FY17-18	FY18-19	FY19-20	FY 20-21	5-Year Plan Total
Cutaway Buses						
Number of Vehicles	0	1	0	0	0	1
Total Cost	$0	$424,500	$0	$0	$0	$424,500
Vans						
Number of Vehicles	7	10	1	3	3	24
Total Cost	$619,000	$902,000	$92,000	$281,500	$287,200	$2,181,700
Trolleys						
Number of Vehicles	1	0	0	0	0	1
Total Cost	$200,000	$0	$0	$0	$0	$200,000
Bus Shelter Improvements						
Main Street Shelter Improvements	*Funded as Part of Mammoth Lakes Main Street Plan*					--
North Village Bus Shelter	*Funded as Part of Mammoth Lakes Main Street Plan*					--
Renovate Remaining Mammoth Shelters	*Funded as Part of Mammoth Lakes Main Street Plan*					--
Bishop Maintenance Facility and Vehicle Yard	$100,000	$500,000	$0	$0	$0	$600,000
Bishop Administrative Office	$75,000	$225,000	$200,000	$0	$0	$500,000
Transit Center						
- Site Selection/Planning Study	$0	$80,000	$0	$0	$0	$80,000
- Engineering/Environmental	$0	$0	$267,000	$0	$0	$267,000
- Acquisition/Construction	$0	$0	$0	$1,054,100	$1,075,200	$2,129,300
- Subtotal: Transit Center	$0	$80,000	$267,000	$1,054,100	$1,075,200	$2,476,300
Total	***$994,000***	***$2,131,500***	***$559,000***	***$1,335,600***	***$1,362,400***	***$6,382,500***

- The implementation of a comprehensive bus shelter on Minaret Street to serve the Village at Mammoth. This task may be performed by ESTA, the Town of Mammoth Lakes, or a combination of the two entities.

Specific Planning for Mammoth Transit Center

As presented in Chapter 6, development of a central transit hub in Mammoth is a key element in the continued success and growth of ESTA, and will provide a transit amenity consistent with the transit centers found in other vibrant mountain resort communities. In addition to serving ESTA local and 395 routes, this facility can serve as a stop location for Yosemite Area Regional Transit Service (YARTS) as well as serving private transportation providers.

The first step in establishing a Mammoth Transit Center consists of a thorough planning and site evaluation. A detailed study will be needed to compare the advantages/disadvantages of the potential sites and determine that which best benefits the transit program and the community. This study should address the following:

- Impacts on transit operating times and costs
- Detailed evaluation of building and site requirements/programs, including the need for driver restrooms, driver break area, public restrooms, and transit information counter.
- Availability of various properties, including willingness of existing owner
- Utilities
- Consistency with zoning regulations
- Compatibility with adjacent land uses
- Traffic impacts
- Presence of contaminated soils
- Construction / permitting / project development costs
- Environmental documentation
- Potential co-development with the Town of Mammoth Lakes in order to enhance downtown parking

A reasonable estimate for this study is $80,000. This study should be conducted in FY 2017-18.

Next, engineering and environmental permitting will be required. This step will require an estimated $267,000 and should be implemented in FY 2018-19.

The subsequent two years will include the acquisition and construction of the final transit hub. It is estimated that this stage will cost on the order of $2.13 Million (not including land acquisition). It will provide a range of benefits, including the following:

- Improved facilities for both passengers and for transit staff.
- Increased safety for waiting transit passengers
- A higher overall “profile” for ESTA services

Specific Planning for Bishop Operations Facilities

It is necessary to plan for the continued development of a Bishop maintenance facility and vehicle yard. While the concrete yard foundation is finished, further planning and construction is

required to finalize the facility building. This Plan element will first require an engineering/environmental study, which is estimated to total $100,000. This study should take place in FY 2016-17. Next, the construction of the facility will require an estimated $500,000. This construction period should be completed in FY 2017-18.

In addition to an updated maintenance facility and vehicle yard, ESTA is in need of a new administrative office building. This building will include facilities for administrative duties, dispatch operations and training operations. Again, this plan element will require an engineering/environmental study, which is estimated to cost a total of $75,000. This study should take place in FY 2016-17. The subsequent construction of the facility is estimated to require $425,000 and should be completed by FY 2018-19.

Enclosed Mammoth Lakes Bus Garage

At present, the ESTA fleet based in Mammoth Lakes is stored in an open surface lot. Given the sometimes-extreme winter weather, this results in a number of impacts:

- Staff time and cost is required to remove ice and snow that accumulate when vehicles are not in operation. Minor maintenance (such as fixing mirrors or replacing bulbs) often occurs outdoors in inclement weather.
- There is not an opportunity for ice buildup in wheel wells to "melt out" overnight
- There is more wear and tear on bus exteriors, increasing maintenance costs.
- Increased mechanical component wear due to cold starts and operation.
- Uncomfortably cold temperature for drivers and passengers on the first few runs of the day.

ESTA has prepared conceptual plans for an enclosed bus garage on the existing site. While specific cost estimates have not been prepared, this improvement should be pursued as a beneficial strategy to enhance operations and reduce maintenance costs.

Summary of Capital Improvements

Table 35 provides a summary of the Capital Plan elements. As shown, over the coming five years a total of $6,622,500 will be required to enhance the fleet and facilities. This includes the impact of a 2 percent annual rate of inflation. Annual capital costs range from a low of $649,000 in FY 2018/19 to a high of $2,191,500 the following year.

MANAGEMENT PLAN

Adopt Updated Goals and Performance Measures

The revised goals, objectives and standards shown in Chapter 7 are recommended for adoption. These revisions are more in line with current operating conditions, while still providing appropriate incentives to improve services.

Eliminate Monthly Dial-A-Ride Pass Option

As put forth in Chapter 4, it is recommended that ESTA eliminate the unlimited monthly Dial-A-Ride Pass options in order to prevent inefficiency and reduce the potential for misuse on the

Dial-A-Ride systems. Unlimited DAR passes are not typically available among transit systems, as they can result in overuse by some passengers which limits or precludes the ability to serve others. This Plan element is not expected to significantly change ridership, costs or farebox revenues.

Participate in the Nationwide Interline Ticketing Program

As outlined Chapter 7, selling intercity passenger tickets, participating as an interline transit provider, or serving as a Package Express agent offer ESTA opportunities to increase ridership, raise awareness of its transit routes and programs, provide improved services to customers, and are a potential source of increased revenues. It is recommended that ESTA takes steps to become an interline provider and ticket agent, as well as a Package Express sales agent. These changes would require the establishment of new ticketing technology, and additional staffing and training costs. Based on financial data from similar systems that have implemented this service, the implementation costs and service revenues will likely balance each other. For this reason, the interline ticketing program is not included as an additional revenue or cost element in the Plan tables.

Reduce Fares on Mammoth Express

As outlined in Table 32 of Chapter 7, the fare per mile on Mammoth Express is $0.17, exceeding the peer average of $0.12 per mile as well as the $0.13 per mile charged on the Lone Pine Express. As a regular semi-local route, it is important to consider the benefits that the Mammoth Express service offers potential riders. To focus the benefit of a fare reduction on regular local riders, the cost of a 10-ride pass should be reduced. Depending on the specific trip ends, 10-ride pass rates should be reduced by 35 to 50 percent in order to provide further incentive for Bishop and Mammoth residents to use this service. This fare reduction is expected to decrease the average Mammoth Express fare from $5.70 to $3.97. In turn, this implementation will result in an estimated 1,300 additional one-way passenger-trips, while reducing fare revenues by $7,700 per year (at the end of the 5-year Plan period). This Plan element should be implemented in FY 2016-17.

Coordinate Transit Planning with Regional Transportation Plans and Development Plans

ESTA transit services are an important element of the Regional Transportation Plans in Inyo and Mono Counties. Going forward, both RTPs and transit plans should be coordinated to ensure policies and plans are compatible. In addition, ESTA should be consulted as part of the review process for development and roadway project plans, including the ability to comment on potential impacts on transit routes and stop locations. There are many good resources available on the web regarding specific transit design standards that can be applied in this process, including the *El Dorado County Transit Authority Transit Design* Manual and *Designing For Transit – Monterey-Salinas Transit.*

FINANCIAL PLAN

The service and capital improvements discussed above are planned to be funded through a combination of fare revenues, state/federal grants, and local public and private funding. The following methodology was utilized in developing this Financial Plan:

- First, forecasts of annual operating and administrative costs were developed, as presented in Table 36 for FY 2016/17 through FY 2020/21. "Base case" operating and administrative cost forecasts were estimated based on the existing budget. A 2.0 percent average annual inflation rate is applied to estimate base case costs in the absence of any change in service levels. Next, operating and administrative cost estimates were identified for each SRTP element, based upon the analyses presented in previous sections of this document, and consistent with the Implementation Plan presented below. These costs were also factored to reflect the assumed rate of inflation. Operating and administrative costs by the fifth year of the Plan will total approximately $5,539,000, which is 16 percent over the FY 16-17 base-case cost of $4,779,000.

- Next, ridership for each SRTP element was estimated, as presented in Table 34, above. The "base case" ridership reflects expected ridership, including the additional Mammoth Express run, and no other changes in service. The ridership impact of each Plan element (including the fare modification) is then identified and summed. As new services do not immediately attain the full potential ridership, ridership on new services (such as the Saturday service on Mammoth Express, Bishop DAR evening service, and outdoor recreation programs) is factored to reflect 66 percent of potential ridership in the first (and, in some cases, second) year of service and 90 percent of potential ridership in the following year. For relatively small changes to existing services, an 80 to 90 percent factor is assumed for the first (and, in some cases, second) year and full ridership thereafter. In addition, ridership (for certain base case routes and service improvements) is factored to reflect 2 percent annual increase in the aging local population and associated ridership demand for routes that are targeted towards local resident populations. By FY 2020/21, ridership is forecast to equal 1,099,300 one-way passenger-trips per year, which is 82,900 trips over the base case 2016/17 forecast of 1,016,400. This indicates that the Plan will result in a 4 percent increase in ridership by the end of the Plan period.

- Based on the ridership figures presented in Table 34, the estimated farebox revenues are presented in Table 37. Again, these figures reflect the impacts of the fare modifications. As presented, by the final year of the Plan period, the reduction of existing pass rates paid by Mammoth Express riders yields a reduction of $7,100 in fare revenue. However, the service expansion elements will increase fare revenue throughout the five-year Plan period by $75,200 per year. Including fare revenue generated by growth in ridership on existing services, annual fares are forecast to grow by $104,800 over current levels, equal to a 14 percent increase.

- The next element necessary in the development of the SRTP is estimation of the capital cost for vehicles, passenger amenities, operations and administration facilities, and the transit center, as shown in Table 37 for each year of the Short Range Transit Plan period. It should be noted that an annual inflation rate of 2.0 percent is reflected in several of these figures,

TABLE 36: ESTA Short Range Transit Estimated Operating Cost

Plan Element	FY16-17	FY17-18	FY18-19	FY19-20	FY 20-21	5-Year Plan Total
Base Case Operating Cost	$4,779,000	$4,898,600	$4,996,600	$5,096,500	$5,198,400	$24,969,100
395 Reno: Provide Saturday Service During Peak Summer	$15,500	$15,800	$16,100	$16,400	$16,800	$80,600
395 Reno: Provide Comprehensive Weekday Service	$40,800	$41,600	$42,400	$43,200	$44,100	$212,100
395 Lancaster: Provide Saturday Service During Peak Summer	$12,500	$12,800	$13,000	$13,300	$13,600	$65,200
395 Lancaster: Provide Comprehensive Weekday Service	$65,900	$67,200	$68,600	$69,900	$71,300	$342,900
Expand Lone Pine Express by One Daily Northbound Run	$24,700	$26,200	$26,700	$27,300	$27,800	$132,700
Mammoth Evening Service (6PM to 10PM) During Winter & Summer	$0	$0	$80,400	$92,200	$104,500	$277,100
Extend Bishop DAR Service by 2 Hours on During Cerro Coso Operating Days	$14,800	$15,000	$15,300	$15,700	$16,000	$76,800
Outdoor Recreation Pilot Program	$16,900	$43,800	$44,700	$45,600	$46,500	$197,500
Plan Element Subtotal	$191,100	$222,400	$307,200	$323,600	$340,600	$1,384,900
Total Operating Cost	$4,970,100	$5,121,000	$5,303,800	$5,420,100	$5,539,000	$26,354,000

TABLE 37: ESTA SRTP Estimated Farebox Revenues

Plan Element	FY16-17	FY17-18	FY18-19	FY19-20	FY 20-21	5-Year Plan Total
Base Case	$748,400	$755,600	$762,900	$770,400	$778,000	$3,815,300
Decrease Mammoth Express Pass Costs	-$5,400	-$5,400	-$5,900	-$6,500	-$7,100	-$30,300
395 Reno: Provide Saturday Service During Peak Summer	$7,600	$7,600	$7,600	$9,500	$9,500	$41,800
395 Reno: Provide Comprehensive Weekday Service	$20,800	$22,800	$22,800	$22,800	$24,900	$114,100
395 Lancaster: Provide Saturday Service During Peak Summer	$4,300	$4,300	$4,300	$4,300	$4,300	$21,500
395 Lancaster: Provide Comprehensive Weekday Service	$21,400	$24,300	$25,700	$25,700	$25,700	$122,800
Expand Lone Pine Express by One Daily Northbound Run	$5,800	$6,600	$6,600	$6,100	$6,100	$31,200
Mammoth Evening Service (6PM to 10PM) During Winter & Summer	$0	$0	$0	$0	$0	$0
Extend Bishop DAR Service by 2 Hours on Weekdays	$1,500	$1,900	$2,400	$2,400	$2,400	$10,600
Outdoor Recreation Pilot Program	$630	$5,900	$7,900	$8,600	$9,400	$32,430
Plan Element Subtotal	$56,600	$68,000	$71,400	$72,900	$75,200	$344,100
Total Farebox Revenue	$805,000	$823,600	$834,300	$843,300	$853,200	$4,159,400

where appropriate. Based on the Capital Plan, presented above, the capital costs total $6,382,500 over the five-year period.

The results of Tables 34 through 36 were used to develop the Financial Plan, as presented for each of the five years of the Short Range Transit Plan period in Table 38. In addition to passenger fare revenues, this Financial Plan incorporates the following funding sources.

Operating Funding Sources

Operating funding sources are proposed to consist of the following

- Annual LTF (Local Transportation Fund) revenues are based on the estimated FY 15-16 budgeted amount and adjusted for a 1.5 percent economic inflation for the first year, and 2.0 percent inflation thereafter.

- Annual STA (State Transit Assistance) funding, assuming no change from the budgeted FY 15-16 amount allotted and excluding the $50,000 to be used towards capital expenditures.

- FTA (Federal Transit Administration) Grants include:

  - Section 5311 (Rural Program) funds are used for operations. These funds are assumed to grow at the annual rate of 2.3 percent identified for the nationwide 5311 program under the Fix America's Surface Transportation (FAST) Act. These funds were based on the 2016/17 grant projections provided by Caltrans.

  - FTA Section 5311(f) is used to cover 100 percent of the required operating subsidy for intercity operations, including the expansion of 395 services. This reflects application of Transportation Development ("Toll") Credits throughout the five years.

  - NEMT & Google Transit funds are used for operations. The existing $12,500 in 5311 funds used for Google Transit are assumed to end after FY 2017/18, which is illustrated within the table.

- The Low Carbon Transit Operations Program (LCTOP), adjusted annually for 2.0 percent inflation, is used to cover the expansion of the Mammoth Express and Lone Pine Express, as well as the pass fare reduction on the Mammoth Express

- Interest on bank balances is included, based on the FY 14-15 amount and grown with 2.0 percent inflation

- The "Other services and fees" category includes revenue from the MMSA Contract, Kern Regional Transit Contract, and Specials Services, as well as Tribal and advertising revenue. These funds are grown by 2.0 percent annually for inflation.

As shown in Table 38, this results in a net negative balance (ranging from -$3,050 to -$106,350, depending on the year) for the duration of the Plan. These negative operations balances are mitigated through the use of the Capital Reserve Fund. As shown, the Capital Reserve Fund is utilized to help cover elements of the Operating Financial Plan in all of the Plan

TABLE 38: ESTA SRTP Financial Plan

	FY16-17	FY17-18	FY18-19	FY19-20	FY20-21	5-Year Plan Total
OPERATING PLAN						
Base Case Costs	*$4,779,000*	*$4,898,600*	*$4,996,600*	*$5,096,500*	*$5,198,400*	*$24,969,100*
Operating Plan Elements (From Table 36)	$191,100	$222,400	$307,200	$323,600	$340,600	$1,384,900
Total Operating Costs	$4,970,100	$5,121,000	$5,303,800	$5,420,100	$5,539,000	$26,354,000
Operating Revenues						
Passenger Fares (From Table 37, Including Reds Meadows)	$805,000	$823,600	$834,300	$843,300	$853,200	$4,159,400
Annual LTF	$1,252,000	$1,277,000	$1,302,500	$1,328,600	$1,355,200	$6,515,300
Annual STA	$272,900	$272,900	$272,900	$272,900	$272,900	$1,364,500
FTA 5311 and 5311(f)	$630,300	$644,800	$659,600	$674,800	$690,300	$3,299,800
NEMT & Google Transit	$38,350	$25,850	$25,850	$25,850	$25,850	$141,750
LCTOP	$58,000	$59,200	$60,300	$61,600	$62,800	$301,900
Interest	$5,300	$5,400	$5,500	$5,600	$5,700	$27,500
Town of Mammoth Lakes Contract	$782,700	$798,400	$894,700	$922,800	$951,700	$4,350,300
Other services and fees	$1,122,500	$1,145,000	$1,167,800	$1,191,200	$1,215,000	$5,841,500
TOTAL OPERATING REVENUES	**$4,967,050**	**$5,052,150**	**$5,223,450**	**$5,326,650**	**$5,432,650**	**$26,001,950**
Annual Balance (To Capital Reserve Fund)	($3,050)	($68,850)	($80,350)	($93,450)	($106,350)	($352,050)
Capital Plan						
Capital Plan Element Costs (From Table 35)	$994,000	$2,131,500	$559,000	$1,335,600	$1,362,400	$6,382,500
Capital Revenues						
PTMISEA	$59,000	$59,000	$0	$0	$0	$118,000
State Grants - (Includes STIP and STA Funding)	$250,000	$0	$0	$0	$0	$250,000
CA Sustainable Transportation Planning Grant Program	$0	$70,800	$0	$0	$0	$70,800
FTA Grants - Capital for Mammoth Transit Center & Bishop Facilities	$0	$725,000	$467,000	$1,054,100	$1,075,200	$3,321,300
FTA Grants - Vehicle Purchases	$619,000	$1,326,500	$92,000	$281,500	$287,200	$2,606,200
Capital Reserve Funds	$66,000	($49,800)	$0	$0	$0	$16,200
TOTAL	**$994,000**	**$2,131,500**	**$559,000**	**$1,335,600**	**$1,362,400**	**$6,382,500**
Capital Reserve Fund						
Beginning Balance	$459,000	$389,950	$370,900	$290,550	$197,100	$459,000
Transfer from Operating Revenues	($3,050)	($68,850)	($80,350)	($93,450)	($106,350)	($352,050)
Expenditures	($66,000)	$49,800	$0	$0	$0	($16,200)
Ending Balance	$389,950	$370,900	$290,550	$197,100	$90,750	$90,750

years. During the Plan period, it may be necessary to look to other funding programs, such as to fund the Outdoor Pilot Programs to Bishop Creek and Whitney Portal (if these programs extend beyond the first year). If additional funds do not materialize, there is more than adequate financial capacity to adjust service levels over the course of the plan period while maintaining strong financial conditions.

Capital Funding Sources

Capital funding sources are planned to consist of the following, as presented in the bottom portion of Table 38:

- Proposition 1B PTMISEA (Public Transportation Modernization, Improvement, and Service Enhancement Account) is to be used to fund a portion of the construction of the Bishop Operations Facility (over the years FY 2016-17 and FY 2017-18).

- State Grants:

  - STIP (State Transportation Improvement Program) grant funding for the purchase of a trolley in FY 2016-17.

  - STA funding includes $50,000 to be allocated towards capital expenses (particularly the Bishop facilities).

- California Sustainable Transportation Planning Grant Program to fund the majority of the site selection/planning study for the Mammoth Lakes Transit Center in FY 2017-18.

- FTA Grants to be used towards the vehicle replacements over the Plan period.

- FTA Grants to be used for engineering, permitting and construction of the Mammoth Lakes Transit Center and towards the Bishop Facilities over the Plan period.

- It is assumed that FTA Grants will cover the cost of the transportation facilities and vehicle replacement requirements, with the use of Transportation Development Credits allowing effective 100 percent Federal funding. A total of $963,000 in Transportation Development Credits will be required over the five-year Plan period).

IMPLEMENTATION PLAN

Fiscal Year 2016-17

- Implement summer Saturday service on the US 395 Reno and Lancaster routes
- Begin comprehensive weekday service on the US 395 Reno and Lancaster routes
- Provide summer Saturday service on the Mammoth and Lone Pine Express routes
- Extend Bishop DAR Service by 2 Hours on During Cerro Coso Operating Days
- Purchase 7 new vans
- Purchase one new trolley
- Conduct engineering/permitting for Bishop Operations Facility
- Conduct engineering/permitting for Bishop Administrative Office

Fiscal Year 2017-18

- Implement Bishop Creek and Whitney Portal pilot programs, and review results at the end of the operating season.
- Purchase 10 new vans
- Purchase 1 new bus
- Implement North Village Bus Shelter
- Construct Bishop Operations Facility
- Begin Construction of Bishop Administrative Office
- Conduct site selection/planning study for transit center

Fiscal Year 2018-19

- Implement additional Mammoth local bus during winter and summer evenings
- Purchase 1 van
- Renovate 2 bus shelters in Mammoth
- Conduct engineering/environmental studies for Mammoth Lakes Transit Center
- Complete Construction of Bishop Administrative Office

Fiscal Year 2019-20

- Purchase 3 vans
- Renovate 2 bus shelters in Mammoth
- Begin land acquisition and construction process for Mammoth Lakes Transit Center

Fiscal Year 2020-21

- Purchase 3 vans
- Finish construction process for transit center

Appendix A
On-board Survey Summary

395 Routes

			Board Bus			Depart Bus								Ratings													
Survey #	Visitor (Y/N)	Roundtrip/One Way	City/Town	Stop	Transport to Bus	City/Town	Stop	Trip Reason	Wheelchair	Transit Info Source	Household Vehicles	Frequency	Connections	Safety	On-Time	Courtesy	Travel Time	Areas Served	Cleanliness	Comfort	Stops	Phone Info	Printed Info	Online Info	Overall	License	Demographic	Comments
22	no	roundtrip	bishop		other	lancaster		other	no	bus driver	0	3xweek		5	5	5	5	5	5	5	5	5	5		5	no	senior	
23	yes	roundtrip	bishop	vons	got a ride	lancaster	metrolink	recreational event, other	no	bus driver	more than one	other	metrolink	5	5	5	5		5	5	5	5	5	5	5	yes	senior	"Always room for improvement"
24	no	roundtrip	bishop	kmart	DAR	lancaster	metrolink	medical/dental	no	bus driver	0	1st trip		5	5	5	5	5	5	5	5	5	5	5	5	no	senior	
25	yes	one way	bishop		got a ride	lancaster		other	no	other	more than one	1st trip	amtrak	5	5	5	5	5	5	5	5	5	5	5	5	yes	none of the above	
26	no		bishop	kmart	got a ride	lancaster	metrolink	train	no	bus driver, esta website	more than one	other	metrolink			5		5	5	3				5		yes	senior	
138	yes	one way	bishop	kmart	walk	inyokern		medical/dental, other	no	guide/schedu	0	a few times per month	other	5	5	5	5	5	5	5	5	5	5	5	5	no	disabled	"A+ A+ Super A+ A+. The only bus on 395. People need bus. Thanks."

DAR On-Board Surveys

													Ratings												Trips not Made		
Survey #	Boarding Time	Trip Community	Advance Booking	Ride Frequency	Other Routes	Able to Make Trip Otherwise	Other Vehicle	Destination Type	Wheelchair	Boarding/Exiting Assistance	Drivers License	Demographic	Safety	On-Time	Courtesy	Travel Time	Areas Served	Cleanliness	Comfort	Stops	Phone Info	Printed Info	Online Info	Overall	Yes/No	Where	When	Other
1	8:40 AM	benton	1 day	1xday	benton to bishop	no	no	medical/dental	no	no	no	other	5	4	5	5	4	5	5	5	4	4	4	5	no	--	--	--
3	1:30 PM	bishop	today	5xweek	only DAR	no	no	other	yes	no	no	senior, disabled	5	3	5	4	4	4	4	4	4	4	--	4	yes	bishop	evenings, Sunday	"More buses weekday evenings and especially Sundays. And longer hours evenings & Sundays."
4	12:15 PM	bishop	1 day	4xweek	--	no	no	other	no	no	no	senior, disabled	5	4	5	4	4	5	5	4	5	4	4	5	yes	night time events	monthly	"More drivers/night drivers especially weekends, summer months, Sundays longer. Bus hours 8-7 PM."
5	10:00 AM	bishop	--	2xday	only DAR	no	no	recreational event, shopping/errands, medical/dental	no	no	no	senior	4	5	5	5	4	5	5	3	4	3	--	5	yes	--	--	"Need longer hours. More pick up points, checkpoints, and maybe 1/2 hr points."
6	AM	bishop	1 day	4xday	lone pine to reno	no	no	shopping/errands, medical/dental	no	no	yes	senior	5	4	5	5	5	5	5	5	4	4	--	5	yes	--	--	"More fixed routes"
7	10:30 AM	bishop	3 days	3xday	only DAR	no	yes	shopping/errands, medical/dental	no	yes	yes	senior	5	4	5	4	5	5	4	4	5	--	--	5	no	--	--	--
8	2:41 PM	bishop	today	6xweek		no	no	medical/dental	no	no		senior, disabled	5	5	5	5	5	5	5	5	5	5	5	5	yes		weeknights	"Longer hours"
9	AM	bishop	1 day	4xweek		no	no	shopping/errands, medical/dental	no	no	no	senior, disabled	5	5	5	4	5	5	4	4	2			4	yes			
10	11:00 AM	bishop	2 days	2xday	only DAR	no	no	medical/dental	no	no	no	senior	5	3	5	4	4	5	4	4	4			4	no			
11	AM	bishop	3 days	2xday		yes	no	shopping/errands	no	no	no	senior	5	5	5	4	4	5	4	4	1	2	4	5	no			
12	10:45 AM	bishop	1 day	v times per m	only DAR	no	no	medical/dental	no	no	no	senior	5	5	5	5	5	5	5	5	5	5		5	no			"Happy with all service."
13	9:00 AM	bishop	today	2xweek		no	no	recreational event	no	no	yes	senior	5	5	5	5	4	5	5		5			4	no			"Better service on check point."
14	7:45 AM	bishop	more than 7	2xday		no	no	to work	no	no	no	other	5	5	5	5	5	5	5	5	3	4	4	5	no			"Better computers"
15	10:45 AM	bishop	1 day	3xday		no	no	shopping/errands, medical/dental	no	no	no	senior		4	5	4	3	4	4	4	4	4	4	5	yes			"Could use more uses and need at least 3 buses on the weekend."
16	1:00 PM	bishop	1 day	6xweek		no	no	other (home)	no	no	yes	other	3	2	5	3	3	3	3	4	3	3	3	4	yes	Bridgeport	"2 or 3 times a year"	
17	5:00 PM	bishop	today	5xweek	mammoth express	no	no	to school	no	no	no	senior	5	4	5	4	3	5	5	3	3	5	5	4	yes	Hwy 168 and Buttermilk Rd	Weekdays	"Expanded service areas (Bishop). Service until 6:00 PM."
21	8:40 AM	other	1 day	1xweek	benton to bishop	no	no	medical/dental	no		no	other	5	4	5	5	4	5	5	5	4	4	4	5				
28	1:50 PM	lone pine	today	3-4xweek	lone pine express, mammoth to lancaster	yes	yes	work	no	no	no	other	5	5	5	5	3	5	5	5	5	5	5	5	yes			
29	1:45 PM	lone pine	1 day	v times per month		no	no	shopping/errands	no	no	yes	other	5	5	5	5	4	5	5	5	4	4		5	no			
30	2:00 PM	bishop	today	4xweek	mammoth to lancaster	no	no	other	no	no	yes	other	5	3	5	5	5	5	5	5				5	yes	"In town on Sundays"		"More buses on Sat. Longer service on Sun."
36	10:45 AM	mammoth	today	5xweek	mammoth fixed routes	yes	no	work	no	no	no	other	5	5	5	5	5	5	5	5	5	5	5	5	no			"Weekend dial a ride. Scottie rocks! Personable, fun, reliable, always on time"
37	10:00 AM	mammoth	3 days	4xweek	mammoth to lancaster	no	no	medical/dental	no	no	yes	senior	5	5	5	5	4	5	5	5	4	4	4	5	yes	"Mammoth to Bishop and June Lake"		"Weekend service"
133		walker	1 day	8xweek	bridgeport to carson city	no	no	recreational event, shopping/errands, medical/dental	no	no	no	disabled	5	5	5	5		5	5					5	yes	"Senior Center"		"Fri Bus"
134		walker	1 day	8xweek		no	no	recreational event, medical/dental	no	no	no	disabled	5	5	5	5		5	5	5				5	no			"Bring back Friday Dial-A-Ride"
135	9:30 AM	walker	1 day	8xweek		no	no	other	no	no	no	senior	5	5	5	5	5	5	5	5	5	5	5	5	yes	"Shopping/Doctor/Library"	monthly	"Operating on Friday"
136		walker	1 day	times per month		no	no	shopping/errands, medical/dental	no	no	yes	senior	5	5	5	5	5	5	5	5	5	5	5	5	no			
137		walker	1 day	8xweek		no	no	work, shopping/errands, medical/dental	no	no	no	disabled	5	5	5	5	3	5	5	5	5			5	yes	"Work"	fridays	"Service on Fridays."

Mammoth Fixed Routes

Survey #	Route	Roundtrip/ One Way	Board Location	Transport to Bus	Bicycle	Get off Bus	Trip Reason	Wheelchair	Assistance	Transit Info Source	Household Vehicles	Frequency	Other Routes	Ratings										License	Demographic	Comments
														Safety	On-Time	Courtesy	Travel Time	Areas Served	Cleanliness	Comfort	Stops	Phone Info	Printed Info	Online Info	Overall	
	38	puple	one way	rite aid	walk	no	vons	shopping/ errands	no		bus driver		0 2xday	town trolley	5	4	5	5	4	5	5	4	4	5		5 no	senior	"Saturday service between Mammoth and Bishop"
	39	purple	one way	multiple	walk	no	multiple	recreation al event, shopping/ errands	no	no	bus driver		1 2-4xday	town trolley, lakes basin trolley	5	5	5	5	5	5	4	5		5		5 yes	senior	"Just wanted to say drivers are very courteous, congenial and helpful. In particular, Joe and Cara were most helpful."
	40	purple	one way	stop # 25	walk	no		other	no	no	bus stop		1 month	purple, town trolley	4	5	5	5	4	3	5	4				5 yes	none of the above	
	41	purple	one way	village	walk		vons	(home)	no	no	other		0 1-5xweek	town trolley	5	3	5	5	4	5	5	3				5 no	none of the above	"Covered bus stops. Weatherproof bus stops."
	42	purple	one way	stop # 32	walk	no	stop #26	work	no	no	other		1 5xweek	gray line, town trolley	4	4	4	4	4	4	4	4	4	4	4	4	none of the above	"More stops"
	43	purple	roundtrip		walk	no	village	work, school	no	no	bus driver	more than one	21xweek	purple, gray, town trolley	4	2	3	3	4	5	3	3	3	3	3	3 no	none of the above	
	44	purple	one way	stop #27	bicycle	yes		shopping/ errands	no	no	bus driver, google maps, esta office		0 1xday	town trolley	5	5	5	5	5	5	5	5	5	5	5	5 yes	senior	"Jeff & Joe are my favorite bus drivers in Mammoth. Very friendly & helpful."
	45	purple	one way		walk	no	village	shopping/ errands	no	no	bus stop		0 12xweek		5	4	5	5	5	5	5	5	5	5	5	5 no	none of the above	"I think the transit system is fine. Thank you all so much!"
	46		roundtrip	stop #24	DAR	no		errands	no	no	bus driver		1 1st trip	gray	4	5	4	4	4	5	5	5	5	5	5	5 yes	none of the above	"Music"
	47	purple	roundtrip	vons	bicycle		village	work	no	no	bus driver		0 other	purple, gray	5	4	5	4	5	4	5	5	5	5	4	5 yes	none of the above	"Nothing to improve. Safe Driver!"
	48	purple, red	roundtrip		walk	no		work, recreation al event, shopping/ errands	no	no	bus driver, bus stop		1 2xday	purple, town trolley	5	4	5	5	4	4	4	4		5		5 yes	none of the above	"AC just to work a little bit better"
	49	purple	roundtrip, one way	lupin	walk	no	rite aid	other	no	yes	bus driver, bus stop		0 20xweek	purple	2	2	4	4	4	3	4	4	4	4	5	5 no	senior	
	50	purple	roundtrip	vons	other	no	village	work	no	no (but drivers help with children)	google maps	more than one		purple, gray, town trolley	5	3	4	4	2	5	4	5	5	5	5	5 yes	none of the above	"I took trolley on time have somebody said bus stop but she didn't hear, then they stop and a little bit behind that he not say bus stop. That so bad."
	51	purple	roundtrip	manzanita & dorrane	walk	sometimes	manzanita & dorrane	recreation al event	no		bus driver		1 5xweek	purple, gray, town trolley, lakes basin trolley		5	5	5	5	5	5	5	5	5	5	5 yes	none of the above	"Love riding the buses & trolley with my daycare kids! We stop to shady rest esp during baseball / soccer season"
	52	purple	one way	stop #47	walk	no		school	no	no	bus driver, bus stop, printed guide/sched ule		1 60xweek	purple, town trolley	4	4	5	4	5	5	5	4	4	4	4	5 no	none of the above	
	53	purple	roundtrip	vons	bicycle	yes	lupin	work	no	no	other (next bus)		1 14xweek	purple, town trolley, lakes basin trolley	5	5	5	5	5	5	5	5	5	5	5	5 yes	senior	"All drivers on purple line are excellent except for 2 female drivers. 1 driver excellerates too fast. 1 driver is rude."
	54	purple	roundtrip	first stop on manzanita	walk	no	vons	work	no	no	bus stop		10-0 12xweek	purple, gray, town trolley, lakes basin trolley	4	4	5	4	4	4	4	4	4	5	5	4.5 no	none of the above	"For the buses to wait until I am settled before driving which they do a good amount of time usually other than that, everything is great servics."
	55	purple	roundtrip	vons	walk, bicycle	yes	village	work, recreation al event, shopping/ errands	no	no	bus driver, bus stop		0 28xweek	purple, gray, town trolley, lakes basin trolley	5	5	5	5	5	5	5	5	5	5	5	5 yes	none of the above	"You did a good job already"
	56	purple	roundtrip	stop #30	walk	no		work	no	no	bus stop		0 5xweek	town trolley	5	5	5	4	4	3	5	5	4	5	4	4 no	none of the above	"Ninguno"
	57	purple	roundtrip	stop #30	walk	no		work, shopping/ errands	no	no			0 4xweek	purple														
	58	purple	roundtrip		walk	no		work	no	no	bus stop		10xweek	town trolley	5	4	5	4	4	3	5	5	4	5	4	4 no	none of the above	"Ninguno"
	59	morada	roundtrip		walk	no		work	no	no		more than one	1 2xday	gray		5	4	4	4	3	5	4	4	3	4	4 no	none of the above	
	60	purple	roundtrip	stop #607	walk	no		work	no	no	bus stop	more than one	2xday	purple, town trolley	5	5	5	5	5	5	5	5	5	5	5	5 yes	none of the above	"Todo muy bien"
	61	purple	roundtrip		walk	no	village	work	no	no		more than one	1xday	purple, town trolley	5	5	5	5	5	5	5	5	5	5	5	5		"Todo bien"
	62		roundtrip		walk			work	no	no	bus stop		0 16xweek	purple, gray, town trolley, lakes basin trolley	5	3	5	4.5	5	4	5	5	5	5	5	5 no	none of the above	
	63	purple	roundtrip	vons	walk	no	village	work	no	no	bus stop		1 month	town trolley	5	5	5	5	5	5	5	5	5	5	5	5 no	none of the above	
	64		one way		walk			work	no	no	bus driver		2xday	purple	5	5	5	5	5	5	5	5	5	5	5	5		
	65		roundtrip	stop #33	walk	no	stop #18	shopping/ errands, school,	no	no	bus stop		1 2xday	purple, town trolley	5	5	5	5	5	5	5	5	5	5	5	5 yes	none of the above	
	66	purple		stop #26		yes		shopping/ errands, work,	no			more than one	5xday	purple												senior		
	67		roundtrip	stop #36	walk	no	stop #40	shopping/ errands work, school, shopping/ errands, medical/d	no	no	bus stop, hotel/condo		0 a few times per 1 month	town trolley, lakes basin trolley	5	5	5	5	5	5	5	5	5	5	5	5 yes	youth	"Todo esta bien. Mas temprano 6:00 A.M."
	68	purple	roundtrip		walk	no		ental					1 6xday	purple, town trolley	5	4	5	5	4	4	5	4				no	youth	
	69	purple	one way	vons	walk	no	village	work	no	no	bus driver, esta office		a few times per 1 month	purple	5	5	5	5	5	5	5	5	5	5	5	5 yes	none of the above	"Gray line go further on Old Mammoth Rd"
	70	purple	one way	vons	walk	yes	snowcreek	medical/d ental	no		bus driver	more than one	2xweek	purple	5	5	5	5	5	5	5	5	5	5	5	5 no	youth	"Muy bien son muy amables"
	71	purple	roundtrip	snowcreek	bicycle	yes	vons	school	no				0 4xday	purple, lakes basin trolley												no		
	72		roundtrip	chapparal	walk	no	crista villa	work, school, medical/d ental	no		bus stop, hotel/condo		a few times per 0 month	purple, town trolley												yes		"Puntualidad"
	73	purple	roundtrip		walk	no	stop #38	work	no	no			1	purple	5	5	5	5	5	5	5	5	5	5	5	5		
	74		roudntrip	stop #36	walk	no	stop #36	work, shopping/ errands	no	no	bus driver bus driver, bus stop, printed guide/sched ule		1 6xweek	purple, gray	5	4	5	4	5	5	5	5	4	4	4	5 yes		
	75	town trolley #1	one way	stop #1	walk, bicycle	yes	stop #11	recreation al event	no	no		more than one	3xday	lakes basin trolley	4	4	5	4	4	4	4	4	4	4	4	4 yes	none of the above	"Covered stop on #1"
	76	red	roundtrip	snowcreek	walk, bicycle	yes	stop #74	work	no	no	bus stop bus driver, printed guide/sched		0 14xweek		5	4	5	5	5	5	4	4	2	4	2	4 no	none of the above	"Love the new schedule"
	77	red	roundtrip	rite aid	walk	no	bank of america	shopping/ errands	no	no	ule		0 4xweek	purple	5	5	5	5	5	4	5	5	4	4	4	5 yes	senior	"Covered stops near our stop near Base Camp. Snow & Ice removal in winter."
	78	town trolley	one way	stop #11	walk	no	stop #76	other (home)	no	no	bus driver		1 20xweek	town trolley	5	5	5	5	5	5	5	5	5	5	5	5 yes	none of the above	"More accurate text info"
	79	red	roundtrip	schatz	got a ride	no	village	shopping/ errands	no	no	bus driver	more than one	1st trip	town trolley, lakes basin trolley	5	4	5	5	5	5	5	4	4	2		5 no	none of the above	"Better time info"

Mammoth Fixed Routes

Survey #	Route	Roundtrip/ One Way	Board Location	Transport to Bus	Bicycle	Get off Bus	Trip Reason	Wheelchair	Assistance	Transit Info Source	Household Vehicles	Frequency	Other Routes	Ratings											License	Demographic	Comments
														Safety	On-Time	Courtesy	Travel Time	Areas Served	Cleanliness	Comfort	Stops	Phone Info	Printed Info	Online Info	Overall			
	80	village	one way	post office	walk	no		recreational event	no	no	bus driver	more than one	1xweek	town trolley	5	4	5	5	5	5	5	5	5	5	5	yes	none of the above	"I love the service ESTA provides"
	81	main st	one way	stop #12	walk, other	no	stop #79	work, recreational event, shopping/ errands	no	no	bus driver, bus stop	1	35xweek	purple, town trolley, lakes basin trolley	5	3	5	5	5	5	5	5	5	5	5	yes	none of the above	"Being on time"
	82	trolley	roundtrip	village	walk	no	main st	shopping/ errands	no	no	bus driver	more than one	1xday		3	4	5	5	5	5	5	5				yes	none of the above	
	83	blue	roundtrip	stop #8	walk	no	stop #24	recreational event, shopping/ errands	no	no	printed guide/schedule	more than one	2xday		5	5	4	5	5	5	5	5	5	5	5	no	youth	
	84	red	roundtrip	village	got a ride	no	stop #13	shopping/ errands	no	no	bus driver	more than one	1st trip	purple, town trolley, lakes basin trolley	5	4	5	5	5	5	5	4	3	3	3	no	none of the above	"More stops/pickups"
	85	town trolley	roundtrip	stop #13	walk	no	village	other	no	no	bus driver	1	1st trip	lakes basin trolley	5	5	5	5	5	5	5	5	5	5	5	yes	none of the above	"Fabulous program. Love it. Drivers so friendly."
	86	red	one way	stop #5	walk	no	stop #90	recreational	no	no	printed guide/	more than one	1st trip		4	5	5	5	5	5	4	5		5	5	yes	senior	"Very impressed. Excellent service and program."
	87	trolley #1	roundtrip	snowcreek	walk	no	stop #11	shopping/ errands	no	no	bus driver		3xweek	gray line, town trolley	5	5	5	5	5	5	5	5	5	5	5	yes	none of the above	"Kids and I love to ride the bus. More stops on Old Mammoth Rd by Old Fir."
	88	trolley	one way	stop #76	walk	no	rite aid	work	no	no	bus stop, other	0	other	purple, town trolley	5	5	5	5	5	5	5	5			5	no	none of the above	
	89	red/trolley	one way		walk	no		shopping/ errands, recreation	no	no	bus driver, bus stop		4xweek	town trolley	5	4	5	5	5	5	5	5		4	5	yes	none of the above	"I like it"
	90	trolley	roundtrip	stop #132	walk	no		al event	no	no	bus stop	1	1st trip a few times per month		5	4	5	5	5	5	4	5	5	5	5	yes	none of the above	
	91	red/trolley	roundtrip	stop #1	walk	no	village	work	no	no	bus stop	more than one	a few times per month		4	4	5	5	5	4	5	5	3	3	3	yes	none of the above	"More hours of operation."
	92	trolley	one way	village	walk	no		medical/dental recreation	no	no	bus stop	1	a few times per month	town trolley	5	4	5	5	5	5	5	5	4	5	5	yes	none of the above	
	93	trolley	one way	village	walk	no	stop #8	al event																				
	94		one way	stop #16	walk	no	stop #76	shopping/ errands	no	no	bus driver	0	3xday a few times per	purple, town trolley	5	5	5	3	5	5	5	5	5	5	5	yes	none of the above	"Time management"
	95	red	roundtrip	stop #8	walk	yes	village	recreational event	no	no	bus driver, bus stop	0	month	gray, lakes basin trolley	5	5	5	4	4	4	5	5	3	3	3	4 no	youth	"Faster transit"
	96	shiloh inn to village	roundtrip	shiloh inn	walk	no	village	recreational event	no	no	esta website printed guide/schedule	more than one	2xday	town trolley	5	4	5	5	5	5	5	5	3	4	4	5 yes	none of the above	
	97	red	one way	stop #13	walk	no		other	no	no			1	town trolley	4						5					yes		
	98		one way	village - minaret	walk	no	vons	work, shopping/ errands, other	no	no	bus stop	0	14-70xweek a few times per	purple, town trolley	4.5	3.5	5	3	5	5	4	4	4	3	5	yes	none of the above	"Please write times for night trolley at every stop, stops 70-78 don't have times posted."
	99	red	roundtrip	stop #15	walk	no	salsas	recreational event	no	no	bus stop	1	month	town trolley	5	4	5	5	5	5	5	5			4	5 yes	senior	"Love red line to mammoth mountain"
	100	red	roundtrip	vons	walk	no	snowcreek	work, other	no	no	bus driver	more than one	8xweek	town trolley	5	5	5	5	5	5	5	5	5	5	5	yes	none of the above	
	101		one way	stop #9	walk	no	motel 6	other recreational	no	no	other	0	4xweek		5	5	5	5	5	5	5	5	5	5	5	yes	none of the above	
	102	village	roundtrip		walk	no		al event	no	no	bus driver	more than one	1xday	town trolley	5	5	5	5	5	5	5	5	5	5	5	yes		
	103	trolley (towards outlets)	one way	village	walk	no	grumpys	other shopping/	no	no	bus driver	1	5xweek	purple, town trolley	5	5	5	5	5	5	4	5				yes	none of the above	
	104	outlets)	one way	stop #14	walk	no	stop #16	errands	no	no	bus stop	more than one	15xweek a few times per	town trolley														
	105	(towards outlets)	one way		walk	no		shopping/ errands	no	no	bus driver	more than one	month	town trolley												yes	none of the above	
	106		roundtrip	carls jr	walk																							
	107	red	one way	stop #12	walk	no	village	other	no	no	other	more than one	a few times per month	purple	5	5	5	5	5	5	5					5 yes	none of the above	
	108		roundtrip	vons	walk		snowcreek	other	no	no	bus driver printed guide/schedule		0	other	purple, town trolley, lakes basin trolley	5	5	5	5	5	5	5	5	5	5	5	no	senior	"Easier to work windows"
	109	red	one way	stop #1	walk	no	stop #20	shopping/ errands	no	no			0	12xweek	purple, town trolley	5	4	5	5	5	5	5	4		4	4	5 yes	none of the above	"I would use earlier buses in the morning"
	110	red	one way	village	walk	no	snowcreek																					"Drivers are great! Schedule sucks! And nobody seems to try"
	111	town trolley	roundtrip	snowcreek	walk	no	village	recreational event	no	no	printed guide/schedule		other (on 1 vacation)		5	5	5	5	5	5	5	5	5	5	5	5 yes	none of the above	
	112	town trolley	one way	stop #1	walk	no	stop #13	work	no	no	printed guide/schedule	more than one	20xweek	town trolley	4	3	5	3	5	4	4	5	5	5	5	5 no	none of the above	
	113	town trolley	roundtrip	stop #76	walk	no	stop #76		no	no	bus driver		other (5xyear) a few	town trolley	5	5	5	5	5	5	4	5	5	5	5	5 yes	none of the above	"It is great!"
	114	trolley	one way	stop #1	walk	no	stop #8	shopping/ errands	no	no	bus driver, bus stop	more than one	times per month	gray, town trolley	5	4	5	4	5	4	5	4	5	4	5	4 no	youth	"Wish that trolley went until two in the morning yearly"
	115	trolley	roundtrip	stop #1	walk	no	Stop #13/#18	work	no	no	bus stop	1	12-42xweek	purple, gray, town trolley	5	2	4	4	5	5	4	5		4	1	4 no	none of the above	"Lights at the bus stops, I have been left sitting at the stop on many occasions because it was too dar for the driver to see me"
	116	red, town trolley #1	one way	village	walk	no	"my house"	recreational event	no	no	bus driver, bus stop, printed guide/schedule	more than one	100xweek	purple, gray, town trolley, lakes basin trolley	5	1	2	1	1	5	3	4	2	2	2	4 yes	none of the above	"Bus being on time!"
	117	trolley #1	roundtrip	village	walk	no	vons	work, school	no	no	bus driver	0	12xweek a few times per	town trolley	5	5	5	5	5	5	5	5	2	3	3	5 no	none of the above	
	118	town trolley	one way	stop #76	walk	no	stop #1	recreational event	no		bus driver	more than one	month	town trolley	4	4	5	4	5	5	5	4	5	5	4	5 no	youth	"None it's fine like it is"
	119	town trolley	one way	snowcreek	walk	no		other	no	no	bus driver, esta website printed guide/schedule	more than one	2-3xweek	purple, gray, town trolley, lakes basin trolley	5	5	5	5	5	5	5	5	2	2	2.5	4.5 yes	none of the above	"There are too many stops on Main St."
	120	town trolley	one way	stop #7	walk	no	village	recreational event	no	no	ule	1	12xweek	town trolley	5	5	5	5	5	5	5	5	5	5	5	5 yes	senior	"Eliminate bus stops Main St"
	121	red	roundtrip	stop #10	walk	no	village canyon	recreational event	no	no	esta website printed guide/schedule	more than one	1st trip	town trolley		4	5	4	5	5	4	5		5	5	5 yes	none of the above	
	122	town trolley	roundtrip	village	walk	no	stop #80	shopping/ errands	no	no	ule	more than one	1xweek	lakes basin trolley												yes		
	123	town trolley	one way	stop #7	walk	yes	stop #75	other	no	no	printed guide/schedule	more than one	2xday	town trolley, lakes basin trolley	5	5	5	5	5	5	5	5				yes	senior	"None, system is great"
	124				walk	no		recreational event	no	no	bus driver, google maps		0		5	5	5	5	5	5	5	5	5	5	5	5 no	none of the above	
	126		roundtrip	village	walk	no		other	no	no	other	more than one	1st trip		5	5	5	5	4	5	5	5				5 yes	none of the above	
	127		one way	stop #68	walk	no	vons	work	no	no	bus stop	one	4-8xweek a few times per	purple, town trolley	5	5	5	5	5	5	5	5	4	5	4	5 yes		
	128		roundtrip	stop #47	walk	no	village	recreational event	no	no	bus stop		1 month	town trolley	4	4	5	5	4	5	5	5		2	2	4 yes	none of the above	
	129	red	roundtrip	stop #9	walk	no		other	no	no	other	0	1-20xday	purple, gray, town trolley, lakes basin trolley	4	5	5	5	4	4	3	5	5	5	5	5 no	none of the above	"Y'all are good"
	130		roundtrip	stop #10	walk	no	stop #16	work, shopping/ errands	no	no	bus stop		0	purple, town trolley	5	3	5	5	4	5	5	5	5	5	5	5 yes		"Tiempo de viaja"
	131	red	roundtrip	snowcreek	bicycle								28xweek	purple, gray, town trolley														
	132	town trolley	one way	village	other	no	stop #10	other	no	no	hotel/condo		0 1st trip		4	4	4	4	4	4	3	4	4	4	4	4 yes	none of the above	

Town to Town On-Board Survey

		Load Location			Get off Bus							Trips not Made			Ratings															
Survey #	Roundtrip/ One Way	Location	Town	To/From Bus	Location	Town	Trip Reason	Wheelchair	Assistance Boarding/ Exiting	Transit Info	Demographic	Frequency	Yes/No	Where	When	Safety	On-Time	Courtesy	Travel Time	Areas Served	Cleanliness	Comfort	Stops	Phone Info	Printed Info	Online Info	Overall	License	# Vehicles	Luggage	Assistance with Luggage	Other
2	roundtrip	bishop	--	bicycle	24575 hwy 6	benton	medical/dental	no	no	printed guide/schedule	senior	1xweek	yes	benton	other days	3	5	4	4	3	4	4	3	4	4	--	4	yes	more than one	yes	no	"I would like to see a daily run to Reno & back during the busy time of year, also the same for the Lancaster run"
18	roundtrip	130 wesper dr	walker	other	walmart	gardnerville	shopping/errands	no	no	bus driver	youth	a few times	no			5	5	5	5	5	5	5	5	5	5	5	5	yes	1	no		
19	roundtrip	my house	bridgeport	walk		bridgeport	shopping/errands, medical/dental	no	no	bus driver	senior	1xweek	no			5	5	5	5	5	5	5	5	5			5	no	0	yes	no	
20	roundtrip	larson lane	coleville	walk, get a ride	larson lane	coleville	shopping/errands	no	no		senior	4xweek	no			5	5	5	5	5	5	5	5	5	5	5	5	no	0	no		
27	one way		independence	walk	mcdonalds	lone pine	recreational event	no	no	esta website	senior	1xweek	no			5	3	5	5	4	4	5	4	4	4	5	4	yes	more than one	yes	no	"Backpacker - not a local"
31	roundtrip		independence	get a ride	travel plaza	independence	work	no	no	bus driver	none of the above	6-8xweek	no			5	3	5	5	5	5	4	5	4		3	5	no	more than one	yes	no	"Colder AC"
32	one way	penneys	bishop	walk	shell	big pine	other	no	no	printed guide/ schedule	none of the above	4xweek	no			4	5	5	5	4	4	4	4	4	4	4	4	yes	1	no		
33	roundtrip	main st	big pin	bicycle	main st	big pine	shopping/errands	no	no	printed guide/ schedule	none of the above	2xweek	yes	hawaii	winter		5	5	5	4	5	5	5	4	4		5	yes	none	yes	no	"More cargo space"
34	roundtrip	ft. independence	independence	walk	main & short	bishop	medica/dental	no	no	other	disabled	2xweek	no	5	5	5	5	5	5	5	5	5	3	4	4	4	4	yes	1	yes	no	"More service daily between Bishop and Lone Pine. Bus stop at Indy Travel Plaza."
35	roundtrip		independence, bishop	walk, bicycle		independence	work	no	no	bus driver	senior	10xweek	no	5	5	5	5	5	5	5	5	5	5	5	5	5	5	yes	1	yes	no	"They are doing a fine job"

Appendix B
Community Survey Summary

ESTA Community Surveys

									Which Community For:					Trips Not Made				
Survey #	Community	Zip Code	Home Cross Street	Car	License	Transit Frequency	Routes	Why don't use?	Work	Food/Shopping	Medical/Dental	Pharmacy	Airport/Train	Y/N	Where	When	How Often	Why	Other
8	Coleville	96107		N	N	Never	Lone Pine DAR	No Money						Y	Shopping	2:30, Afternoon	1xmonth	Shopping	To give us more time we always have to hurry we are seniors and don't get enough time to shop
9	Walker	96107	Hwy 395	Y	Y	Never		Do Not Need		395	395	395		N					
10	Walker	96107	Hwy 395	Y	Y	1xweek	Walker DAR	I have a car but I was injured with a fracture to my back. Dial-A-Ride is a big help.		Local Stores				N				Shopping, Other/Personal	
11	Walker	96107	Hwy 395 & Hackney	N	Y	Never		Have friends who drive me						Y	Gardnerville, Reno	Appt times vary	As needed	Medical, Shopping	Offer a variety of times to help consumers
12	Mono County		Eastline Lane	N	Y	Never		Nowhere to go!						N					No way, I prefer to stay home
13	Walker/ Coleville	96107	Hwy 395 & Pine Nute Rd	Y	Y	Never	395 N, Bridgeport - Carson, Walker DAR											Medical	
14	Walker	96107	Hwy 395	N	Y	2-3xweek	Walker DAR							N					If DAR in Walker was available on Fridays! Maybe Saturday.
15	Lone Pine	93595	Locust	N	N	1xweek	395 N		N/A	Bishop	Lone Pine, Bishop	Bishop	Burbank	N					OK Now
16	Lone Pine	93595	Locust	Y	Y	1xweek	395 N	N/A	N/A	Bishop	Bishop	Bishop	Burbank	N					OK Now
17	Lone Pine	93545	Lubin Canyon Rd/395	N	N	5xweek	395 N, Mammoth Express, Lone Pine Express, Mammoth Local Routes, Reds Meadow, Lone Pine DAR		Lone Pine	Lone Pine/Bishop	Lone Pine	Lone Pine		Y					Stopped traveling to LA when Greyhound stopped
18	Independence	93526	Wall & Washington	Y	Y	1xyear	Independence - Bishop	Because I drive		Bishop/Lone Pine				N			1xyear	Car Repair	Long waits from Bishop to Independence
19	Independence	93526	Clay	Y	Y	1xmonth	395 N, 395 S							Y		early & late	monthly	Medical	Consider arrival times of state transportation between Reno and Sacramento. Me** those trains/buses add Amtrak to listed Reno stops. Currently city buses connect more trains from Salt Lake City + from SLC. Schedule currently does not coordinate with trains/buses TO Sacramento or from Sac homebound.
20	Independence	93526	Rosedale	Y	Y	Never		No need	No	Yes	Yes	Yes	No	Y	Europe				
21	Independence	93526	Edwards	Y	Y	Never		Use my car		Bishop	Bishop	Bishop	Ontario, CA	N					I think it's fine now.
22	Tecopa	92389	Furnace Creek Rd	Y	Y	Never		None here that works for me	N/A	Pahrump, NV	Pahrump, Las Vegas & Henderson, NV	Pahrump	None					Medical, Shopping, Other/Personal	Make life easier - Family or friends drive me - to sick to drive myself
23	Tecopa	92389	Furnace Creek Rd	Y	Y	Never		None works for my schedules	Retired	Pahrump, Las Vegas	Riverside, CA	Riverside, CA	Ontario, CA	N					More routes to Pahrump & Barstow. Would use if time works for me
24	Shoshone	92384	Chicago Valley Rd, SR 178	Y	Y	1xmonth	Tecopa - Pahrump			Pahrump				N					if anything, weekly rather than biweekly service
25	Tecopa	92389	Highway 127 & Old Spanish Trail	N	N	Never		I've never had the opportunity	Can no longer	Ride with someone else	Ride with someone else	Ride with someone else	Ride with someone else	Y	When or where I have appointments	When I have appointments	When I have appointments	Medical	Start at Tecopa Heights and go to Shoshone and back
26	Tecopa	92389		Y	Y	Never	Tecopa - Pahrump	The bus goes to pahrump 1 time every 2 weeks. I am usually planning something else.	Retired	Pahrump	Pahrump	Pahrump	Las Vegas	Y	VA Hospital, Las Vegas	When I have appointments	None right now	Medical	
27	Tecopa	92389	Tecopa Rd.	N	Y	1xmonth	Tecopa - Pahrump		N/A	Pahrump	Las Vegas	Pahrump	Las Vegas	Y	Pahrump more often	Anytime	2xweek	Shopping, Other/Personal	Greater frequency
28	Tecopa	92389	Downey & Spanish Trail	Y	Y	Never		There is none in Tecopa	Tecopa	Pahrump	Baker, Barstow	Pahrump	Las Vegas	N					Drive to doctors in California
29	Tecopa	92389	Downey & Spanish Trail	Y	Y	Never		Not available here		Pahrump	Pahrump, Las Vegas	Pahrump	Las Vegas	N					Local rides to and from lunch at the community center
30	Tecopa	92389		N	N	Never				X	X	X		Y	Tecopa & Pahrump		1xmonth	Medical, Shopping, Other/Personal	
31	Tecopa	92389	Bob White	Y	Y	Never	Tecopa - Pahrump	There isn't any	Tecopa	Pahrump	Las Vegas, Pahrump	Pahrump	Las Vegas	Y	Las Vegas & Tecopa	Morning/Eve	Monthly	Medical, Shopping, Other/Personal	Be more than 1 trip to Pahrump a month!
32	Tecopa	92389	Hot Springs Rd	Y	Y	Never		I will when I have doctor appointments	4	4	4	4	4	Y	Tecopa Heights to Tecopa Hot Springs	Morning/Eve	2xday	Medical	To go to doctors
33	Tecopa	92389	Bob White	N	N	5xweek	Tecopa - Pahrump, Hot Springs, Shoshone		N/A	Pahrump	Barsto, Apple Valley	Pahrump	Las Vegas	Y	Shopping, Doctor, Dentist	Daytime	1xweek	Medical, Shopping, Other/Personal	
34	Tecopa	92389	Tecopa Rd & 127	Y	Y	Never		No public transit where I live	Tecopa	Pahrump	Pahrump/Los Angeles	Pahrump/ Los Angeles	Las Vegas	N					
35	Tecopa	92389	Hot Springs Rd	Y	Y	Never				X				N					
36	Tecopa	92389	Old Spanish Trail	Y	Y	Never		No need		Pahrump	Pahrump	Pahrump	Las Vegas	N					A lot of people don't have cars

Appendix C
Public Workshop Materials

Sign-In Sheet

Public Workshop

For the

Eastern Sierra Transit Authority 2015 Short Range Transit Plan

Thursday, July 16th, 2015 11:00 AM

Mammoth Town/County Conference Room

YOUR NAME / COMPANY NAME	ADDRESS	PHONE	EMAIL
Brian Pichen, TML	1300 Airport Rd	760-934-3813	bpichen@[illegible]lakes.ca.gov
Laurel Martin / DisabledSports EasternSierra	PO 7275, ML	760-934-0791	lmartin@disabledsportseasternsierra.org

ESTA Board Workshop Notes
July 17th

Would like to see a "value of the service" as performance indicator. For example: a DAR trip is quite valuable to a transit dependent resident despite high cost. Do we want to have a qualitative goal of the value of some services?

For standards:
395 frequent service is too much?
More realistic town to town services
Update Bishop fixed route.

What percentage of Mammoth DAR is ADA? After fixed route hours

How do we evaluate pax trips per hour for 395 routes? Look at cost per passenger mile
Cost per passenger hour or per passenger mile.

Don't want to make measuring stick to complicated that it takes too much time. Make it simple.

Send last two slides to John

ESTA SRTP Stakeholder Notes

Dick Whittington - YARTS - One specific connection, made an effort to make this connection. 8:30 at the Shilo Inn. Starting about three years ago, park funded an additional bus. One that leaves Mammoth at 6 AM to Tuolumne and circles back to Mammoth at 11:15. Bus that meets ESTA goes all the way to Yosemite Valley.

Sounds like park is going to continue to fund second bus going forward.

Connection with ESTA gives Mammoth Lakes a connection to Amtrak in Merced. Can go on line and buy an Amtrak ticket. Can go through Fresno now too. Other connectivity with Fresno Airport. Contract with Fresno COG to provide service. Hikeer got excited about this. Can walk across Sierras and fly in/out of airport.

Don't see any more connection opportunities. Need one connection to Valley.

Park will be implementing the Merced River Plan – Trying to get more people to consider alternative transportation.

Tuolumne River Plan in next five years. Visitation into Tuolumne. Going to build parking lots off highway and eliminate park on highway. But currently no plan for alternative transportation; however there will likely be a need for this. How will this impact ESTA?

Mariposa grove closed for a couple years. Might push more visitors to Tuolumne and Mono County?

SRTP – Would like to be on

Appendix D
Origin Destination Patterns for US 395 Routes

TABLE B1: Origin - Destination Ridership Data for ESTA 395

7/1/14-7/31/14

		Destinations											
		Bishop	Big Pine	Independence	Inyokern	Lancaster	Lone Pine	Mammoth	Manzanar	Mojave	Olancha	Pearsonville	Total
Origins	**Bishop**		1	6	3	50	12			7			**79**
	Big Pine	7				3							**10**
	Independence	30			2	2		4		2			**40**
	Inyokern	5		1		24	2	2		7			**41**
	Lancaster	24	7	4	25		2	10		21			**93**
	Lone Pine	9		8	5	39		14		7	2		**84**
	Mammoth		2			18	31						**51**
	Manzanar	6	11				2					1	**20**
	Mojave	5	2		15	22	5	1					**50**
	Olancha							1					**1**
	Pearsonville												
	Total	**86**	**23**	**19**	**50**	**158**	**54**	**32**	**0**	**44**	**2**	**1**	**469**

Source: ESTA Driver Logs

TABLE B2: Origin - Destination Ridership Data by Percentage for The US 395 Route South

7/1/14-7/31/14

		Destinations											
		Bishop	Big Pine	Independence	Inyokern	Lancaster	Lone Pine	Mammoth	Manzanar	Mojave	Olancha	Pearsonville	Total
Origins	**Bishop**		0.2%	1.3%	0.6%	10.7%	2.6%			1.5%			16.8%
	Big Pine	1.5%				0.6%							2.1%
	Independence	6.4%			0.4%	0.4%		0.9%		0.4%			8.5%
	Inyokern	1.1%		0.2%		5.1%	0.4%	0.4%		1.5%			8.7%
	Lancaster	5.1%	1.5%	0.9%	5.3%		0.4%	2.1%		4.5%			19.8%
	Lone Pine	1.9%		1.7%	1.1%	8.3%		3.0%		1.5%	0.4%		17.9%
	Mammoth		0.4%			3.8%	6.6%						10.9%
	Manzanar	1.3%	2.3%				0.4%					0.2%	4.3%
	Mojave	1.1%	0.4%		3.2%	4.7%	1.1%	0.2%					10.7%
	Olancha							0.2%					0.2%
	Pearsonville												
	Total	18.3%	4.9%	4.1%	10.7%	33.7%	11.5%	6.8%		9.4%	0.4%	0.2%	100.0%

Source: ESTA Driver Logs

TABLE B3: Origin - Destination Ridership Data for The US 395 Route South to Lancaster

2/1/14 - 2/28/14

		Destinations											
		Bishop	**Big Pine**	**Crowley**	**Independence**	**Inyokern**	**Lancaster**	**Lone Pine**	**Mammoth**	**Manzanar**	**Mojave**	**Olancha**	**Total**
Origins	**Bishop**					3	30	1			6		**40**
	Big Pine	5				2	7						**14**
	Crowley						1						
	Independence	19				1	1				1		**22**
	Inyokern	3	1				13	3			4		**24**
	Lancaster	16	1			15	2	3	10		35		**82**
	Lone Pine	3		1	2	2	1		2		2		**13**
	Mammoth	5					17		1		1		**24**
	Manzanar												**0**
	Mojave	1	2		1	6	38	2					**50**
	Olancha								1				**1**
	Total	**52**	**4**	**1**	**3**	**29**	**110**	**9**	**14**		**49**		**270**

Source: ESTA Driver Logs

TABLE B4: Origin - Destination Ridership Data by Percentage for The US 395 Route South to Lancaster

2/1/14 - 2/28/14

		Destinations											
		Bishop	**Big Pine**	**Crowley**	**Independence**	**Inyokern**	**Lancaster**	**Lone Pine**	**Mammoth**	**Manzanar**	**Mojave**	**Olancha**	**Total**
Origins	**Bishop**					1.1%	11.1%	0.4%			2.2%		14.8%
	Big Pine	1.9%				0.7%	2.6%						5.2%
	Crowley												
	Independence	7.0%				0.4%	0.4%				0.4%		8.1%
	Inyokern	1.1%	0.4%				4.8%	1.1%			1.5%		8.9%
	Lancaster	5.9%	0.4%			5.6%	0.7%	1.1%	3.7%		13.0%		30.4%
	Lone Pine	1.1%		0.4%	0.7%	0.7%	0.4%		0.7%		0.7%		4.8%
	Mammoth	1.9%							0.4%				8.9%
	Manzanar												
	Mojave	0.4%	0.7%		0.4%	2.2%	14.1%	0.7%					18.5%
	Olancha								0.4%				0.4%
	Total	19.3%	1.5%	0.4%	1.1%	10.7%	40.7%	3.3%	5.2%		18.1%		100.0%

Source: ESTA Driver Logs

TABLE B5: Origin - Destination Ridership Data for The US 395 Route North to Reno

7/1/14-7/31/14

Origins	Big Pine	Bishop	Bridgeport	Carson	Coleville	Crowley	Gardnerville	Hwy 108	Hwy 120	Indepen-dence	June Lake	Lee Vining	Lone Pine	Mammoth	McGee	Minden	Reno	Sonora	Hwy 40	Tom's Market	Topaz	Walker	Total
	Destination																						
Big Pine																	1						
Bishop			1	7			3		1			3		73	1		57						**146**
Bridgeport				1			1				1	1		2			5						**11**
Carson		4										1		1									**6**
Coleville																							
Crowley														6									**6**
Gardnerville		1															1						**2**
Hwy 108																							
Hwy 120																							
Independence							1					3					3						**7**
June		1	1														1						**3**
Lee Vining				6	1			1						1			6						**15**
Lone Pine				2								38		3			36						**79**
Mammoth		44		1		26	2	1			1				1		30	2		3			**111**
McGee		1																					**1**
Minden																							
Reno		21	7				1	1		1	2	19	**2**	21									**75**
Sonora																							
SR 40													**1**										**1**
Tom's Market																							
Topaz													**1**					1					**2**
Walker				1									**1**										**2**
Total		**72**	**9**	**18**	**1**	**26**	**8**	**3**	**1**	**1**	**4**	**65**	**5**	**107**	**2**		**140**	**3**		**3**			**468**

Source: ESTA Driver Logs

TABLE B6: Origin - Destination Ridership Data by Percentage for The US 395 Route North to Reno

7/1/14-7/31/14

Origins	Big Pine	Bishop	Bridgeport	Carson	Coleville	Crowley	Gardnerville	Hwy 108	Hwy 120	Indepen-dence	June Lake	Lee Vining	Lone Pine	Mammoth	McGee	Minden	Reno	Sonora	SR 40	Tom's Market	Topaz	Walker	Total
Big Pine																							
Bishop			0.2%	1.5%			0.6%		0.2%			0.6%		15.6%	0.2%		12.2%						31.2%
Bridgeport				0.2%			0.2%				0.2%	0.2%		0.4%			1.1%						2.4%
Carson		0.9%										0.2%		0.2%									1.3%
Coleville																							
Crowley														1.3%									1.3%
Gardnerville		0.2%															0.2%						0.4%
Hwy 108																							
Hwy 120																							
Independence																	0.6%						1.5%
June		0.2%	0.2%														0.2%						0.6%
Lee Vining				1.3%	0.2%			0.2%						0.2%			1.3%						3.2%
Lone Pine												8.1%		0.6%			7.7%						16.9%
Mammoth		9.4%		0.2%		5.6%	0.4%	0.2%			0.2%				0.2%		6.4%	0.4%		0.6%			23.7%
McGee		0.2%																					0.2%
Minden																							
Reno		4.5%	1.5%				0.2%	0.2%		0.2%	0.4%	4.1%	0.4%	4.5%									16.0%
Sonora																							
SR 40													0.2%										0.2%
Tom's Market																							
Topaz													0.2%					0.2%					0.4%
Walker				0.2%									0.2%										0.4%
Total		15.4%	1.9%	3.8%	0.2%	5.6%	1.7%	0.6%	0.2%	0.2%	0.9%	13.9%	1.1%	22.9%	0.4%		29.9%	0.6%		0.6%			100.0%

Destination

Source: ESTA Driver Logs

TABLE B7: Origin - Destination Ridership Data for The US 395 Route North to Reno

2/1/14-2/28/14

		Destination														
		Bishop	**Bridgeport**	**Carson**	**Crowley**	**Gardnerville**	**Indepen-dence**	**Lee Vining**	**Lone Pine**	**Mammoth**	**Pine Creek**	**Reno**	**Tom's Place**	**Topaz**	**Walker**	**Total**
Origins	**Bishop**		1	2		1		2		61		28			1	**96**
	Bridgeport									1						**1**
	Carson	4										1				**5**
	Crowley									11						**11**
	Gardnerville															**0**
	Independence											1				
	Lee Vining	3								1		1				**5**
	Lone Pine											4				**4**
	Mammoth	40			9	1					5	20	1			**76**
	Pine Creek									8						**8**
	Reno	27						2		11						**40**
	Tom's Place															**0**
	Topaz	1														**1**
	Walker	1														**1**
	Total	**76**	**1**	**2**	**9**	**2**		**4**	**0**	**93**	**5**	**55**	**1**	**0**	**1**	**248**

Source: ESTA Driver Logs

TABLE B8: Origin - Destination Ridership Data by Percentage for The US 395 Route North to Reno

2/1/14-2/28/14

		Destination														
		Bishop	**Bridgeport**	**Carson**	**Crowley**	**Gardnerville**	**Indepen-dence**	**Lee Vining**	**Lone Pine**	**Mammoth**	**Pine Creek**	**Reno**	**Tom's Place**	**Topaz**	**Walker**	**Total**
Origins	**Bishop**		0.4%	0.8%		0.4%		0.8%		24.6%		11.3%			0.4%	38.7%
	Bridgeport									0.4%						0.4%
	Carson	1.6%										0.4%				2.0%
	Crowley									4.4%						4.4%
	Gardnerville															
	Independence															
	Lee Vining	1.2%								0.4%		0.4%				2.0%
	Lone Pine											1.6%				1.6%
	Mammoth	16.1%			3.6%	0.4%					2.0%	8.1%	0.4%			30.6%
	Pine Creek									3.2%						3.2%
	Reno	10.9%						0.8%		4.4%						16.1%
	Tom's Place															
	Topaz	0.4%														0.4%
	Walker	0.4%														0.4%
	Total	30.6%	0.4%	0.8%	3.6%	0.8%		1.6%		37.5%	2.0%	22.2%	0.4%		0.4%	100.0%

Source: ESTA Driver Logs

TABLE B9: Origin - Destination Ridership Data for The Benton to Bishop Route

7/1/14-7/31/14

		Destination	
		Benton	**Bishop**
Origin	**Benton**	--	52
	Bishop	47	--

Source: ESTA Driver Logs

TABLE B10: Origin - Destination Ridership Data by for The Benton to Bishop Route

2/1/14 - 2/28/14

		Destination		
		Benton	**Bishop**	**Chalfant**
Origin	**Benton**	--	40	--
	Bishop	29	--	2

Source: ESTA Driver Logs

Origin - Destination Ridership Percentage Data for The Benton to Bishop Route

7/1/14-7/31/14

		Destination	
		Benton	**Bishop**
Origin	**Benton**		53%
	Bishop	47%	

Source: ESTA Driver Logs

Origin - Destination Ridership Data by Percentage for The Benton to Bishop Route

2/1/14 - 2/28/14

		Benton	**Bishop**	**Chalfant**
Origin	**Benton**	--	56%	--
	Bishop	41%	--	3%

Source: ESTA Driver Logs

TABLE B11: Origin - Destination Ridership Data for The Bridgeport to Gardnerville Route

7/1/14-7/31/14

		Destination						
		Bridgeport	**Carson**	**Coleville**	**Gardnerville**	**Topaz**	**Walker**	**Total**
Origin	**Bridgeport**				5			**5**
	Gardnerville	2				5	14	**21**
	Topaz		1		4			**5**
	Walker				14			**14**
	Total	**2**	**1**	**0**	**9**	**5**	**14**	**31**

Source: ESTA Driver Logs

TABLE B12: Origin - Destination Ridership Percentage Data for The Bridgeport to Gardnerville Route

7/1/14-7/31/14

		Destination						
		Bridgeport	**Carson**	**Coleville**	**Gardnerville**	**Topaz**	**Walker**	**Total**
Origin	**Bridgeport**				16.1%			16.1%
	Gardnerville	6.5%				16.1%	45.2%	67.7%
	Topaz		3.2%		12.9%			16.1%
	Walker				45.2%			45.2%
	Total	6.5%	3.2%	0.0%	29.0%	16.1%	45.2%	100.0%

Source: ESTA Driver Logs

TABLE B13: Origin - Destination Ridership Data for The Bridgeport to Gardnerville Route

2/1/14-2/28/14

		Destination						
		Bridgeport	**Carson**	**Coleville**	**Gardnerville**	**Topaz**	**Walker**	**Total**
Origin	**Bridgeport**				7			**7**
	Coleville				3			**3**
	Gardnerville	7		3		3	8	**21**
	Topaz		3		1			**4**
	Walker				8			**8**
	Total	**7**	**3**	**3**	**19**	**3**	**8**	**43**

Source: ESTA Driver Logs

TABLE B14: Origin - Destination Ridership Percentage Data for The Bridgeport to Gardnerville Route

2/1/14-2/28/14

		Destination						
		Bridgeport	**Carson**	**Coleville**	**Gardnerville**	**Topaz**	**Walker**	**Total**
Origin	**Bridgeport**				16.3%			16.3%
	Coleville				7.0%			7.0%
	Gardnerville	16.3%		7.0%		7.0%	18.6%	48.8%
	Topaz		7.0%		2.3%			9.3%
	Walker				18.6%			18.6%
	Total	16.3%	7.0%	7.0%	44.2%	7.0%	18.6%	100.0%

Source: ESTA Driver Logs

TABLE B15: Origin - Destination Ridership Data for The Mammoth Express Route

7/1/14 - 7/31/14

		Destination						
		Bishop	**Crowley**	**Mammoth**	**Rovana**	**Tom's**	**Whitmore**	**Total**
Origin	**Bishop**	2	19	175	1	2		**199**
	Crowley	20		41				**61**
	Mammoth	258	29			1	20	**308**
	Tom's	2		3				**5**
	Whitmore			8				**8**
	Total	**282**	**48**	**227**	**1**	**3**	**20**	**581**

Source: ESTA Ridership Data

TABLE B16: Origin - Destination Ridership Data by Percentage for The Mammoth Express Route

7/1/14 - 7/31/14

		Destination						
		Bishop	**Crowley**	**Mammoth**	**Rovana**	**Tom's**	**Whitmore**	**Total**
Origin	**Bishop**	0.3%	3.3%	30.1%	0.2%	0.3%		34.3%
	Crowley	3.4%		7.1%				10.5%
	Mammoth	44.4%	5.0%			0.2%	3.4%	53.0%
	Tom's	0.3%		0.5%				0.9%
	Whitmore			1.4%				1.4%
	Total	48.5%	8.3%	39.1%	0.2%	0.5%	3.4%	100.0%

Source: ESTA Ridership Data

TABLE B17: Origin - Destination Ridership Data for The Mammoth Express Route

2/1/14-2/28/14

		Destination						
		Bishop	**Casino**	**Crowley**	**Mammoth**	**Pine Creek Rd.**	**Rovana**	**Total**
Origin	**Bishop**		1	1	126			**128**
	Crowley	2			12			**14**
	Lake George Rd.				1			**1**
	Mammoth	124		31		5	2	**162**
	Rovana	1			2			**3**
	Tom's Market				1			**1**
	Total	**127**	**1**	**32**	**142**	**5**	**2**	**309**

Source: ESTA Driver Logs

TABLE B18: Origin - Destination Ridership Data by Percentage for The Mammoth Express Route

2/1/14-2/28/14

		Destination						
		Bishop	**Casino**	**Crowley**	**Mammoth**	**Pine Creek Rd.**	**Rovana**	**Total**
Origin	**Bishop**		0.3%	0.3%	40.8%			41.4%
	Crowley	0.6%			3.9%			4.5%
	Lake George Rd.				0.3%			0.3%
	Mammoth	40.1%		10.0%		1.6%	0.6%	52.4%
	Rovana	0.3%			0.6%			1.0%
	Tom's Market				0.3%			0.3%
	Total	41.1%	0.3%	10.4%	46.0%	1.6%	0.6%	100.0%

Source: ESTA Driver Logs

TABLE B19: Origin - Destination Ridership Data for The Lone Pine Express Route

7/1/14-7/31/14

		Destination								
		Bishop	**Big Pine**	**Independence**	**Keogh's Hot Springs**	**Lone Pine**	**Mammoth**	**Manzanar**	**Wilson**	**Total**
Origin	**Aber**	1								**1**
	Bishop		95	110	1	87		4	3	**300**
	Big Pine	68		33		4		5		**110**
	Independence	73	11			8	11			**103**
	Keogh's Hot Springs	1								**1**
	Lone Pine	78	2	14			50			**144**
	Total	**221**	**108**	**157**	**1**	**99**	**61**	**9**	**3**	**659**

Source: ESTA Driver Logs

TABLE B20: Origin - Destination Ridership Data by Percentage for The Lone Pine Express Route

7/1/14-7/31/14

		Destination								
		Bishop	**Big Pine**	**Independence**	**Keogh's Hot Springs**	**Lone Pine**	**Mammoth**	**Manzanar**	**Wilson**	**Total**
Origin	**Aber**	0.2%								0.2%
	Bishop		14.4%	16.7%	0.2%	13.2%		0.6%	0.5%	45.5%
	Big Pine	10.3%		5.0%		0.6%		0.8%		16.7%
	Independence	11.1%	1.7%			1.2%	1.7%			15.6%
	Keogh's Hot Springs	0.2%	0.0%							0.2%
	Lone Pine	11.8%	0.3%	2.1%		0.0%	7.6%			21.9%
	Total	33.5%	16.4%	23.8%	0.2%	15.0%	9.3%	1.4%	0.5%	100.0%

Source: ESTA Driver Logs

TABLE B21: Origin - Destination Ridership Data for The Lone Pine Express Route

2/1/14-2/28/14

		Destination						
		Aber	**Bishop**	**Big Pine**	**Indepen-dence**	**Lone Pine**	**Keogh's Hot Springs**	**Total**
Origin	**Aber**		2					**2**
	Bishop	4		81	58	58	1	**202**
	Big Pine		90		3	3		**96**
	Independence		39	1		8		**48**
	Lone Pine		52		9			**61**
	Total	**4**	**183**	**82**	**70**	**69**	**1**	**409**

Source: ESTA Driver Logs

TABLE B22: Origin - Destination Ridership Percentage Data

2/1/14-2/28/14

		Destination						
		Aber	**Bishop**	**Big Pine**	**Indepen-dence**	**Lone Pine**	**Keogh's Hot Springs**	**Total**
Origin	**Aber**		0.5%					0.5%
	Bishop	1.0%		19.8%	14.2%	14.2%	0.2%	49.4%
	Big Pine		22.0%		0.7%	0.7%		23.5%
	Independence		9.5%	0.2%		2.0%		11.7%
	Lone Pine		12.7%		2.2%			14.9%
	Total	1.0%	44.7%	20.0%	17.1%	16.9%	0.2%	100.0%

Source: ESTA Driver Logs

Appendix E
Caltrans Agreement

STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

MASTER AGREEMENTS COVER SHEET

ADM-0133 (NEW 1/96)

Document File No. MNO-26- 7273 | 05/24/06

DIVISION/DISTRICT NAME

56 - MAINTENANCE

CONTACT PERSON (Name)	BUSINESS PHONE	MAIL STATION NO.
CAROL LEWEN	654-5550	31

DOCUMENT FILE NUMBER (Records Management will assign)

MNO-26-7273

NOTE: Add the above Document file number to ALL Supplement and Amendments BEFORE forwarding to Records Management

TYPE OF AGREEMENT (Check one)

☐ Cooperative ☑ **Delegated Maintenance** ☐ Freeway Maintenance ☐ Electrical ☐ Construction/ Maintenance ☐ Other __

NAME OF PROJECT

DIVISION: MAINT DIST.: 9

COUNTY	ROUTE(S)	POST MILE(S)
MONO	203	4.470-6.18

THIS AGREEMENT IS MADE BETWEEN THE STATE OF CALIFORNIA AND

☐ CITY ☐ COUNTY ☑ **OTHER** MAMMOTH LAKES town

EXECUTION DATE(S) OF MASTER AGREEMENT (Must have Month and Year)

January 8, 1986

EXPENDITURE AUTHORIZATION NUMBER(S)

DESCRIPTION

See Attached

ROADWAY LITTER AND DEBRIS--SWEEPING ONLY

FM 2212 M 94

MNO-26-7273

AGREEMENT FOR MAINTENANCE OF STATE HIGHWAYS IN THE TOWN OF MAMMOTH LAKES

THIS AGREEMENT, made and executed in duplicate this 8th day of January, 1986, by and between the State of California, acting by and through the Department of Transportation, hereinafter referred to as "the STATE" and the TOWN of Mammoth Lakes hereinafter referred to as "TOWN".

W I T N E S S E T H :

A. RECITALS:

The Parties desire to provide for the TOWN to perform particular maintenance functions on the State highway within the TOWN as provided in Section 130 of the Streets and Highways Code.

B. AGREEMENT:

This Agreement shall supersede any previous AGREEMENT FOR MAINTENANCE OF STATE HIGHWAYS IN THE TOWN OF MAMMOTH LAKES and/or AMENDMENTS thereto with the TOWN.

In consideration of the mutual covenants and promises herein contained, it is agreed:

The TOWN will perform such maintenance work as is specifically delegated to it, on the State highway routes or portions hereof all as hereinafter described under Section H hereof or as said Section may be subsequently modified with the consent of the parties hereto acting by and through their authorized representative.

C. MAINTENANCE DEFINED:

Maintenance is defined in Section 27 of the Streets and Highways Code as follows:

Sec. 27. "(a) The preservation and keeping of rights of way, and each type of roadway, structure, safety convenience or device, planting, illumination equipment and other facility, in the safe and usable condition to which it has been improved or constructed, but does not include reconstruction, or other improvement.

"(b) Operation of special safety conveniences and devices, and illuminating equipment.

"(c) The special or emergency maintenance or repair necessitated by accidents or by storms or other weather conditions, slides, settlements or other unusual or unexpected damage to a roadway, structure or facility."

D. DEGREE OF MAINTENANCE:

The degree or extent of maintenance work to be performed and the standards therefore shall be in accordance with the provisions of Section 27 of the Streets and Highways Code, as set forth in the current edition of the State Maintenance Manual (a copy of which has been provided to the TOWN as Exhibit A attached) or as may be prescribed from time to time by the District Director. "District Director," as used herein, means the District Director of the Department of Transportation assigned to the territory in which the TOWN is located, or his authorized representative.

The STATE reserves the option to check at random all areas of STATE HIGHWAYS maintained by the TOWN to assure conformance to maintenance levels. Failure of the TOWN to comply with the maintenance levels would be reason to terminate this agreement as specified under Section K "Term of Agreement." However, this random check does not preempt the TOWN's maintenance responsibilities as spelled out in the agreement.

An encroachment permit will be required for third parties when maintenance work is redelegated. Such redelegated work shall be performed to the same levels of service as spelled out herein and will be subject to the same random checks as provided for work performed directly by TOWN forces.

The level of service of maintenance in each of the programs delegated to the TOWN has been considered in setting authorized total and route dollar amounts. The TOWN may perform additional work if desired but the STATE will not reimburse the TOWN for any work in excess of authorized dollars. The District Director may authorize adjustments needed because of inflation or changes in program emphasis.

E. LEGAL RELATIONS AND RESPONSIBILITIES:

Nothing in the provisions of this agreement is intended to create duties or obligations to or rights in third parties not parties to this contract or affect the legal liability of either party to the contract by imposing any standard of care respecting the maintenance of State highways different from the standard of care imposed by law.

It is understood and agreed that neither the STATE nor any officer or employee is responsible for any damage or liability occurring by reason of anything done or omitted to be done by the TOWN under or in connection with any work, authority or jurisdiction delegated to the TOWN under this agreement. It is understood and

agreed that pursuant to Government Code section 895.4 TOWN shall defend, indemnify and save harmless the State of California, all officers and employees from all claims, suits or actions of every name, kind and description brought for or in account of injuries to or death of any person or damage to property resulting from anything done or omitted to be done by the TOWN under or in connection with any work, authority or jurisdiction delegated to the TOWN under this agreement.

The TOWN waives any and all rights to any type of express and implied indedmnity against the STATE, its officers and employees arising from any work, authority or jurisdiction delegated to the TOWN under this agreement.

F. MAINTENANCE FUNCTIONS:

The TOWN shall perform only those maintenance functions delegated, as identified, in Section H (DELEGATION OF MAINTENANCE) of this Agreement.

A brief description of those maintenance functions delegated to the TOWN are included in this section. The functions are identified by the Caltrans HM Program Codes.

HM 204 Litter/Debris - This provides for removal of litter and debris from roadway surfaces and roadsides by mechanical sweeping.

HM 207 Public Facilities - This consists of a wide variety of custodial maintenance in connection with public facilities. Maintenance of buildings used by the public is included in this program.

G. EXPENDITURE AUTHORIZATION:

The STATE will reimburse the TOWN for actual cost of all routine maintenance work performed by TOWN as delegated under Section H of this Agreement, but it is agreed that during any fiscal year, the

maximum expenditure on any route shall not exceed the amount as shown on Section II of this Agreement, unless such expenditure is revised by an amended Agreement or otherwise adjusted or modified as hereinafter provided for.

A new "DELEGATION OF MAINTENANCE" sheet (Section H) will be provided annually by the STATE for ensuing fiscal year, if necessary, to ensure equitable annual cost.

The expenditure per route for routine maintenance work as referred to above may be increased or decreased, redistributed between routes, or additional expenditures for specific projects costing $5,000 or less may be made when such adjustment of expenditures for routine maintenance or such specific work is authorized in writing by the District Director or his authorized representative. Expenditures for specific projects costing in excess of the above amount may be made when such specific work is authorized in writing by the District Director with prior approval from the Chief, Division of Maintenance at Headquarters.

Additional expenditures or adjustment of expenditures thus authorized shall apply during the fiscal year designated therein and shall not be deemed to permanently modify or change the basic maximum expenditure per route as hereinafter specified. An adjustment of the said maximum expenditure, either increase or decrease, shall not affect other terms of the Agreement.

H. DELEGATION OF MAINTENANCE

The specific maintenance function indicated below (and on "EXHIBIT A") is hereby delegated to the TOWN. This delegation of maintenance function set forth herein does not include areas and functions of which the control and maintenance rest with the local authority under the terms of Freeway Agreements and/or Freeway Maintenance rest with the local authority under the terms of Freeway Agreements and/or Freeway Maintenance Agreements.

ROUTE NO.	LENGTH MILES	DESCRIPTION OF ROUTING	PROGRAM DELEGATED	MAXIMUM ANNUAL AUTHORIZED EXPENDITURE
		Roadway litter and debris - sweeping only.		
203	1.36	On Minaret Rd. from Forest Trail (P.M. 4.470) to Main St. (P.M. 4.782). On Main St. from Minaret Rd. (P.M. 4.782) to Sierra Park Rd. (P.M. 5.860) on length of 1.36 miles.	HM204	$5000
203		General cleanup and snow removal in and around bus shelters at the following locations: On Minaret Rd. - approx. 50' south of Canyon Blvd. (P.M. 4.61) - two shelters. On Main St. - approx. 580' west of Mountain Blvd. (P.M. 4.98) - one shelter. Approx. 160' east of Mountain Blvd. (P.M. 5.06) - one shelter. Approx. 100' west of Sierra Blvd. (P.M. 5.23) - one shelter.	HM207	$5000

	In front of Post Office (P.M. 6.18) - one shelter. Approx. 160' east of Forest Trail (P.M. 5.64) - one shelter. 7 Shelters Total The charge at each shelter is not to exceed $25/month in clear weather or $25/snow day		
203	Provide for minor repairs including, but not limited to: glass and tile replacement; graffiti removal; electrical, plumbing and door repairs to Caltrans owned passenger loading facility at Mammoth Mountain Inn (P.M. 0.67) Individual occurrances with estimates exceeding $200 shall be approved by the Caltrans Dist.9 Maintenance Engineer or his representative, phone 873-8411, before beginning of work.	HM207	$3000

TOTAL = $ 13,000.00

I. SUBMISSION OF BILLS:

The TOWN will submit bills in a consistent periodic sequence (monthly, quarterly, semiannually, or annually). Bills for less than $500 shall not be submitted more than once each quarter. Bills must be submitted promptly following close of corresponding billing period and should be coded according to the Caltrans HM Program Code as

outlined in this Agreement. Bills submitted for periods prior to the last fiscal year will be deemed waived and not be honored.

Equipment shall be charged at mutually acceptable rental rates and labor and material at actual cost. The TOWN will be allowed to recover overhead and administrative costs only to the extent that such charges include applicable expenses incurred by the TOWN in the execution of the work. Said factors and method shall be subject to approval by the STATE.

Maintenance services provided by contract or on a unit-rate basis with overhead costs included shall not have these abovementioned charges added again. An actual handling charge for processing this type of bill will be allowed the TOWN.

Emergency and storm repairs performed by the TOWN will be paid for only with prior approval of the STATE's Highway Superintendent of that specific area. In addition, the TOWN should immediately notify the STATE's Area Superintendent for the area of any storm damage or other emergency condition affecting the STATE highway. The TOWN shall maintain, on a generally accepted accounting basis complete and accurate records that support all billings. These records shall be made available to STATE representatives for review during normal business hours for a period of three (3) years after payment of said billings.

J. TERM OF AGREEMENT:

This Agreement shall become effective January 8, 1986 and shall remain in full force and effect until amended or terminated.

This Agreement may be amended or terminated at any time upon mutual consent of the parties thereto. This Agreement may also be terminated by either party upon thirty (30) days notice to the other party.

IN WITNESS WHEREOF, the parties hereto have set their hands and seals the day and year first above written.

TOWN OF MAMMOTH LAKES

By _____
Mayor

_____
Administrator

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

LEO TROMBATORE
Director of Transportation

By _____
District Director