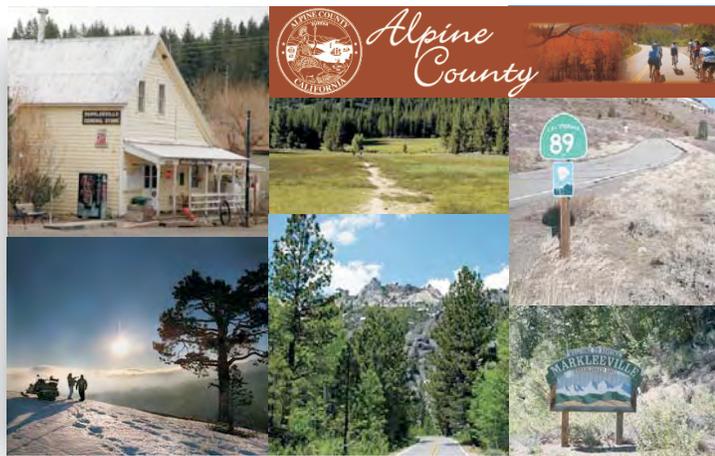


Alpine County Short Range Transportation Development Plan 2010-2014

Final Report



Prepared for the

Alpine County Local Transportation Commission

Prepared by

LSC Transportation Consultants, Inc.

ALPINE COUNTY
Short Range Transportation Development Plan
2010/14

Final Report

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Chapter 1

Introduction

Public transportation considerations play a key role in the quality of life provided by any community. Access to human services, medical services, employment opportunities, educational resources and basic necessities are topics of universal concern, as they have a strong impact on the economy, mobility, and quality of life for the residents of an area. These transportation elements are particularly important in Alpine County because of its isolated location.

The Alpine County Local Transportation Commission (ACLTC) was awarded a Transit Technical Assistance grant by the Federal Transit Administration (FTA) through the California Department of Transportation to develop a Short Range Transit Development Plan. The focus of the plan is to guide the development of an effective and efficient transit system in Alpine County, which serves the transportation needs of County residents as well as meet economic requirements of state transit funding sources.

This document presents and reviews completed transit and transportation studies, the setting for existing transit services, an assessment of transit needs, and a comprehensive analysis of alternatives. Based upon this background evaluation, a five-year operating, capital, institutional and financial plan for public transit services in Alpine County is provided.

This transit plan was originally completed in September of 2008. Since this time, the transit program in Alpine County has undergone various changes, including a shift in policy direction. Therefore, the Short Range Transportation Development Plan was updated in April of 2010 to reflect these changes.

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STUDY AREA CHARACTERISTICS

As shown in Figure 1, Alpine County is located in the Sierra Nevada Mountains in eastern California, just south of the Lake Tahoe area. The major arterial roadways transecting Alpine County are State Route 4, State Route 88, and State Route 89. State Route 4 provides a link to Calaveras County to the southwest over Ebbett's Pass. State Route 88 provides links to the Central Valley to the west, and Minden and Gardnerville to the east in Nevada's Carson Valley. State Route 89 provides links to South Lake Tahoe (El Dorado County) to the north and Mono County to the southeast over Monitor Pass. Ebbetts Pass and Monitor Pass are closed during the winter months due to snow accumulation. There are no incorporated cities in Alpine County. Markleeville, Woodfords, Kirkwood and Bear Valley are the primary unincorporated communities in the study area.

Alpine County comprises 465,030 acres (738.6 square miles), which makes it California's eighth smallest of 58 counties. The area is truly a recreation paradise, from the tall mountain peaks laced with lakes and streams to the valley floors. Almost 95 percent of the land is publicly owned and is open to the public for such uses as skiing, fishing, hiking, hunting, and other daytime recreational uses. The study area includes portions of the Mokelumne and Carson-Iceberg Wilderness areas, and portions of the Humboldt-Toiyabe, Stanislaus, and El Dorado National Forests. Alpine County also boasts other developed amenities, such Grover Hot Springs State Park, Bear Valley Ski Resort, and Kirkwood Ski Resort. Elevation ranges from 4,800 feet to over 11,400 feet. The Central Sierra Nevada is the dominant land feature, with the Carson and Antelope Valleys bordering on the east.

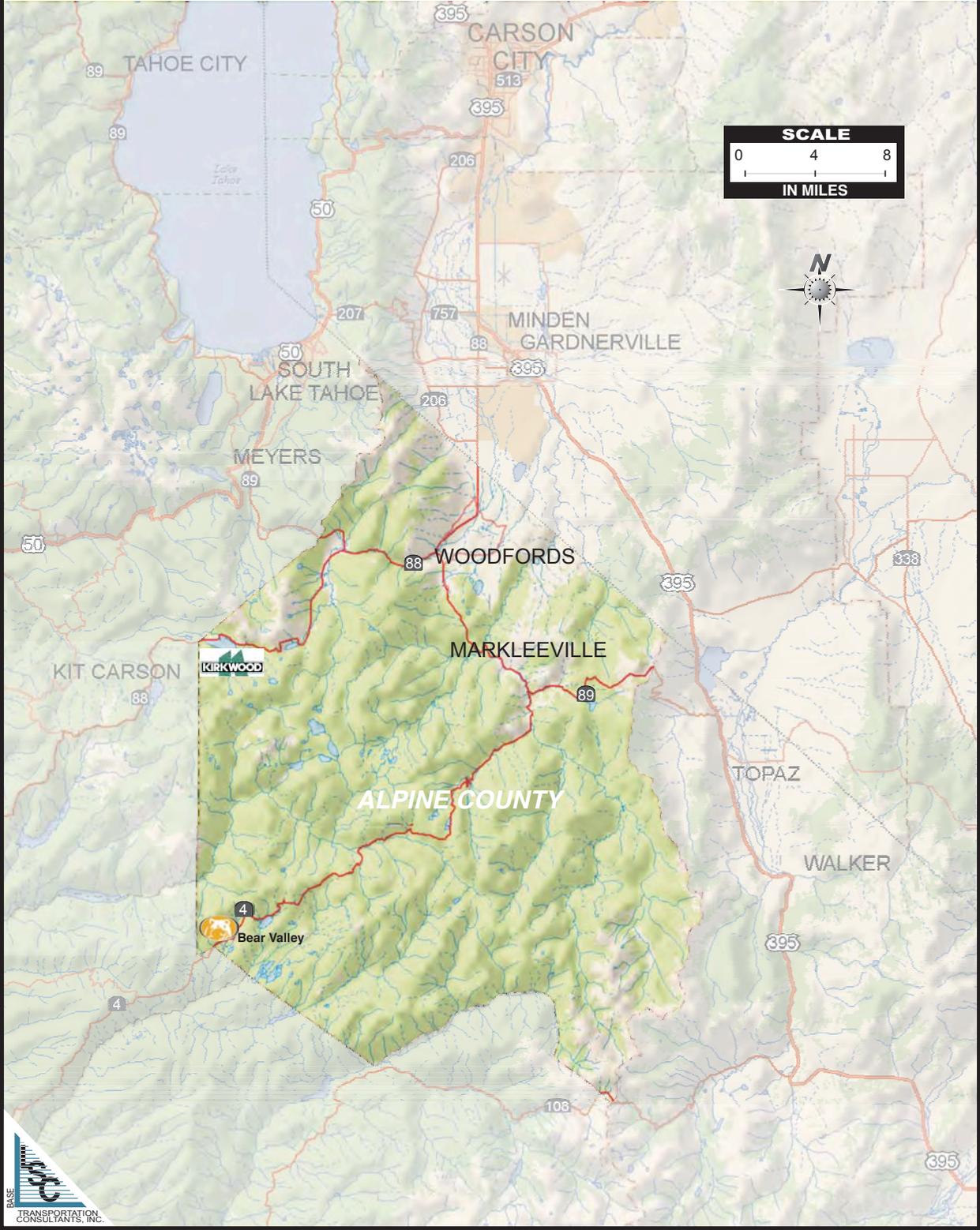
Alpine County's climate is characterized by warm, dry summers and cold winters with frequent severe snowstorms. Annual mean snowfall is approximately 90 inches and annual mean rainfall is approximately 21 inches. Typical January temperatures range from about 23 to 44 degrees Fahrenheit, while typical July temperatures range from 53 to 85 degrees Fahrenheit.

As a rural county, basic goods and services are extremely limited in Alpine County. There are no major grocery stores, banks or movie theaters. For commercial, employment and medical centers Alpine County residents must travel 20 miles northeast to Minden/Gardnerville in Nevada or 30 miles northwest to South Lake Tahoe.

Demographics

Alpine County saw its greatest population during the silver mining days of the 1860s. Indeed, in 1864 Alpine County boasted a population of 11,000. However, miners quickly found silver was difficult to extract at a profit and by 1868, the population fell to fewer than 1,200 people. Population dwindled to a low of 200 in the 1920s, but increased in the 1960s and 1970s (in part due to the development of the Bear Valley and Kirkwood ski resorts) to its present day level of approximately 1,200.

FIGURE 1
Alpine County Site Map



As shown in Table 1, the 2000 U.S. Census identified the population of Alpine County as 1,208 persons. The U.S. Census data estimates the 2007 population at 1,145 persons, or 5.2 percent lower than year 2000 levels. The California Department of Finance (DOF) Demographic Research Unit provides population projections for California and its counties. DOF forecasts at least a 1 percent average annual increase in the population to 1,369 persons in 2010 and 1,410 persons in 2015.

TABLE 1: Alpine County Population				
	Actual 2000⁽¹⁾	Estimated 2007⁽¹⁾	Projected 2010⁽²⁾	Projected 2015⁽²⁾
<u>Countywide</u>				
Total Population	1,208	1,145	1,369	1,410
Note 1: U.S. Census.				
Note 2: Based on California Department of Finance projections.				
Source: U.S. Census, California Department of Finance Demographic Research Unit.				

Potentially Transit Dependent Population

Nationwide, transit system ridership is drawn largely from various groups of persons who make up what is often called the “potentially transit dependent” population. This category includes elderly persons, persons with disabilities, low-income persons, and members of households with no available vehicles. There is considerable overlap among these groups. Table 2 presents demographic data by census place and tribal census tract for the transit dependent population in Alpine County. Figure 2 presents the geographic location of each census place and tribal community. A review of this data indicates the following:

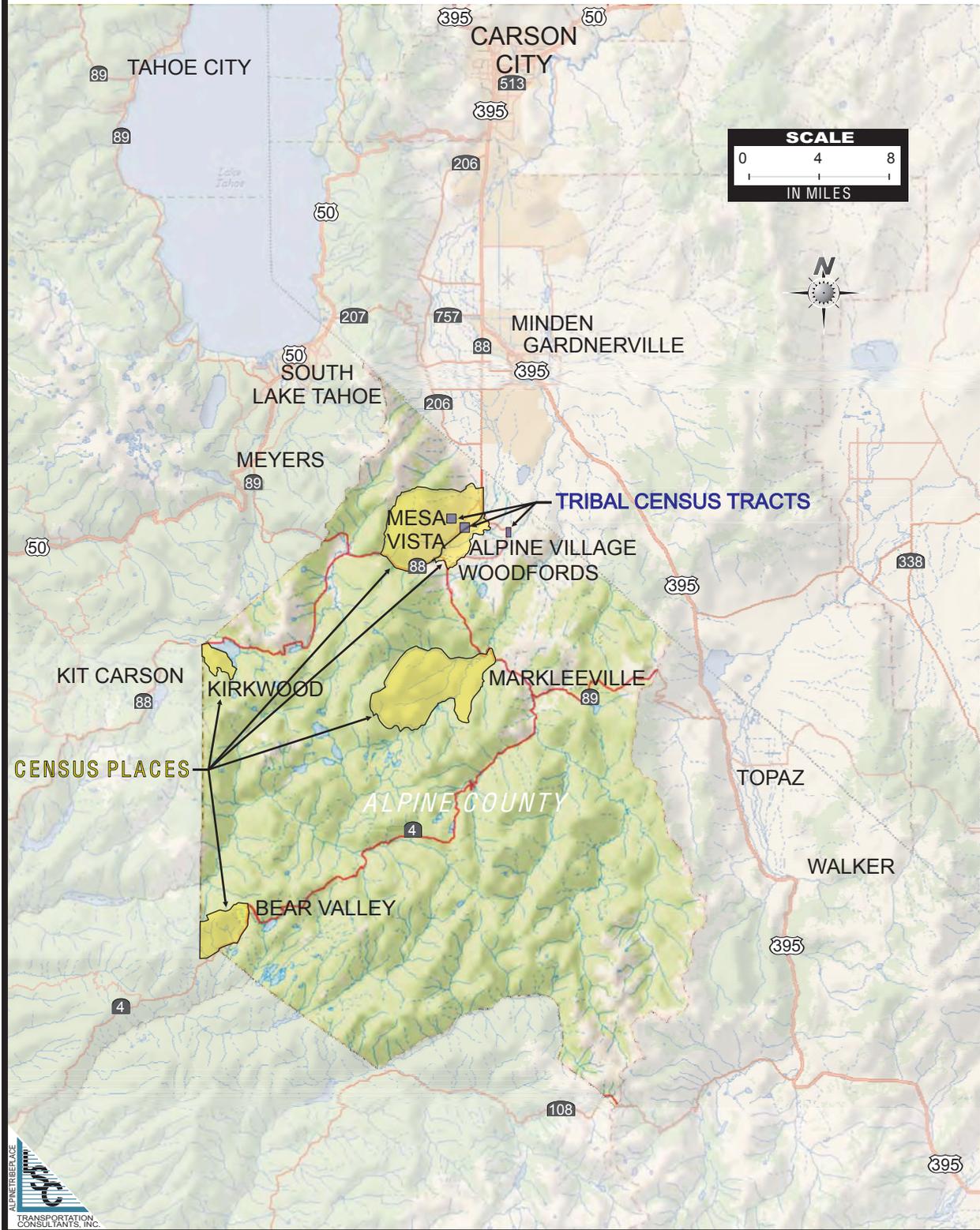
- ♦ According to the Census, there were 119 persons living in Alpine County **age 65 and over**. This represents nearly 10 percent of the countywide population and is very similar to the statewide figure of 10.8 percent. Mesa Vista has the largest proportion of elderly residents (24.9 percent or 45 persons).
- ♦ **Youths** (persons between the ages of 10 and 15) are also common transit riders. In Alpine County, there were 101 youth in the year 2000. Approximately one-third of the County’s youth population resides in the Woodfords Tribal Community, and less than 5 persons age 10 to 15 were recorded in Markleeville and Kirkwood.
- ♦ The U.S. Census Bureau defines “**mobility limited**” as persons having a health condition lasting more than six months that makes it difficult to go outside the home. Data shows that only 20 people fit into this category in Alpine County.
- ♦ **Low income** persons are another likely market for transit services as measured by the number of persons living below the poverty level. An estimated 220 low income persons reside in the study area, representing 18.2 percent of total County population. In the Woodfords tribal community, 37.2 percent of the population is living below the poverty level and in Kirkwood 46.9 percent of the population is living below the poverty level, much of the latter can be attributed to seasonal employment.

TABLE 2: Alpine County 2000 Demographic Data by Census Place

	Square Miles	Population		Households		Elderly Persons (Aged 60 and Over)		Youth (Age 10 to 15)		Mobility Limited Persons ⁽¹⁾		Persons Below Poverty Status ⁽²⁾		Zero-Vehicle Household	
		Total Number	Per Sq. Mile	Total Number	Total Number	Total Number	Percent of Area	Total Number	Percent of Area	Total Number	Percent of Area	Total Number	Percent of Area	Total Number	Percent of Area
Countywide	738.6	1,208	1.6	483	119	9.9%	101	8.4%	20	1.7%	220	18.2%	30	6.2%	
Markleeville	19.1	203	10.6	92	29	14.3%	3	1.5%	4	2.0%	31	15.3%	3	3.3%	
Mesa Vista	16.9	181	10.7	72	45	24.9%	11	6.1%	3	1.7%	3	1.7%	2	2.8%	
Alpine Village	2.8	143	51.1	54	22	15.4%	10	7.0%	3	2.1%	3	2.1%	7	13.0%	
Kirkwood	2.2	96	43.6	19	3	3.1%	0	0.0%	0	0.0%	45	46.9%	0	0.0%	
Bear Valley	5.2	99	19.0	67	7	7.1%	11	11.1%	0	0.0%	8	8.1%	5	7.5%	
Woodfords Tribal Community	N/A	234	N/A	57	14	6.0%	34	14.5%	6	2.6%	87	37.2%	10	17.5%	

Note: Subtotals of Census Place data do not add up to Countywide total.
 Note 1: Mobility Limited includes persons aged 16 to 64.
 Note 2: Poverty Status includes persons aged 0 to 64.

FIGURE 2
Alpine County Census Places and Tribal Census Tracts



- ♦ The Census estimated that 30 households or 6.2 percent of all households in Alpine County do not have **access to an operable vehicle**. Again, one-third of those households are located in the Woodfords tribal community.

Washoe Tribe

The Washoe Tribe of Nevada and California includes a tribal community in Woodfords called Hung-a-Lel-Ti, located off Diamond Valley Road in the northeastern portion of the county. According to the Census Bureau, 2006 population estimates there are 246 Native Americans living in Alpine County or 20.8 percent of the total countywide population. In 2006, the Washoe Tribe of Nevada and California prepared a socioeconomic profile of the Washoe people. Data was collected by conducting face-to-face interviews of on-reservation households as well as mailing surveys to off-reservation households. The study encompassed the Washoe communities in Carson City, Dresslerville, Stewart, and Woodfords. The following highlights some key findings of the study in Woodfords, which are pertinent to a discussion of transit in Alpine County.

- In 2005, 62.3 percent of households were living on family incomes of less than \$20,000.
- Only 38.1 percent of respondents in Woodfords stated that they were employed full-time and 24.7 percent of respondents stated that they were unemployed.
- Just over 10 percent stated that they have a permanent or temporary disability.
- Approximately one-quarter of respondents stated that they have no residential telephone and only 30 percent of respondents have a cell phone. According to tribal members, there is only one location in Hung-a-Lel-Ti where there is cell phone reception.
- Roughly, 14.5 percent of respondents of all ages did not complete high school and only 6.7 percent of respondents completed a four-year college degree or graduate school. Education and employment for tribal members is hindered by lack of transportation to schools and job opportunities. Hung-a-Lel-Ti is very isolated from the rest of the County and the more urban areas in Nevada. Therefore, without adequate transportation opportunities, it is very difficult for Washoe youth to observe and experience educational and training opportunities.

Of particular importance to the Native American culture is respect of the elder population. According to the National Resource Center on Native American Aging, the Native American population over age 55 is expected to grow by 110 percent between 2000 and 2010.

Seasonal Homes Percentage

As Alpine County includes two ski resorts and abundant recreation activities, many of the housing units in the County are used primarily as vacation homes. According to the U.S. Census, 61.7 percent of housing units in Alpine County are occupied for seasonal, recreational, or occasional use only.

Economy and Employment

Outdoor recreation and tourism is the economic base of Alpine County. Property taxes account for 68 percent of County tax revenue, room taxes account for 17 percent of County tax revenue, while retail sales (an important transit funding source) only accounts for 5 percent of tax revenue. In 2004, the median household income in Alpine County was \$42,827, which is lower than the statewide average median income of \$49,894. The Bureau of Economic Analysis calculated 2006 per capita personal income of Alpine County at \$39,182.

Employment

According to the Alpine County 2005 General Plan, more than 70 percent of County employment is in services primarily associated with tourism and recreation. Major employers in Alpine County are listed in Table 3. As shown, Kirkwood Ski Resort and the various Alpine County government departments are the largest employers in the study area. Overall, employment opportunities in Alpine County are limited. The California Employment Development Department estimates that in 2007 there were 500 employed Alpine County residents and an unemployment rate of 7.9 percent. (These figures are not adjusted seasonally). For comparison purposes, the statewide unemployment rate was 5.4 percent in 2007.

Employer	Type of Business	Location	Total No. Employees
Kirkwood Ski and Summer Resort	Recreation	Kirkwood	500 - 999
Alpine County Government	Government	Markeeville	60 - 79
Alpine Learning Center	School	Markeeville	20 - 49
Diamond Valley Elementary School	School	Markeeville	20 - 49
Sorensen's Resort	Accommodations	Hope Valley	20 - 49
Caltrans	State Transportation	Kirkwood	20 - 49
U.S. Forestry Department	Government	Markeeville	10 - 19
Alpine County School	School	Markeeville	10 - 19
Caltrans	State Transportation	Markeeville	10 - 19
Woodfords Maintenance Station	State Transportation	Markeeville	10 - 19
Grover Hot Springs State Park	Park	Markeeville	10 - 19
Bub's Sports Bar	Restaurant	Kirkwood	10 - 19
Camp Silverado	Camp	Kirkwood	10 - 19
Caples Lake Resort	Resort	Kirkwood	10 - 19
Kirkwood Inn and Saloon	Restaurant	Kirkwood	10 - 19

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

Commute Patterns

A review of commuter travel patterns is relevant to transit studies, particularly in Alpine County where jobs and basic services are limited. Table 4 presents county-to-county workflow data collected as part of the US 2000 Census. As shown, over half or 395 Alpine County employed residents also work in Alpine County. Approximately 115 or 18.8 percent of employed Alpine County residents travel to Douglas County in Nevada for work, another 48 residents (7.8 percent) travel to El Dorado County and 31 (5.1 percent) travel to Carson City, Nevada for work. A substantial number of workers travel from other counties to work in Alpine County. Just over 16 percent or 175 jobs in Alpine County are filled by El Dorado County residents. Another 172 jobs (most likely in the Bear Valley area) are filled by Calaveras County residents and 133 Douglas County, Nevada residents commute “up the hill” to Alpine County for work. The majority of workers in the “other” category represent telecommuters.

TABLE 4: Alpine County Inter-County Commute Pattern Data

County of Employment for Alpine County Residents	<u># Persons</u>	<u>% of Total</u>
Alpine	395	64.4%
Douglas, NV	115	18.8%
El Dorado	48	7.8%
Carson City, NV	31	5.1%
Other	24	3.9%
<i>Total Number of Persons</i>	613	100.0%
County of Residence for Alpine County Workers	<u># Persons</u>	<u>% of Total</u>
Alpine	395	37.7%
El Dorado	175	16.7%
Calaveras	172	16.4%
Douglas, NV	133	12.7%
Other	93	8.9%
Amador	60	5.7%
Carson City, NV	12	1.1%
Washoe, NV	7	0.7%
<i>Total Number of Persons</i>	1,047	100.0%

Source: U.S. Census Bureau, County-to-County Work Flow Files.

Census data also reveals that 51.9 percent of working residents in Alpine County age 16 and older drove alone to work, 15.7 percent carpooled and 24.8 percent walked. At the time of the 2000 Census, Alpine Mountain Transit did not exist.

Major Activity Centers

Medical/Human Service Activity Centers

The Alpine County Department of Health and Human Services is located at 75A Diamond Valley Road in Markleeville, California. The department offers a variety of assistance programs for Alpine County residents in need. Examples of social service type programs include Welfare, Calworks, Foster Home Support, Child Protective Services and Adult Services. The Alpine County Women's Center offers programs and services, which address domestic violence, sexual assault and child abuse. The Department also provide numerous public health services such as California Children's Service, infectious disease monitoring, STD testing and education, prenatal outreach as well as behavioral health services such as outpatient mental health counseling and substance abuse programs. For specialized medical appointments, consumers of these services are often transported to medical centers outside of Alpine County using one of the seven vehicles owned by Alpine County.

There are three health clinics located in the County: Alpine Health and Human Services, Kirkwood Ski Resort (seasonal only) and Bear Valley. There are no beds available at these clinics. Alpine County residents needing MediCal services must travel to South Lake Tahoe in California instead of the more easily accessed medical centers in Nevada. The Dresslerville Clinic in Gardnerville, Nevada provides medical services for members of the Washoe Tribe.

The region's senior population is served by the Area 12 Agency on Aging in Sonora, California. The closest Senior Center is located on Meadow Lane in Gardnerville, Nevada. Limited senior transportation is available using county-owned vehicles through the Alpine County Health and Human Services Department.

Institutional Activity Centers

The Early Learning Center (ELC) receives funding from the First Five program partners with the Alpine County Office of Education for educational and health related services for preschoolers. ELC is located on Foothill Boulevard in Woodfords. As discussed in Chapter 3, the ELC attendees make up a large proportion of public transit ridership in Alpine County.

According to the Alpine County Office of Education, there are approximately 126 students enrolled in kindergarten through eighth grade. Elementary schools are located in Woodfords and Bear Valley. Alpine County ninth graders must travel to the Pau-wa-lu Junior High in Nevada for classes. Generally, high school students living in the eastern portion of the County are transported to Douglas High School in Nevada, and those living in the western portion are transported to Bret Harte High School in Calaveras County, California. However, there is a small high school (about 10 students) in Woodfords that specializes in education for students who are unable to adjust to a large high school environment. Additionally, Bear Valley has a high school with a student body of approximately 10 students.

After school programs are available at Diamond Valley Elementary. The program is academic in nature for the first 90 minutes and then extra curricular activities are available until 6:00 PM. Alpine County school population is not large enough to support any sports teams.

Commercial Activity Centers

As stated earlier, medical and commercial services are extremely limited in Alpine County. There are a few general stores located in Markleeville, Kirkwood and Bear Valley, but no major grocery store or other types of commercial centers. Financial services such as banks are also unavailable. Alpine County residents must travel to Minden/Gardnerville or South Lake Tahoe for these services (other than Bear Valley residents who typically travel to Calaveras County communities).

Recreational Activity Centers

Alpine County has an abundance of recreational opportunities. Skiing, bicycling, boating, hunting, fishing, and snowmobiling are all very accessible. In addition to outdoor recreation, the Diamond Valley Elementary and Bear Valley Elementary school gymnasiums are available for use by community members when it is not being used for school-related activities. There is an application process and insurance coverage is required. A charge may apply to for-profit organizations.

The Indian Education Center at Hung-a-Lel-Ti offers tutoring services to youth and adults. Adult tutoring starts at 10:30 AM to 2:00 PM; youth tutoring is offered from 2:00 PM to 5:30 PM. All classes are offered Monday thru Thursday. The Woodfords Gym is open from 5:00 PM to 8:30 PM for all community members to utilize. The community council is working on bringing in more cultural activities to promote Washoe culture and history. The Washoe Tribe has plans for a new recreation center at Hung-a-Lel-Ti.

The Carson Valley Inn Casino in Minden, Nevada is a popular amusement destination for Alpine County residents.

Special Events

Markleeville is home to the grueling Markleeville “Death Ride – Tour of the California Alps” annual bike race, held the second weekend of July. This race is famous for its challenging 153-mile course, which requires riders to climb five 3,000-foot mountain passes in a single day. A series of fairs and other festivals are held by various private groups at such sites as Bear Valley Mountain Resort, Kirkwood Mountain Resort, and Sorensen’s Resort along the Carson River in Hope Valley.

EXISTING PLANNING DOCUMENTS

A key step in any planning process is the consideration of previously completed transit studies and other ongoing planning processes in the area.

Alpine County Local Transportation Commission – Triennial Performance Audit

According to Transportation Development Act (TDA) statutes, entities receiving TDA funds must commission an audit every three years. Moore & Associates conducted a performance audit of ACLTC for Fiscal Years 2003/04 to 2005/06. Five recommendations were referenced in the report:

- **A primary record keeper should be established to maintain pertinent data in an organized and complete manner.** This staffer should be dedicated to the transit program and knowledgeable in TDA statutes.
- **Establish and Action Plan for ACLTC.** The purpose of this plan would be to communicate transportation needs and goals, summarize demographics and travel patterns related to transit and ensure that all unmet transit needs deemed reasonable to meet are being addressed properly.
- **Allocate LTF funding and address the “Unmet Needs” process correctly.**
- **The ACLTC should commission a Short Range Transit Plan (SRTP) for AMT to improve efficiency and productivity.** The audit describes several alternatives which could be considered in the SRTP:
 - Filing Under Article 8 of TDA –ACLTC can file for TDA funds under Article 8 Section 99440 (c) to pay a contractor for the operation of transit service in the region if the region is not already being serviced by a transit operator or the contracted service would fill a need that could not otherwise be met. One advantage of Article 8 would be that ACLTC would not be subject to the 10 percent minimum farebox recovery ratio requirement.
 - Increase ridership so that the minimum 10 percent farebox ratio is attained.
 - Convert to a demand-response service.
 - Discontinue AMT service – Findings of the plan may reveal that there is insufficient demand or interest for transit service in Alpine County or service is simply not financially feasible.
- **Research alternative funding sources from Native American programs.**

Unmet Transit Needs Hearings

The Transportation Development Act (TDA) specifies that recipients of TDA funding conduct an annual assessment of transit needs within their jurisdiction before TDA funds are allotted to

streets and roads. This assessment consists of two major steps: the identification of “unmet transit needs,” and a determination of whether these needs are “reasonable to meet.” In 2002, ACLTC defined unmet transit needs as:

“Unmet Transit Needs are defined as those transit needs which are not being met. Reasonable to meet is defined as needs costing \$15.00 per passenger per one-way trip (in Fiscal Year 2000/01 dollars), a 10 percent farebox return and a reasonable ratio of passengers to distance traveled. The per-passenger cost standard will be adjusted annually to reflect regional inflation.”

Review of the findings regarding unmet transit needs can provide insight into transit improvements requested by the public. ACLTC held unmet needs hearings in 2001/02, 2006/07, and 2007/08. Resolutions were adopted after each unmet needs hearing that there were no unmet needs, which were reasonable to meet. The following is a brief summary of the unmet needs issues brought up in Unmet Needs hearings and Social Services Transportation Advisory Council (SSTAC) meetings over the last few years.

- Residents and social service organization members expressed support for the existing transit system.
- There is a need for adult transportation of tribal members to Minden/Gardnerville during the day for basic needs.

Alpine Countywide Transit Needs Assessment (*LSC Transportation Consultants, Inc., 2001*)

This document performed a thorough analysis of the need and demand for transit services in Alpine County prior to the establishment of service in the region. The following plan elements were recommended:

- Implement twice-weekly Markleeville-Gardnerville rural route service. The service would operate three roundtrips per service day and connections to other regional transit services in Carson City would be possible. The primary purpose of the service would be to serve as a lifeline link for persons seeking medical, pharmacy, banking and shopping services. Three-quarter mile deviations would be possible.
- Supplement the rural route with a volunteer medical transportation program where volunteer drivers are reimbursed for taking persons in need to medical appointments. This program would be managed by the Health and Human Services (HHS) Department. The idea is to relieve HHS from providing medical trips themselves and instead utilized their skills and time to manage this program.
- Construct bus stop signage, benches, and shelters. The plan assumed that a vehicle would be leased through an operating contractor.

Alpine County Regional Transportation Plan

The Alpine County Regional Transportation Plan (RTP) was last updated by Stantec Consulting, Inc. in 2005. An RTP addresses regional transportation issues and need for a 20-year period and includes policy direction, actions and funding recommendations. The Policy Element of the RTP includes the following goals, objectives, policies, and performance measures specific to transit:

Goal: Provide for the transportation needs of the County in a timely and cost efficient manner. As need arises, consider convenient and desirable public transit for residents of and visitors to Alpine County.

A. **Objective:** Reassess unmet transit needs and the feasibility of fulfilling such needs in conjunction with the annual budget process.

Policy: The ACLTC will conduct a minimum of one public hearing annually to consider and take testimony on unmet transit needs prior to expending LTF funds.

B. **Objective:** Consolidate transit services in accordance with the provisions of State Assembly Bill 120 and the County's adopted consolidated social service transit action plan, monitor transit needs of the elderly and handicapped to identify the potential for meeting "reasonable-to-meet" criteria.

Policy: The ACLTC will consider claims for use of LTF funds for the provision of transit services in accordance with applicable state laws and the County's Transit Improvement Program (reference: California Public Utilities Code commencing with Section 99200; California Administration Code commencing with Section 6600; Action Element of the RTP).

C. **Objective:** Implement guidelines and procedures for administration of Transit Development Act (TDA) and State Transit Assistance (STA) funds.

Policy: The ACLTC will only honor transit claims, which also meet its adopted "reasonable-to-meet" criteria. The ACLTC reasonable-to-meet criteria are \$7.00 per passenger per one-way trip, a 10 percent fare box return, and a reasonable ratio of passengers to distance traveled.

D. **Objective:** Tailor public transportation and transit service provisions to the area's population characteristics.

Policies: Consider transit services first in areas where the greatest operational efficiencies exist (i.e., dependent needs, recreational areas).

Continue development of new and innovative transit systems, particularly suited for rural areas.

Support transit projects that serve visitors and residents for commute and recreation trip purposes and that would enhance economic development.

Encourage coordination of inter- and intra-county transit service.

- E. **Objective:** Promote public transportation alternatives or a transit system that is responsive to the needs of dependent persons.

Policies: Develop social service transportation inventory and action plan in coordination with social service agencies.

Work with adjacent county transit operators to assist social service agencies in providing transportation for health services and access to jobs.

Promote the provision of discount fares or subsidies for the elderly, disabled, and students.

Assist transportation efforts compliant with the Americans with Disabilities Act (ADA).

- F. **Objective:** As future needs may arise, plan for an effective and efficient transit system that would best utilize available resources to serve the region's community.

Policies: Establish and maintain a performance monitoring system that evaluates the need for transit service.

Ensure that transit services meet all state and federal requirements for funding.

Develop an effective and efficient transit planning process.

Incorporate Intelligent Transportation Systems (ITS) strategies where feasible.

Performance Measures for Transit

- Maintain public transportation as needed and supported with productivity levels that meet the standards established as monitored by the ACTLC.
- Maintain public transportation, including coordination with adjacent counties, sufficient to meet state and federal funding requirements.

The RTP also cites several factors that generally contribute to the need for increased transit services over time in any region:

- Compliance with the Americans with Disabilities Act.
- Expansion of Welfare-to-Work programs.
- State and federal clean air legislation and transportation demand management principles that call for the increased use of transit to offset and reduce automotive vehicle emissions.
- Commuter bus service to provide quick connections between Alpine County and surrounding areas has been a consistent need cited by Alpine County citizens.
- The aging of the population will contribute to the demand for transit services, in particular non-emergency medical transportation.

Some of these factors play a role in Alpine County; however, it was concluded in the transit needs assessment of the RTP that unless the population increases significantly a frequent transit system will not be practical in the region.

Alpine County General Plan, April 2005

The Alpine County General Plan Circulation Element includes one goal specific to transit:

“Provide for the transit needs of the county in a timely and economic fashion.”

Recent Actions

In April of 2008, ACLTC adopted a resolution to file for TDA funds under Article 8 and established a minimum farebox ratio of 1.0 percent with a goal of 10 percent.

FUTURE DEVELOPMENT PROJECTS

Even in a small county such as Alpine, new development projects are in the planning stages:

Markleeville Village

Per the *Markleeville Village/Mahalee Lodge Final Environmental Impact Report* (Entrix, May 2006), this project is a mixed-use development that includes three distinct areas of use: a lodge, fractional ownership cabins, and a commercial area. Open space and infrastructure improvements the development are also included. The lodge will be a 44-foot high three-story structure, measured from the uphill side of the building, designed to accommodate 25 luxury lodging rooms, a restaurant, conference center, employee housing and a day spa/wellness center. One building, dedicated for employee housing, will be a 6,000 square foot 4-plex that includes ground level parking. The other 12 commercial buildings will have dedicated commercial space on the first floor of each, totaling approximately 10,000 square feet. The upper stories will be a mix of commercial space and/or affordable/employee housing with square footage totaling approximately 14,000 square feet.

Bear Valley Village

The EIR process has been started for a proposed ski area residential project in Bear Valley, just east of Calaveras County in Alpine County along SR 4. This project would eliminate the existing 53-room lodge and associated retail/restaurant space, and construct 491 multifamily residential units, 50 employee dormitory rooms and associated retail/restaurant/club uses served by a new lift to the Bear Valley Ski Area. As virtually all access to Bear Valley is through Calaveras County, this project will have a greater effect on Calaveras County.

Other development projects proposed in the Bear Valley area are: Black Forest Condominiums (45 multifamily units) and Bear Paw (28 duplex lots and 27 single family unit lots).

Kirkwood

The Kirkwood Ski area is also being expanded. In addition to new ski lifts and lodge facilities, approximately 1,500 residential condos, townhouses and building lots are planned by 2044. According to the *Kirkwood Recirculated Revised Final Environmental Impact Report* (Cirrus Ecological Solutions, LLC, 2002), the projected maximum population at Kirkwood Resort would be 5,669 by 2020. The number of employees at project completion is estimated at 150 year-round and 850 seasonal.

U.S. Forest Service Guard Station at Turtle Rock Park

The U.S. Forest Service is proposing to relocate its Markleeville Guard Station from Markleeville to Turtle Rock Park on SR 89 south of Woodfords. The final build out of the Guard Station would include new roadways, parking for 70 vehicles, administrative office facilities include visitor information services and four 10-person bunkhouses.

Chapter 3

Existing Transit Services

Transportation services are very limited in Alpine County. The following discussion presents information on general public transit services, as well as transportation provided through County and Tribal social service programs.

HISTORY

In 1993 during the unmet transit needs process, the Social Services Transportation Advisory Council concluded that a local, limited transportation service was needed. The Local Transportation Commission agreed to expand the transportation service that was essentially providing transportation to the Senior Center.

In March of 1994, Alpine County purchased an ADA equipped minibus and the Alpine County Transportation System (ACTS) was initiated. ACTS began providing daily transportation locally in such areas as Grover Hot Springs, Markleeville, Woodfords and Paynesville. Three days a week service was provided to the Gardnerville area.

The service was heavily promoted locally; and as a promotional incentive, there was no fare charged. After an approximate six month period during which 213 passenger-trips were served, the service was discontinued on October 3, 1994, due to a lack of ridership. Upon cessation of service the bus was transferred to Truckee, California for use in its Dial-A-Ride system.

As a result of the Alpine County Transit Needs Assessment (LSC Transportation Consultants, Inc., 2001) Alpine County reinstated public transit in the region. Since 2003, the Alpine County Local Transportation Commission (ACLTC) has been contracting with Douglas County, Nevada (Douglas Area Rural Transit or DART) to operate Alpine Mountain Transit (AMT). The initial concept of AMT was to provide transportation to medical appointments; however, few passengers took advantage of this service. Now, AMT service focuses on connecting Woodfords/Paynesville/Hung-a-Lel-Ti residents to services in Gardnerville.

ALPINE MOUNTAIN TRANSIT (AMT)

Up until June 30, 2008, Alpine Mountain Transit (AMT) provided transit service between Markleeville and Minden/Gardnerville Monday through Friday. Operation of the service was contracted to Douglas Area Rural Transit (DART) out of Gardnerville, NV. AMT service was divided into three different routes: AM Route, Mid-day Route, and a PM Route. As can be seen in Table 5 and Figure 3, each route takes a slightly different path to serve the following stops:

In Gardnerville/Minden – Until recently, DART operations have been based at the Douglas Senior Center located on 2300 Meadow Lane in Gardnerville, NV. Therefore, the Senior Center was the beginning and end of AMT services as well as a rest stop for the AMT driver. From the Senior Center the bus either traveled south on US 395 to Raleys/Smiths/Solaris (transfer location to other DART services) or north on US 395 to the Carson Valley Inn. If traveling south

TABLE 5: Alpine Mountain Transit Schedule

Morning Routes		Mid Day Routes		Afternoon Routes				
Up the Hill	7:30 AM	Douglas Senior Center	Down	11:00 AM	Health & Human Svcs	Up the Hill	2:10 PM	Douglas Senior Center
	7:45 AM	Raleys/Smiths/Scolaris		11:10 AM	Hung-a-Lei-Ti		2:40 PM	Carson Valley Inn
	8:00 AM	Tillman & Kimmerling		11:25 AM	Douglas Senior Center		2:50 PM	Raleys/Smiths/Scolaris
Down	8:20 AM	Sierra Pines	Up the Hill	12:10 PM	Carson Valley Inn	Down	3:00 PM	Dresslerville Clinic
	8:25 AM	Health & Human Svcs		12:40 PM	Alpine Learning Center		3:15 PM	Hung-a-Lei-Ti
	8:30 AM	Hung-a-Lei-Ti		12:50 PM	Hung-a-Lei-Ti		3:25 PM	Health & Human Svcs
	8:40 AM	Alpine Learning Center		1:05 PM	Health & Human Svcs		3:45 PM	Raleys/Smiths/Scolaris
	9:00 AM	Douglas Senior Center		1:20 PM	Alpine County Offices		3:50 PM	Douglas Senior Center
	9:10 AM	Carson Valley Inn		1:35 PM	Hung-a-Lei-Ti			
Up the Hill	9:25 AM	Douglas Senior Center	Down	2:00 PM	Raleys/Smiths/Scolaris			
	9:45 AM	Raleys/Smiths/Scolaris						
	10:00 AM	Dresslerville Clinic						
	10:15 AM	Hung-a-Lei-Ti						
	10:30 AM	Health & Human Svcs						
	10:45 AM	Alpine County Offices						

on US 395, AMT passed through the Gardnerville Ranchos area near the Washoe Dresslerville Community before traveling up the hill. Stops here included Tillman/Kimmerling and the Dresslerville Clinic. The Carson Valley Inn was the only Douglas County stop north of the Senior Center.

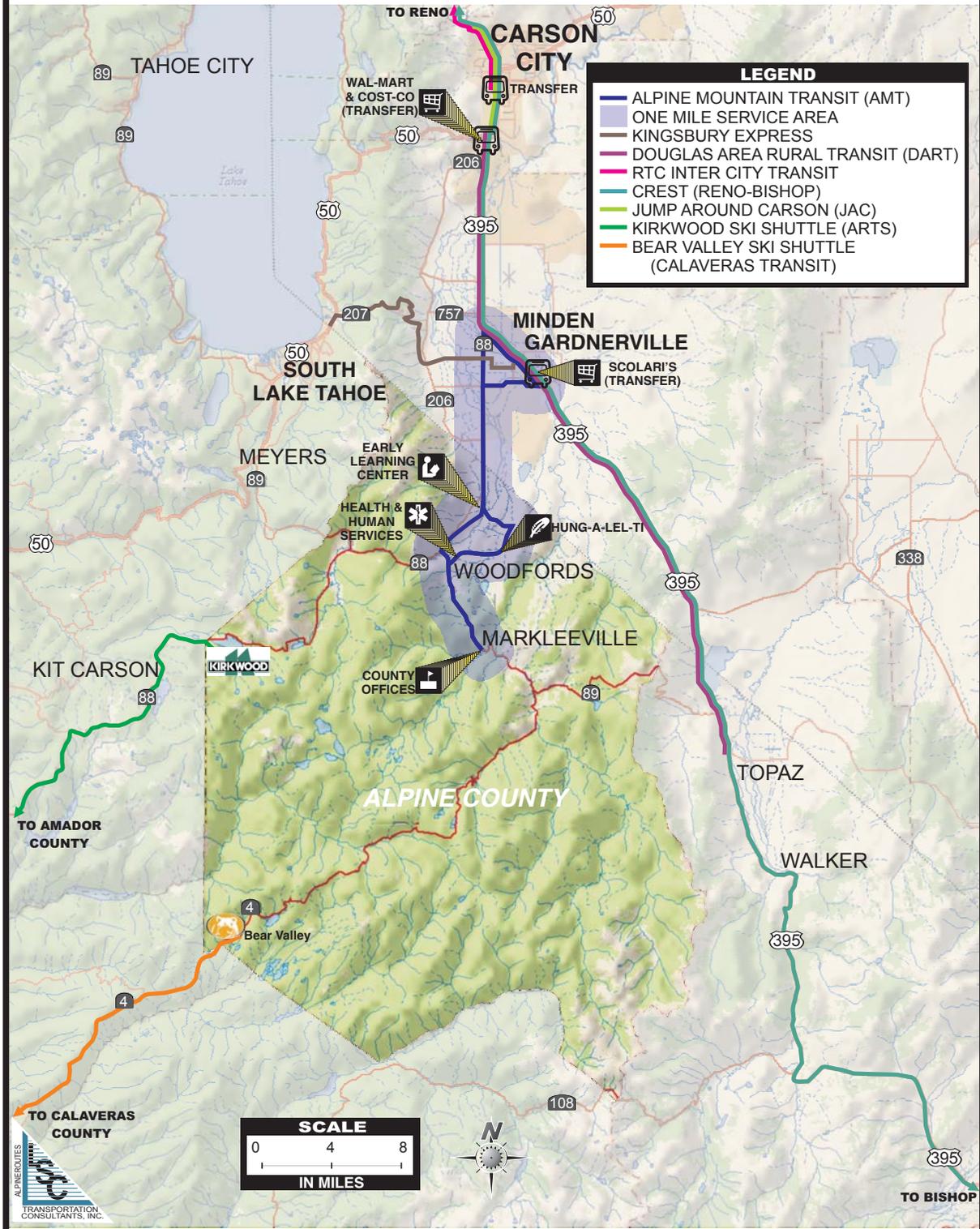
In Alpine County – Stops in Alpine County include the Early Learning Center on Foothill Road in Paynesville, the Department of Health and Human Services on Diamond Valley Road just south of Woodfords, the Hung-a-Lel-Ti community located at the bend in Diamond Valley Road, the Sierra Pines Mobile Home Park just off of SR 89 south of Diamond Valley Road and the Alpine County Offices in Markleeville.

A total of four round trips between Douglas County and Alpine County were made each weekday. AMT will deviate one mile off the fixed route to pick up passengers if advance notice is provided. Additionally, passengers can flag the bus down along its normal route. Markleeville was only served twice each day whereas the bus stops at Hung-a-Lel-Ti and Health and Human Services were served 6 times each day. The schedule best accommodated preschool children attending the Early Learning Center and Alpine County residents on shopping trips in Gardnerville. Due to an extremely low farebox ratio and limited funding, the AMT schedule was reduced from 12 hours to the current 8 hours in February of 2008. The reduction in service hours allowed DART as the contractor to employ only one full-time driver for AMT operations as opposed to one full-time and one part-time driver previously. Additionally, AMT has provided “special event” trips to Great America, Reno, Bear Valley and other destinations in the past.

The adult one-way fare on AMT is \$2.00 and a monthly pass is \$50.00. Seniors aged 55 and older and children under 12 years old can purchase a one-way trip for \$1.00 or a monthly pass for \$25.00. Group rates are available for special trips during non-route times for \$2.5 per mile plus \$10.00 per hour.

FIGURE 3

Alpine County Local and Connecting Transit Services (2008)



One 20-passenger bus with wheelchair lift was used to operate the route. The ACLTC owned vehicle is about 5 years-old and has approximately 270,000 miles. The AMT bus recently broke down and repairs are not considered cost effective. DART used one of their spare vehicles to operate the AMT over the last month of service.

Regional Connections

Four of AMT's published stops are shared with the DART fixed route service between Topaz Lodge and the Wal-Mart Super Center in Carson City. Only two of these stops (Carson Valley Inn and Smiths) allow for reasonable transfers to DART within 20 minutes or less. Most transfers are made at Smiths. For example, if an Alpine County resident wishes to shop at the Wal-Mart Super Center along US 395 just south of Carson City, the passenger must board the first AM route (at roughly 8:30 AM) in Alpine County and alight at Smiths at 9:00 AM. After a fifteen minute wait, the passenger can board the DART fixed route bus and arrive at Wal-Mart by 9:55 AM. In order to make the return trip in time, the passenger must catch the 1:40 PM DART bus from Wal-Mart to Smiths in order to connect with the last uphill AMT run at 2:50 PM. An Alpine County resident wishing to travel to Reno must transfer to DART at Smiths or the Carson Valley Inn around 9:00 AM. Transfers between DART and the Jump Around Carson (JAC) public transit service are possible at Wal-Mart Supercenter/Costco. From there, the passenger must take Route 3 on JAC and exit near the Nevada Department of Transportation to catch an RTC Intercity bus to Reno. As the RTC Intercity service is designed for commuters, the first bus an Alpine County passenger could catch would be at 2:50 PM, putting the passenger in Reno at 3:20 PM or so. Therefore, a return trip back to Alpine County from Reno is not possible on the same day. Another option for a Reno-bound Alpine County resident is to take a northbound Carson Ridgecrest Eastern Sierra Transit (CREST) bus to Reno 4 days a week. The CREST route (operated by the Eastern Sierra Transit Authority along the US 395 corridor) includes a request stop at Smiths at 10:30 AM and arrives at the Reno International Airport at 11:45 AM. As this bus makes an immediate return to the south, a return trip on the same day that provides time to complete a trip purpose in Reno is not possible. Regional connections are also possible to the south. A passenger could alight AMT at Smiths at 2:00 PM and catch a southbound CREST bus to Bishop at 2:15 PM (request only) every weekday except for Wednesdays.

AMT Contract

DART entered into a transit operating contract with ACLTC in January 2007. The contract expired on June 30, 2008. Per the contract, DART is responsible for employment and management of all operations and maintenance personnel (including compliance with FTA Drug and Alcohol Regulations) as well as fueling of the vehicle. ACLTC provides liability insurance and the vehicle. DART is reimbursed for all costs related to the provision of AMT including salaries/benefits of drivers, all fuel and maintenance costs and cellular telephone costs. Farebox revenue is returned to ACLTC. Additionally, ACLTC pays DART an administrative fee, which is calculated as follows:

- 5 percent of the annual salary and benefits paid to the Manager of Senior Services and Transportation

- 5 percent of the annual accounting cost associated with DART
- 5 percent of the annual salary and benefits paid to the Transportation Coordinator for DART
- 5 percent of the annual costs associated with the DART dispatch system
- 5 percent of the annual costs associated with DART clerical support

Oversight of the contract is provided through the Alpine County Transportation Coordinator. DART staff feels that they have a positive relationship with ACLTC.

Fiscal Year 2006/07 Ridership

Table 6 presents AMT ridership by month for Fiscal Year 2006/07. The service carried approximately 5,239 one-way passenger trips that year. The AMT driver records each passenger boarding by passenger type and trip purpose. As presented in Table 6 and Figure 4, the majority of AMT passengers or 88.62 percent are considered general public passengers. Only 6.59 percent or 345 boardings were elderly passengers, 3.1 percent or 163 boardings were disabled passengers and 1.68 percent or 88 boardings were wheelchair passengers. Figure 5 presents AMT Fiscal Year 2006/07 ridership by trip purpose as recorded by the AMT driver. Education represents 41.3 percent of passenger boardings, followed by employment at 26.5 percent, social/recreation at 17.8 percent, personal at 12.1 percent, medical/dental at 2.3 percent and meals/groceries at 0.1 percent (only 3 boardings).

Passenger Activity by Stop

The consultant provided the Alpine Mountain Transit driver with boarding and alighting survey forms to record passenger activity during the week of April 7 to 11, 2008. Table 7 presents the average daily passengers getting on and getting off the bus by stop during the survey period. The highest average daily boardings were recorded at Hung-a-Lel-Ti (8.8 boardings per day, or 44.0 percent) and the Early Learning Center (5.6 boardings per day, 28.0 percent). Alighting activity was similar with 7.6 alightings per day (39.6 percent) at the Early Learning Center and 5.0 alightings per day (26.0 percent) at Hung-a-Lel-Ti. Zero boardings were recorded at the Douglas Senior Center, although there were 0.4 average daily alightings recorded at this stop. During contract operation the Douglas Senior Center acted as the yard and operations facility for DART. Other low activity stops include Sierra Pines (0.4 boardings, 0.0 alightings), Tillman & Kimmerling (0.2 boardings, 0.6 alightings), Dresslerville Clinic (0.0 boardings, 1.0 alightings) and Alpine County Offices (0.6 boardings, 0.4 alightings). Overall, an average of 20.0 boardings and 19.2 alightings occurred each day of the survey.

Passenger Activity by Hour of Day

Passenger activity by hour of day can also be determined from the boarding and alighting survey conducted by the AMT driver. As shown in Figure 6, nearly half of average daily boardings (9.8)

TABLE 6: Alpine Mountain Transit Ridership by Month - Fiscal Year 2006 - 2007

	Passenger Type					Total	Trip Purpose							Total
	General Public	Disabled	Wheelchair	Elderly			Meals/ Groceries	Medical/ Dental	Education	Employment	Recreation	Social/ Recreation	Personal	
Jul-06	292	22	11	32		357	0	14	96	90	72	85	357	
Aug-06	389	22	16	74		501	0	4	60	168	168	101	501	
Sep-06	426	19	6	17		468	0	27	213	118	60	50	468	
Oct-06	419	14	14	59		506	1	3	151	135	170	46	506	
Nov-06	504	10	12	8		534	0	5	252	100	94	83	534	
Dec-06	302	8	0	69		379	0	10	167	83	70	49	379	
Jan-07	369	8	4	4		385	0	1	211	105	23	45	385	
Feb-07	335	14	0	13		362	0	4	161	99	60	38	362	
Mar-07	468	12	2	29		511	0	6	294	121	60	30	511	
Apr-07	434	10	6	11		461	2	35	213	127	50	34	461	
May-07	438	16	2	17		473	0	7	256	137	45	28	473	
Jun-07	267	8	15	12		302	0	3	91	104	60	44	302	
Total	4,643	163	88	345		5,239	3	119	2,165	1,387	932	633	5,239	
% of Total	88.6%	3.1%	1.7%	6.6%		100.0%	0.1%	2.3%	41.3%	26.5%	17.8%	12.1%	100.0%	

Note: Disabled passengers = both elderly and general public. WC passengers = both elderly and general public.
Source: DART, 2008

FIGURE 4: AMT FY 06-07 Ridership by Passenger Type

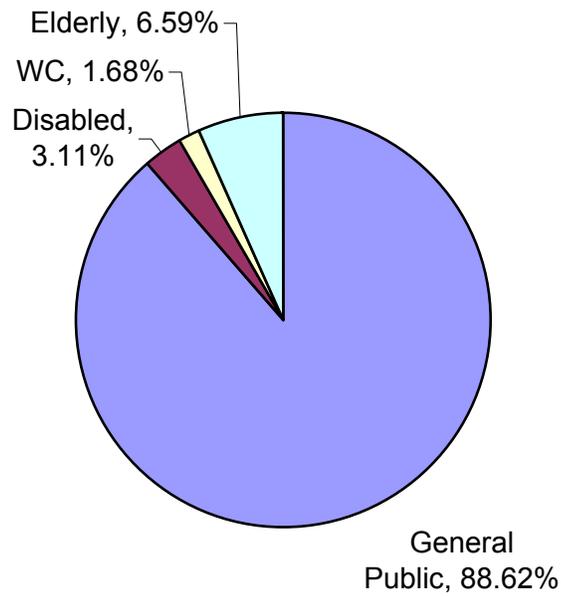


FIGURE 5: AMT FY 06-07 Ridership by Trip Purpose

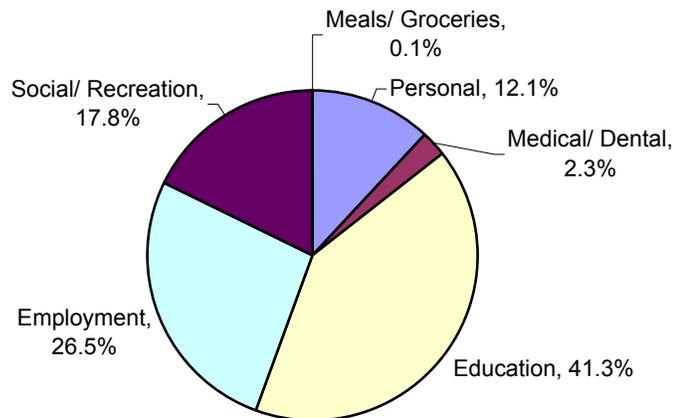


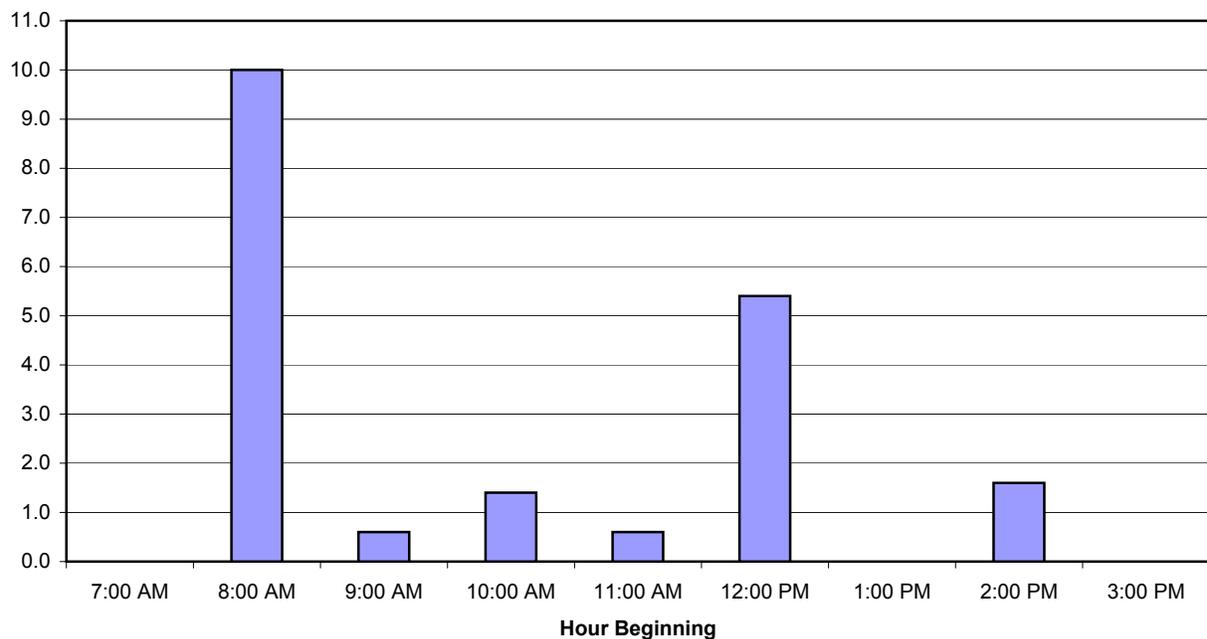
TABLE 7: Alpine Mountain Transit Average Daily Boarding and Alighting by Stop

Week of April 7 - 11, 2008

Bus Stop	Boarding	% of Total	Alighting	% of Total
Douglas Senior Center	0.0	0.0%	0.4	2.1%
Raleys/Smiths/Scolari's	2.0	10.2%	2.4	12.5%
Tillman & Kimmerling	0.2	1.0%	0.6	3.1%
Sierra Pines	0.4	2.0%	0.0	0.0%
Health and Human Services	1.2	6.1%	1.0	5.2%
Hung-A-LeI-Ti	8.8	44.9%	5.0	26.0%
Early Learning Center	5.8	29.6%	7.6	39.6%
Carson Valley Inn	0.6	3.1%	0.8	4.2%
Dresslerville Clinic	0.0	0.0%	1.0	5.2%
Alpine County Offices	0.6	3.1%	0.4	2.1%
Total	19.6	100.0%	19.2	100.0%

Source: Boarding and alighting surveys performed by DART driver, 2008.

FIGURE 6: AMT Passenger Boarding by Hour of Day



occurred during the 8:00 AM hour. A second peak in average daily boarding activity occurred during the noon hour. No boarding activity was recorded during the 7:00 AM hour, 1:00 PM hour and 3:00 PM hour. This shows that very few Douglas County residents commute up the hill on transit, though the first few stops of the day are in Douglas County. The lack of boarding activity during the 3:00 PM hour reflects the fact that a round trip from Alpine County to Douglas County cannot be made after 1:35 PM.

General AMT Travel Patterns

The consultant met with DART staff (including the AMT driver) in an effort to gather a better understanding of travel patterns on AMT. The AMT driver confirmed that the majority of passengers are preschoolers traveling between Hung-a-Lel-Ti and the Early Learning Center. On average, there are roughly five people who travel between Alpine County and Douglas County on a somewhat regular basis and very few Douglas County residents use AMT to access Alpine County. The driver noted that a common trip pattern is between Sierra Pines Mobile Home Park and Sclaris/Smiths. The Carson Valley Inn and the Dresslerville Clinic in the Washoe Community of Dresslerville are also popular destinations for Alpine resident AMT riders. Employment trips represent one-quarter of total AMT trips. The AMT driver cited the Early Learning Center and the Helping Hands Thrift Store in Gardnerville as two employment sites for AMT passengers. The driver also reported a slight increase in passenger activity around paycheck time.

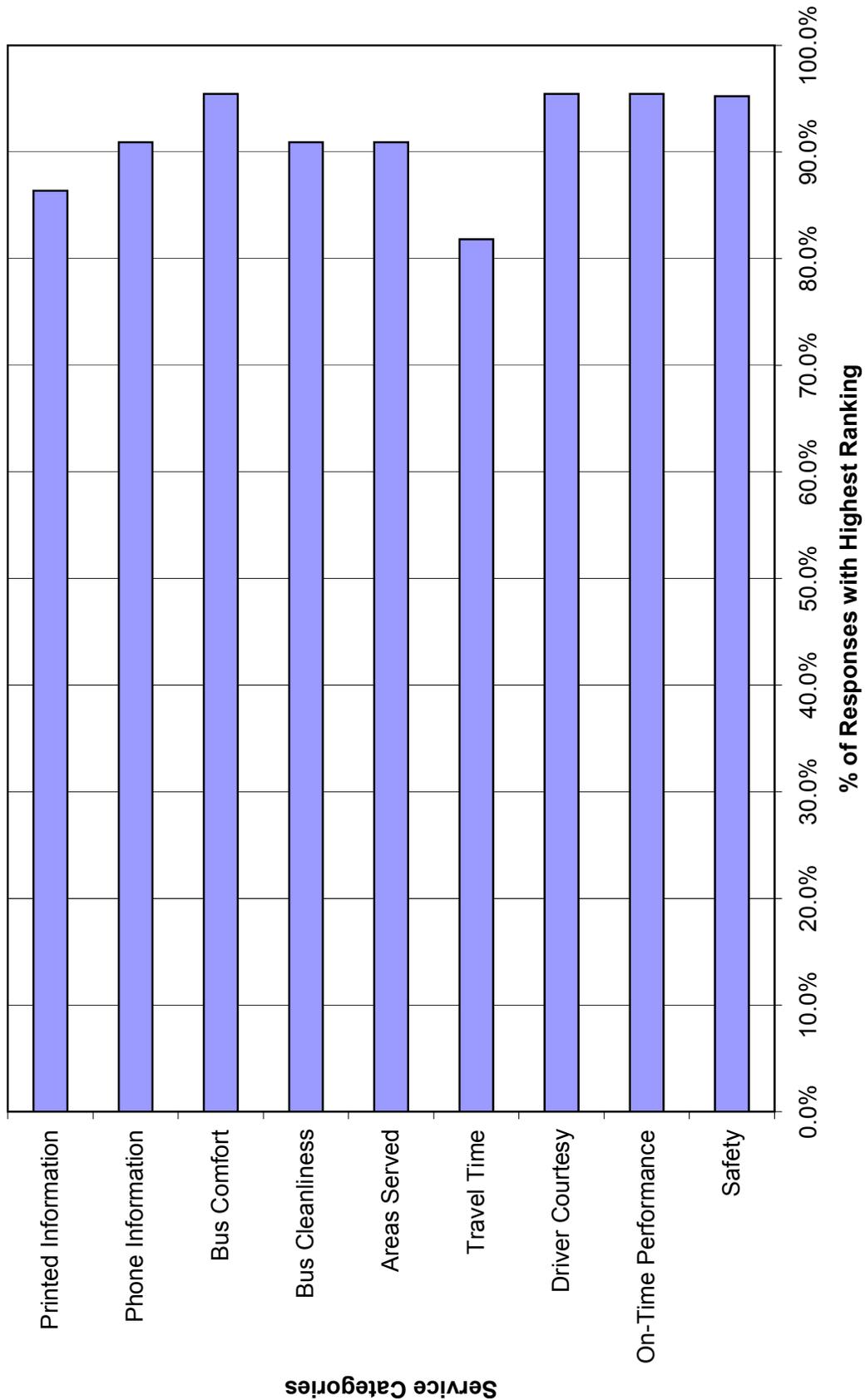
Alpine Mountain Transit Onboard Survey

During the week of April 7 - 11, 2008, the Alpine Mountain Transit driver also passed out onboard survey forms developed by the consultant. A copy of the survey form can be found in Appendix A. A total of 22 surveys forms were completed over the survey period. This represents approximately 11.2 percent of ridership that week. Many of the surveys appear to be filled out by an Early Learning Center teacher on behalf of the preschool children. A straight tabulation analysis reveals the following about Alpine Mountain Transit:

- Trip purpose - 50.0 percent of respondents were taking the bus to school, 22.7 percent for shopping, 13.6 percent for work, 9.1 percent for personal reasons and 4.5 percent for medical/dental purposes. No respondents listed their trip purpose as recreation/social or senior center.
- Only 4.5 percent of respondents (1 respondent) had a vehicle available to them.
- Respondents were posed the question, "If AMT was not available, how would you make this trip?" 63.3 percent of respondents (14 respondents) would not have made the trip or would not be able to attend preschool, while 18.2 percent stated that they would walk, 13.6 percent would get a ride and 4.5 percent would drive.
- 61.9 percent or 13 respondents use AMT services daily and another 19 percent or 4 respondents use the service at least 2 to 4 days per week.

- Only 4 respondents or 21.1 percent stated that they transfer to other DART services.
- The majority of respondents (76.2 percent or 16 persons) stated that they live in the Woodfords area. Only 3 respondents or 14.3 percent stated that they live in the Gardnerville area and 2 respondents or 9.5 percent live in Markleeville.
- Approximately 63.6 percent of respondents were female and 36.4 percent of respondents were male.
- Respondents ages were generally split between the following categories: 12 or younger (45.5 percent) and age 25- 61 years old (54.5 percent).
- No respondents required the use of a wheelchair lift to board the vehicle.
- Over 70 percent or 16 respondents do not have a driver's license.
- 100 percent of respondents overall opinion of AMT service was excellent. Respondents were also asked to rate various service categories on a scale of one to five with five being the highest ranking. Figure 7 graphically displays the proportion of respondents who marked each category as a "five." For each service category, at least 80 percent of respondents marked "5." "Travel time" received the least amount of "5" rankings followed by "printed information."
- Respondents offered the following suggestions for improvements to AMT service:
 - Great as is!
 - Later pickup/drop-off times for people who don't get off at 5 or 6 in the evening.
 - Bring back a Tahoe trip at least once a week.
 - Service to Hope Valley.
- Other comments included:
 - Thanks. Don't know what I'd do without you.
 - I have no car, but transportation is good.
 - The driver has always been very helpful and kind (Pete).
 - Pete is awesome! Always on time and friendly.
 - Keep Alpine bus running.
 - Thank you for all you do for the children in Alpine County who could never take advantage of an early start in preschool if it wasn't for the Alpine Mountain Transit bus.
 - We love to ride Alpine Mountain Transit to our school.
 - Very glad that the bus was available for me to make it to work and for my child to get to school.

FIGURE 7: AMT Onboard Passenger Survey – Opinion Rankings



Financial Characteristics

Fiscal Year 2006/07 Cost Allocation Model

Existing AMT operating costs were analyzed to assess those factors that impact cost levels. Each cost item is allocated to that quantity – vehicle service hour, vehicle service mile, vehicle or fixed costs – upon which it is most dependent. Fuel costs, for example, are allocated to vehicle service miles. When divided by the total quantity of service in FY 2006/07, a “cost equation” can be developed, as presented in Table 8 below. This equation is:

$$\begin{aligned} \text{Operating Cost} = & \$0.53 \times \text{annual vehicle service miles} + \\ & \$27.81 \times \text{annual vehicle service hours} + \\ & \$15,998 \text{ in annual fixed costs.} \end{aligned}$$

This equation can be used to estimate the cost of any changes in service, such as the operation of additional routes or changes in daily hours of operation.

TABLE 8: Alpine Mountain Transit Cost Allocation Model Fiscal Year 2006-07				
Line Item	Total	Vehicle Service Miles	Vehicle Service Hours	Fixed
Salaries and Benefits	\$ 78,720		\$ 68,901	\$ 9,819
Fuel	\$ 16,974	\$ 16,974		
Insurance	\$ 12,509		\$ 12,509	
Maintenance and Repair	\$ 8,700	\$ 8,700		
Operating Supplies - Uniforms/ Parts	\$ 1,343		\$ 1,343	
Marketing (Classifieds)	\$ 298			\$ 298
Indirect Costs ⁽¹⁾	\$ 5,881			\$ 5,881
Total Expenditures	\$ 124,425	\$ 25,674	\$ 82,753	\$ 15,998
Unit Quantities		48,155	2,976	--
Cost per Unit		\$0.53	\$27.81	--

Note 1: Indirect costs = Allocation of county administrative costs to transit.
Source: Alpine County, Auditor's Office, DART.

The revenue sources required to support AMT’s administration, operations and maintenance are drawn from a number of sources. As presented in Table 9, revenues have increased over the past two years. This is primarily due to an estimated 200 percent increase in Federal Transit

TABLE 9: Alpine Mountain Transit Revenues

Funding Source	FY 05-06	FY 06-07	FY 07-08 Budget	FY 08-09 Est.
FTA 5311	\$ 19,928	\$ 37,627	\$ 62,573	\$ 40,000
TDA - LTF	\$ 28,387	\$ 28,202	\$ 32,293	\$ 60,000
Operating Transfer from DHHS	\$ 30,000	\$ 30,000	\$ 30,000	--
Interest	\$ 190	\$ (948)	--	--
Farebox	\$ 1,814	\$ 1,870	\$ 5,000	\$ 5,000
Total	\$ 78,505	\$ 96,752	\$ 129,866	\$ 105,000

Source: Alpine County, Auditor's Office.

Administration (FTA) 5311 funds from Fiscal Year 2005/06 to Fiscal Year 2007/08. Local Transportation Funds (LTF) funds have remained relatively steady over the last couple of years and in Fiscal Year 2006/07 represented roughly 30 percent of total transit operating expenditures. LTF revenues are projected to increase to approximately \$60,000 in Fiscal Year 2008/09. In the past AMT has received \$30,000 (or a little less than one-third of its operating revenue) from the Alpine County Department of Health and Human Services (HHS) budget, as transit is an essential part of provided social services to the community. This operating transfer will be discontinued as of Fiscal Year 2008/09. Beginning in Fiscal Year 2007/08, the Early Learning Center Preschool will be contributing \$5,000 per year toward farebox revenues to pay for AMT transit trips for the preschool students and their family members. In general, total revenues have increased by 28 percent each year from Fiscal Year 2005/06 to Fiscal Year 2007/08. However, this pattern is expected to change in Fiscal Year 2008/09 when overall transit revenues are expected to decrease by 19.2 percent from Fiscal Year 2007/08 to Fiscal Year 2008/09. Additionally, Alpine County staff has indicated that \$20,000 of the available \$105,000 in revenue will be used to pay a portion of the transit coordinator's salary in FY 2008/09. This leaves approximately \$85,000 (including farebox revenue) for operation of the AMT transit program in Fiscal Year 2008/09.

Fiscal Year 2006/07 Performance Analysis

To gain further insight into the efficiency and effectiveness of the AMT service, it is useful to conduct an analysis of ridership and operating data. Ridership and operating statistics for Fiscal Year 2006/07 were reviewed to identify average activity, marginal costs, allocated costs, allocated subsidy, farebox ratio, and average fare. Table 10 presents this breakdown of financial performance indicators for AMT.

Basic operating data is presented in the upper portion of the Table 10. In Fiscal Year 2006/07, AMT carried 5,239 one-way passenger trips, traveled 48,155 miles for 2,976 hours at an annual operating cost of \$124,425. A small amount of farebox revenue was collected, approximately \$1,870, leaving AMT with a required operating subsidy (operating cost – farebox revenues) of \$122,555.

**TABLE 10: Alpine Mountain Transit
Operating Data and Performance
Indicators**

Fiscal Year 2006 - 2007

<u>Operating Data</u>	AMT
One-way Passenger Trips	5,239
Total Operating Cost	\$124,425
Farebox Revenues	\$1,870
Subsidy Required	\$122,555
Vehicle Service Hours	2,976
Vehicle Service Miles	48,155
 <u>Performance Indicators</u>	
Average Fare	\$0.36
Farebox Recovery Ratio	1.5%
Operating Cost Per Trip	\$24
Subsidy Per Trip	\$23
Trips per VSH	1.76
Trips per VSM	0.11

Source: Alpine County, DART

The lower portion of Table 10 presents performance indicators for AMT service:

- **Average Fare** – The average fare paid of \$0.36 per passengers represents farebox revenue divided by one-way passenger trips. This figure is surprisingly low even if monthly pass discounts are considered. As noted above, preschool children make up the bulk of AMT ridership. A monthly pass for a child is \$25.00. If the preschool children make two trips a day, 5 days per week, the effective per trip cost of a child monthly pass is \$0.63 per trip, or greater than the average fare of \$0.36. This indicates that there may be errors in data recording or free rides are being provided.
- **Farebox Recovery Ratio** – The financial efficiency of a system can be measured by the farebox recovery ratio (farebox revenue/operating cost). The farebox recovery ratio is particularly important as a measurement for meeting the mandated minimums required for state Transportation Development Act (TDA) funding. The systemwide farebox recovery ratio in FY 2006-07 was 1.5 percent. Transit operators in non-urbanized areas, which file for funds under Article 4 of the TDA are required to meet a 10 percent farebox ratio. An exception is made for cities and counties with populations of less than 5,000 persons. In these extremely rural regions, the corresponding Regional Transportation Planning Agency (RTPA) may adopt local performance criteria for the transit operator.

In 2008, ACLTC adopted a resolution to file for funds under Article 8 of the TDA. A RTPA may file for fund under Article 8 to make payments to an entity which is under contract with the regional transportation planning agency for public transportation. Funds may also be used for capital expenditures, planning and administrative costs with respect to the provision of public transportation services. Under Article 8, farebox ratio minimums can be set by the RTPA. ACLTC adopted a 1 percent minimum farebox ratio with a goal of improving that ratio.

- **Operating Cost per Passenger-Trip** – Another measure of financial efficiency is provided by the operating cost per one-way passenger trip. AMT’s operating cost per passenger trip is \$24.00.
- **Subsidy per Passenger-Trip** – When fare revenue is subtracted from the total cost and divided by the number of one-way passenger-trips, the subsidy required per one-way passenger-trip is calculated. This performance measure is particularly important, as it directly compares the most significant public “input” (public subsidy funding) with the most significant “output” (one-way passenger-trips). AMT has an operating subsidy per trip of \$23.00.
- **Passenger-Trips per Vehicle Hour of Service** – An important measure of service effectiveness is “productivity,” defined as the number of one-way passenger-trips provided per vehicle service hour. AMT carries 1.76 one-way passenger trips per vehicle service hour. A measure of good productivity for rural fixed route transit services is closer to 6 to 10 trips per hour. A demand response service typically carries 2.5 one-way passenger trips per vehicle service hour.
- **Passenger-Trips per Vehicle Service Mile** – Another measure of service effectiveness is the number of one-way passenger trips per vehicle service mile. AMT provided 0.11 one-way trips per vehicle service mile.

ALPINE COUNTY DEPARTMENT OF HEALTH AND HUMAN SERVICES

Alpine County Department of Health and Human Services (HHS) owns a fleet of seven vehicles, which can be used to transport clients to agency sponsored programs and medical appointments outside of Alpine County. Rides are provided for free mainly to appointments in the Minden/Gardnerville area, Carson City, Reno, South Lake Tahoe but HHS will travel to Placerville, Sacramento or as far as San Francisco if necessary. The following lists the various programs and types of trips provided by HHS staff.

- **Social Services** – The bulk of HHS transportation provided is for critical medical appointments and services such as dialysis, which cannot be provided in Alpine County. A large portion of clients are elderly or sick and part of the Adult Protective Services program which provides assistance for aged, blind, or disabled persons who are limited in their ability to care for themselves and cannot live safely at home without help. Occasionally, HHS staff will drive clients to pharmacies to pick up important prescriptions.

- **Welfare to Work** – Transportation is provided to the DMV in South Lake Tahoe so that clients can obtain their drivers license.
- **At Risk Children and Families** – Transportation is provided to medical, behavioral, psychiatric appointments and court dates.
- **Medical Clinic** – Transportation is provided for medical services which can not be provided at the clinic at HHS.

The social services side of HHS requests that rides be scheduled one month in advance with a minimum of two weeks notice so that the vehicle and driver can be scheduled in advance. For the most part, there are sufficient County vehicles available for client transportation. If all vehicles are in use, department staff will use their personal vehicles for client transportation. Occasionally, HHS has denied clients transportation if sufficient notice was not provided or the department felt that the trip could be provided by family members or Washoe TANF. HHS reports that approximately 20 round trips are provided each week for all HHS programs. When feasible, HHS will provide clients with vouchers to rides on AMT. However, staff indicate that the bulk trips provided by HHS could not be provided by AMT as either the destination or time of appointment are outside of AMT service area or a HHS staffer is required to stay with the client during the medical appointment.

Exact operating costs of providing this service are difficult to determine, as the cost of transportation is not tracked separately from the cost of providing social services. Miles and hours accumulated providing client trips are not consistently tracked. HHS staff estimate that the HHS operating costs (not including fuel costs) for client transportation are at a minimum \$2,920.00. At least 3,200 miles were logged on HHS vehicles for documented client trips in 2007 and at least 275 vehicle hours.

The County DHHS vehicle fleet includes:

- 1996 Jeep Cherokee – 129,444
- 1995 Jeep Cherokee – 130,165
- 2003 Ford Explorer – 58,490
- 1997 Subaru Legacy – 89,562
- 1999 Subaru Impreza – 63,824
- 2003 Subaru Forester – 61,967
- 1996 Jeep Cherokee – 97,918

Maintenance on these vehicles is performed by the County's mechanic and the vehicles are stored in the county yard on 50 Diamond Valley Road. HHS trips can be provided by program organizers and two HHS part-time employees are hired on an on-call basis. The drivers must possess a valid driver's license and have their own liability insurance. In 2007, the primary on-call driver worked approximately 275 hours.

In addition to the HHS trips described above, Alpine County offers a Senior Nutrition Program. Eligible seniors age 60 and over can receive one meal a day at lunchtime Monday through Friday.

WASHOE TRIBE OF NEVADA AND CALIFORNIA

Native Temporary Assistance to Needy Families

Native Temporary Assistance to Needy Families (TANF) provides cash assistance and supportive services to eligible needy Indian families with children in need of temporary aid and services. The primary goal of the program is to provide supportive services to those in need to increase self-sufficiency. The organization has three vehicles available to provide client transportation to medical appointments, HHS and career development activities. Vehicles include a 15-passenger van, a Savannah GMC and a Dodge Durango. As the TANF office at Hung-a-Lel-Ti includes only two staffers, there is limited staff time available to provide client transportation. As a result, only one to two trips are provided each week. Additionally, TANF vehicles are restricted in trip purpose.

Tribal Senior Meals

The Tribe offers their own Senior Meals Program. Approximately 80 to 100 meals are delivered every day. Although tribal members are eligible for assistance through the Alpine County Senior Meals Program, the Washoe program offers traditional Washoe meals, such as pinenut soup.

Early Learning Center – First Five Alpine

The Early Learning Center provides programs and services to improve family functioning that will improve child development and result in children learning and ready for school. Programs include:

- **School readiness** – Preschool services for 3 and 4 year olds, who reside in Alpine or whose parents work in Alpine County.
- **Health** – Provide emergency funding for at-risk children ages 0-5 in Alpine County in need of medical care.
- **Child Care and Family Support** – The purpose of this program is to increase, improve and enhance the availability and affordability of childcare in Alpine County for families with children 0 to 5 years old.

As the majority of Early Learning Center preschool attendees reside at Hung-a-Lel-Ti, First Five Alpine and AMT have worked closely together to establish a bus schedule that fits the needs of the program. First Five Alpine does not provide transportation for the children or their families. Approximately 50–60 percent of AMT ridership is generated by Early Learning Center preschoolers. Recently, First Five Alpine and ACLTC entered into an agreement where First Five Alpine will donate \$5,000 per year to farebox revenues, while Early Learning Center

preschoolers and their families ride AMT for free. This arrangement benefits ACLTC by increasing farebox revenues to 5 percent from 2 percent, while First Five Alpine sees this as an opportunity to promote or market transit ridership in the community.

Washoe Head Start

The mission of the Washoe Tribe Head Start Program is to provide quality care and education in a loving, safe and nurturing environment to 3 to 5 year-olds. The program is located in Gardnerville, Nevada. Unfortunately, Washoe Head Start school buses are not able to cross state lines to pick up Washoe children at Hung-a-Lel-Ti. Therefore, families wishing to place their children in the program must provide their own transportation. For this reason, the majority of potential Head Start families enroll their preschoolers in the Alpine Learning Center program. Washoe Head Start staff indicated that there is currently only one family in Alpine County who participates in the Washoe Head Start program.

Alpine County Family Home Visitor

One volunteer uses her own transportation to provide important trips for Alpine County residents.

CALAVERAS TRANSIT

In the past, ACLTC has contributed approximately \$3,800 to Calaveras Transit towards operation of the Bear Valley Ski Shuttle from to Bear Valley Ski Resort at the western end of Alpine County. The Ski Bus operates between San Andreas and Bear Valley on weekends during the ski season days (except Christmas Day). Reservations are recommended 24-48 hours in advance and there must be a minimum of 4 reservations before the run is approved.

KIRKWOOD SKI SHUTTLES

A Kirkwood Ski Shuttle was recently implemented by Amador Regional Transit System (ARTS) on Saturdays, designed to transport Amador County residents to the Kirkwood Ski Area at the far eastern end of Alpine County along SR 88. The shuttle tickets cost \$10 roundtrip and must be purchased by noon on the Friday before the trip. In order for the shuttle to run, 12 tickets must have been purchased in advance or the trip will be cancelled. Ridership in the first year of service was very low, and service will be eliminated after the 2008/09 ski year unless ridership improves.

The Kirkwood South Shore Ski Shuttle runs daily beginning December 27, 2007, and ending April 6, 2008, between major casinos and hotels in South Lake Tahoe and Kirkwood Ski Resort.

PRIVATE TRANSPORTATION PROVIDERS

Minden Taxi is the only taxi company serving Alpine County. The company operates one four-wheel drive vehicle with one backup vehicle, which is not ADA accessible. However, drivers will assist wheelchair users who are able to ride in the vehicle without the wheelchair. Neither Greyhound nor Amtrak Thruway bus service is available in Alpine County. There is a general aviation airport three miles north of Markleeville, but the closest major airport is located in Reno, Nevada.

SURVEY ANALYSIS

As part of the transit planning process, several surveys were conducted to assess the need for and attitudes about public transportation in Alpine County. Copies of the survey forms can be found in Appendix A.

General Public Mail-In Survey

On April 10, 2008, surveys were mailed to each Post Office box and home on the Markleeville post office route. On May 5, 2008, surveys were mailed to each Post Office box in Bear Valley and Kirkwood. The survey form included separate answer spaces for three members of the household. A total of 87 survey forms and 154 individual responses were received. This represents approximately 13.4 percent of the estimated 2007 Alpine County population. Detailed results of the survey are presented in Appendix A. Only five Hung-a-Lel-Ti residents responded to this mail-in survey; therefore, the reader should also refer to the discussion of the Washoe Tribe demographics in the demographics section of Chapter 2. Broad conclusions from the survey can be summarized as follows:

- Based on results of the survey, a substantial majority of all residents support some form of public transportation.
- The majority of respondents have at least one vehicle available to them. This is confirmed by the 2000 Census data. Therefore, AMT service would have to be significantly more frequent and convenient for most residents to switch transportation modes.
- Most respondents feel that AMT should not focus only on the specialized transportation needs of persons without access to an automobile, youth, seniors and disabled. This demonstrates that efforts should be made to serve the general public as well as the preschool children at the Early Learning Center.
- Meeting the transportation needs of commuters (including persons who go to school beyond High School) would be difficult given their stated need for an automobile during the day.
- The survey confirms that the Minden/Gardnerville region is the most popular destination for groceries, banking services, pharmacy services and other medical services. Carson City is the next most popular destination in the eastern portion of the County followed by South Lake Tahoe. Therefore, it will be important to maintain the connection with Carson City transit services and connections to South Lake Tahoe would also be beneficial. In the western portion of the County, Calaveras County was cited as a common destination for groceries, medical and financial services.

- Suggestions for transit service in Alpine County are included as Attachment A-2. In summary, respondents feel that the bus schedules should be adjusted so as to accommodate employees living in Woodfords/Markleeville and working in Minden/Gardnerville. Respondents would like service directly to Carson City without a transfer and would like service to South Lake Tahoe and Kirkwood. Implementing transit services in the eastern portion of the County was also addressed, particularly for employees of the ski resorts. Several respondents feel that a demand–response type of service would be more effective in Alpine County. Improve marketing and post bus schedules were other suggestions.

TRIBAL TRANSPORTATION NEEDS

As evidenced in the demographic analysis, residents of Hung-a-Lel-Ti represent a substantial portion of the transit dependent population. As part of the transit planning process, a meeting was held with tribal representatives to discuss tribal transportation needs. These representatives indicated that the lack of access to transportation severely limits employment opportunities. Additionally high school students without access to a personal vehicle cannot participate in after school activities. AMT’s current schedule does not allow Hung-a-Lel-Ti residents to access full-time employment. Almost all shopping and medical services require a trip down the hill to Minden/Gardnerville. Residents must travel to the Washoe Tribal administrative center to pay their water bill. Transportation has become such a problem for Hung-a-Lel-Ti residents that many services such as a wellness center and attorney’s office are attempting to set up part-time or full-time offices in the tribal community in Alpine County.

In addition to everyday needs, tribal representatives mentioned a need to transport tribal members to cultural sites throughout the Tahoe Basin and the northern Sierra. Cultural sites exist in Incline Village, Meeks Bay and Olympic Valley. Security or emergency preparedness is another issue which depends on adequate transportation. As emergency response vehicles are based in Douglas County, it would be difficult to efficiently evacuate Hung-a-Lel-Ti residents in case of wildfire without organized transportation.

Tribal Survey of AMT

In 2007, a community survey was distributed to Hung-a-Lel-Ti residents in an effort to gather opinions about AMT’s transit service. Less than 10 responses were received. Common improvement suggestions were:

- Extend AMT service hours to accommodate commute trips. The bus should arrive in Gardnerville by 8:00 AM and depart Gardnerville at 5:00 PM or later. Common work destinations are the Dresslerville Clinic and the Tribal office.
- High school students require transportation home to Hung-a-Lel-Ti after tutoring at 3:00 PM or 4:00 PM.

- Consistency was cited as a very important factor. Riders have reported that the bus does not always stop at the scheduled time or at the scheduled places. Increased communication between the tribe and the transit operator would be beneficial.
- Increased marketing.
- Other types of services such as Dial-A-Ride and a voucher program were suggested.
- Other suggestions: grocery shuttle twice a week, a trip to Reno or special event trips. Additional stops were proposed at the movie theater and swim center.

TRANSIT DEMAND ANALYSIS

A key step in developing and evaluating transit plans is a careful analysis of the mobility needs of various segments of the population and the potential ridership of transit services. The analysis presented below segments the potential ridership for transit services into four categories:

- Commuters,
- Elderly/disabled trips not associated with a social service program,
- Trips associated with social service programs in Alpine County, and
- Intercity services.

This analysis yields estimates of the demand that could be expected given a high level of transit service for each category of ridership, and for each portion of the study area. It represents an “upper bound” for an idealized transit service that could serve all of the needs of the community. In reality, no service can efficiently serve one hundred percent of this potential demand. Table 2 in Chapter 2 presents the estimated 2000 demographic information that will be used, in part, to estimate the upper bound demand for transit in Alpine County.

Commuter Transit Demand

As a trip-type that usually can be easily served by transit, commuter travel transit-demand merits attention. An estimate of demand generated by commuters can be identified based upon the results of the mail-in survey and Census data. Survey respondents were asked questions concerning the need for a personal car at work or school. If an individual has a perception that he/she needs a car during the day, either for business or personal reasons, that individual is not a potential user of transit. Approximately 78.1 percent of persons working outside the home require a car for personal or business reasons and another 12.5 percent require a vehicle to pick up a child from school. Therefore 9.4 percent of the total persons working or going to school outside the home indicated a willingness to consider using public transit service.

According to 2000 U.S. Census, approximately 194 Alpine County residents commute out of county for work. Multiplying this figure by the percentage of persons who might consider using public transit (9.4 percent, as discussed above), approximately 18 Alpine County residents might use public transit for commuting purposes, if transit served all portions of the county with

expanded service hours. Multiplying this figure by 250 workdays per year, and two one-way trips per commuter per day, the annual transit demand for commuting purposes is approximately 9,000.

Rural Elderly/Disabled Non-Program-Related Transit Demand

As discussed above, the demographic data applicable to demand analysis is summarized in Table 2. These data were applied to a series of analytical techniques to provide estimates of the various types of transit demand. These estimates were then considered as a whole to develop overall estimates of total transit demand.

An important source of information regarding demand generated by programs is the Transit Cooperative Research Program (TCRP) Project A-3: Rural Transit Demand Estimation Techniques. This study, completed by SG Associates, Inc., represents the first substantial research into demand for transit service in rural areas and small communities since the early 1980s. Study documents present a series of formulae relating the number of participants in various types of programs with the observed actual demand for service, based upon a database of 185 transit agencies across the country. The TCRP analytical technique uses a “logit model” approach to the estimation of transit demand, similar to that commonly used in urban transportation models. This model incorporates an exponential equation that relates the quantity of service and the demographics of the area.

As with any other product or service, the demand for transit services is a function of the level of supply provided. To use the TCRP methodology to identify a feasible maximum demand, it is necessary to assume a high supply level, as measured in vehicle-miles of annual transit service per square mile of service area. For rural areas such as Alpine County, a reasonable maximum level of service would be to serve every portion of the County with four round-trips of transit service daily, Monday through Friday. This equates to approximately 2,000 vehicle-miles of transit service per square mile per year. However, due to the dispersed nature of the population in Alpine County, this level of service is most likely not possible.

Employing this service density to the population of Alpine County yields the estimated elderly/disabled non-program transit demand shown in Table 11. As indicated, a total of 820 one-way passenger-trips would be generated by elderly persons, and 100 one-way passenger-

Estimated Annual Passenger-Trip Demand					Estimated Daily Transit Demand
Elderly	Mobility-Limited	Elderly and Mobility-Limited	General Public	TOTAL	#
820	100	920	1,120	2,040	8

Note: Demand estimated based on the methodology presented in "TCRP Report 3: Workbook for Estimating Demand for Rural Passenger Transportation."

trips by persons with mobility-limitations. Combined, this equates to 920 annual one-way passenger-trips for elderly/mobility limited persons if a very high level of service could be provided.

Rural General Public Transit Demand

The TCRP methodology can also be applied to general public non-work trips for the rural unincorporated areas, as shown in Table 11. As indicated, a total demand of 1,120 annual passenger-trips is estimated for the study area if a very high level of service could be provided.

Social Service Program-Related Transit Demand

In rural areas such as Alpine County, the transit trips made by residents to and from specific social programs (such as for job training or sheltered workshops) typically comprise a large part of the total transit demand. This demand differs from other types of demand in that it is specifically generated by each program.

Annual program demand was estimated by using the TCRP Project A-3: Rural Transit Demand Estimation Techniques, based upon the number of participants in each program. As shown in Table 12, total countywide demand of annual program trips is 15,100. This figure largely consists of potential demand for travel to and from Head Start and Senior Services. Again, the reader is cautioned that this number reflects the demand if a very high level of service was possible to every portion of the County.

TABLE 12: Alpine County Rural Program-Related Transit Demand

Program Type	Criteria	Actual # of Participants	Total
Developmental Services: Pre-school	Actual # Participants	1	220
Headstart	Actual # Participants	33	8,680
Job Training	Actual # Participants	3	410
Mental Health Services	Actual # Participants	2	690
Nursing Home/ Senior Services	Actual # Participants	15	140
Senior Nutrition	Actual # Participants	20	4,960
Substance Abuse	Actual # Participants	1	0
Total Potential Ridership			15,100

Note: Demand estimated based on the methodology presented in "TCRP Report 3: Workbook for Estimating Demand for Rural Passenger Transportation."

Intercity Transit Demand

In order to estimate demand for intercity bus service, a model was used from the report “Planning Techniques for Intercity Transportation Services.” In general, the model considers the following input factors: the number of passengers traveling one-way on a given route is a function of the frequency of service, the population served, the cost to the rider, and the distance for the trip. The model that proved to be appropriate is of the following format:

$$\text{PASS/MO} = \text{CONST} \times \text{RTFREQ}^a \times \text{SERVPOP}^b \times \text{FARE/MI}^c \times \text{DIST}^d$$

where:

PASS/MO = the number of one-way passengers boarding per month for the route segment specified.

CONST = a constant specifically derived for this equation.

RTFREQ = scheduled round-trips per week on the route.

SERVPOP = the population served: defined as the sum of the populations of villages, towns, and cities directly along the route, divided by 100.

FARE/MI = fare per mile in cents, found by dividing the cost of a one-way fare between the end points of each route by the one-way distance between the end points of the route.

DIST = one-way distance between the endpoints on the route.

a = the exponent for round trip frequency

b = the exponent for service population

c = the exponent for fare per mile

d = the exponent for one-way distance

The specific model that was used for the estimation of demand in this study was chosen based on the route distance of the study area. The final equation used for this study was designed for route distances of between 20 and 200 miles.

$$\text{PASS/MO} = 6.871 \times \text{RTFREQ}^{1.032} \times \text{SERVPOP}^{0.409} \times \text{FARE/MI}^{0.352}$$

Distance was left out of the final equation because this formula was designed specifically for distances of between 20 and 120 miles one way. Intercity trips of different lengths are quite different in terms of trip purpose and frequency.

This equation can be applied to estimate the potential demand for services between Alpine County and a large urban area such as Reno. Assuming one round-trip per day, 5 days per week and a fare equivalent to \$0.10 per mile (an industry standard), the total demand for intercity service can be calculated to equal 730 one-way passenger-trips per year, or approximately two passengers per one-way trip. Again, this figure represents an upper bound as discussed above.

SUMMARY

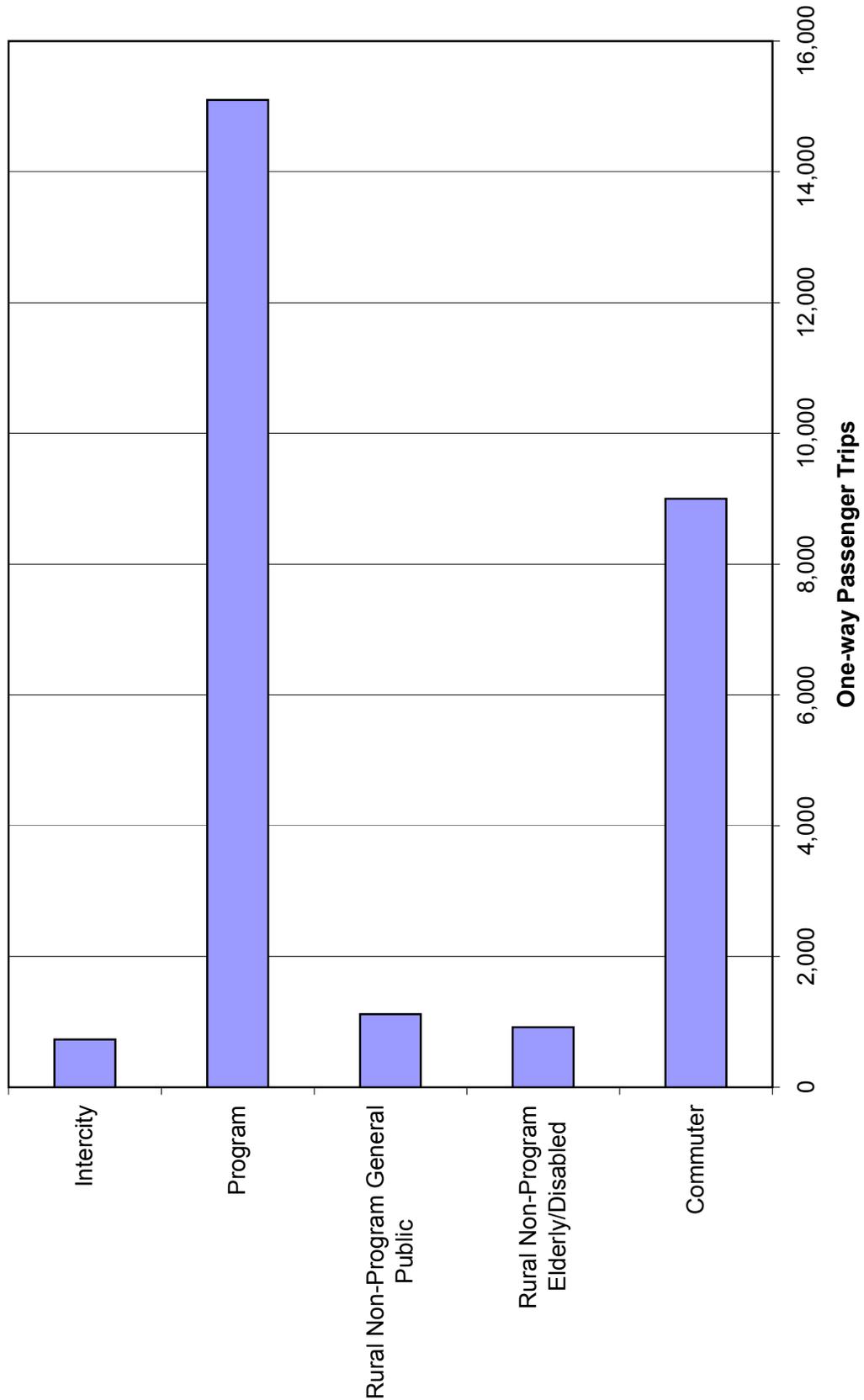
A summary of the various elements of transit demand in Alpine County is presented in Table 13. As indicated, total transit demand for all trip purposes within the County is estimated to equal 26,870 annual one-way passenger-trips if a very high level of service could be provided. The largest portion of estimated demand is generated by Social-Service program-related transit demand (56.2 percent), followed by commuter trip demand (33.5 percent), non-program-related general public demand (4.2 percent), non-program-related elderly and disabled demand (3.4 percent), intercity demand (2.7 percent), as also illustrated in Figure 8.

TABLE 13: Total Transit Demand in Alpine County

Type of Demand	One-Way Passenger Trips		
	Average Daily	Annual	% Of Total
Commuter	36	9,000	33.5%
Rural Non-Program Elderly/Disabled	4	920	3.4%
Rural Non-Program General Public	4	1,120	4.2%
Program	66	15,100	56.2%
Intercity	15	730	2.7%
Total	125	26,870	100.0%

Note: Annual figures assume maximum level of transit service is provided.

FIGURE 8: Alpine County Potential Annual Transit Demand



Chapter 5 Alternatives Analysis

The basis for any transit plan is the development of an effective and appropriate service strategy. The type of service provided, the schedule and route, and the quality of service can effectively determine the success or failure of a transit organization. The provision of transit service in Alpine County is complicated by several factors: minimal funding, the availability of an operating contractor and corresponding minimum service requirements as well as an expansive service area.

A series of alternatives were developed in progression from the minimum amount of transit service necessary to serve only the Early Learning Center children to the maximum amount of service that could be accommodated by the Fiscal Year 2008/09 budget. Each service alternative was evaluated based on three institutional options: Contract for service through DART, contract for service through another transit contractor and operate service in-house. Daily service quantities (vehicle hours and miles) required to operate each alternative is presented in Table 14. The estimated cost, farebox revenues, subsidy required to operate service and ridership are presented in Table 15. This table also identifies which alternatives are financially feasible and fit within a transit contractor's limitations. Ridership estimates in Table 15 were based on ridership data from DART and boarding and alighting surveys. In some cases, an elasticity analysis was applied to determine the change in ridership in response to a change in service levels. Table 16 analyzes the performance of each alternative in terms of passengers per hour, passengers per mile, cost per trip and farebox ratio. Figure 9 graphically presents the AMT service alternatives.

**TABLE 14: Alpine Mountain Transit Service/Contracting Alternatives
Daily Service Quantities Input**

Alternative	Daily Service Quantities					
	Miles			Hours		
	Revenue	Deadhead	Total	Revenue	Deadhead	Total
Serve ELC only						
Contract for service -- DART	40	30	70	2.2	0.4	2.7
Contract for service -- Other Contractor ⁽¹⁾	89	45	134	4.5	1.5	6.0
Operate In-house	23	0	23	2.0	0.0	2.0
2 Minden/Gardnerville Runs/Day⁽²⁾						
Contract for service -- DART	94	48	142	4.9	0.6	5.5
Contract for service -- Other Contractor	107	45	152	4.8	1.5	6.3
Operate In-house	107	0	107	4.8	0.0	4.8
3 Minden/Gardnerville Runs/Day⁽²⁾						
Contract for service -- DART	184	48	232	7.1	0.6	7.7
Contract for service -- Other Contractor	156	45	201	6.8	1.5	8.3
Operate In-house	156	0	156	6.8	0.0	6.8

Note 1: Requires 6 hours per day of service so Minden/Gardnerville runs/day.
 Note 2: Still serves ELC five days per week during the school year.

**TABLE 15: Alpine Mountain Transit Service/Contracting Alternatives
FY 2008-2009 Ridership, Cost and Feasibility Analysis**

	Annual								Feasibility		Ridership Impact (One-Way Trips)		
	Days per Year	Miles	Hours	Cost	Average Fare	Farebox Revenue	Subsidy Required	Subsidy Available	\$	Min.# Hours for Contractor ⁽²⁾	Daily	Annual	
ELC Only													
Contract for service -- DART	215	14,960	570	\$69,900	\$0.63	\$5,000	\$64,900	\$80,000	Y	N	12	2,500	
Contract for service -- Other Contractor ⁽¹⁾	215	28,740	1,290	\$83,850	\$1.25	\$6,000	\$77,850	\$80,000	Y	Y	15	3,300	
Operate In-house	215	4,900	400	\$48,700	\$0.63	\$5,000	\$43,700	\$80,000	Y	Y	12	2,500	
ELC Daily + Minden/Gardnerville 2 Times per Day 1 day per Week													
ELC Only													
Contract for service -- DART	172	11,971	458	\$65,400									
Contract for service -- Other Contractor	172	22,991	1,032	\$67,080									
Operate In-house	172	3,956	344	\$45,393									
MG 2X Day													
Contract for service -- DART	52	7,385	286	\$11,400									
Contract for service -- Other Contractor	52	7,879	329	\$21,395									
Operate In-house	52	5,558	251	\$15,661									
Contract for service -- DART	224	19,360	740	\$76,800	\$1.25	\$5,900	\$70,900	\$80,000	Y	N	14	3,200	
Contract for service -- Other Contractor	224	30,870	1,360	\$88,500	\$1.25	\$5,900	\$82,600	\$80,000	N	Y	14	3,200	
Operate In-house	224	9,510	600	\$61,100	\$1.25	\$5,900	\$55,200	\$80,000	Y	Y	14	3,200	
ELC Daily + Minden/Gardnerville 3 Times per Day 1 day per Week													
ELC Only													
Contract for service -- DART	172	11,971	458	\$65,400									
Contract for service -- Other Contractor	172	22,991	1,032	\$67,080									
Operate In-house	172	3,956	344	\$45,393									
MG 3X Day													
Contract for service -- DART	52	12,046	398	\$17,200									
Contract for service -- Other Contractor	52	10,449	429	\$27,885									
Operate In-house	52	8,128	351	\$22,159									
Contract for service -- DART	224	24,020	860	\$82,600	\$1.25	\$6,000	\$76,600	\$80,000	Y	N	15	3,300	
Contract for service -- Other Contractor	224	33,440	1,460	\$95,000	\$1.25	\$6,000	\$89,000	\$80,000	N	Y	15	3,300	
Operate In-house	224	12,080	700	\$67,600	\$1.25	\$6,000	\$61,600	\$80,000	Y	Y	15	3,300	
ELC Daily + Minden/Gardnerville 2 Times per Day 2 days per Week													
ELC Only													
Contract for service -- DART	129	8,978	343	\$60,800	\$47,261								
Contract for service -- Other Contractor	129	17,243	774	\$50,310									
Operate In-house	129	2,967	258	\$40,720									
MG 2X Day													
Contract for service -- DART	104	14,770	572	\$22,800	\$13,856								
Contract for service -- Other Contractor	104	15,758	658	\$42,791									
Operate In-house	104	11,116	502	\$31,323									
Contract for service -- DART	233	23,750	920	\$83,600	\$61,117	\$1.25	\$6,500	\$77,100	\$80,000	Y	N	16	3,700
Contract for service -- Other Contractor	233	33,000	1,430	\$93,100	\$1.25	\$6,500	\$86,600	\$80,000	N	Y	16	3,700	
Operate In-house	233	14,080	760	\$72,000	\$1.25	\$6,500	\$65,500	\$80,000	Y	Y	16	3,700	
ELC Daily + Minden/Gardnerville 2 Times per Day 1 day per Week + Minden/Gardnerville 3 Times per Day 1 Day per Week													
ELC Only													
Contract for service -- DART	129	8,978	343	\$60,800									
Contract for service -- Other Contractor	129	17,243	774	\$50,310									
Operate In-house	129	2,967	258	\$40,720									
MG 2X Day													
Contract for service -- DART	52	7,385	286	\$11,400									
Contract for service -- Other Contractor	52	7,879	329	\$21,395									
Operate In-house	52	5,558	251	\$15,661									
MG 3X Day													
Contract for service -- DART	52	12,046	398	\$17,200									
Contract for service -- Other Contractor	52	10,449	429	\$27,885									
Operate In-house	52	8,128	351	\$22,159									
Contract for service -- DART	233	28,410	1,030	\$89,400	\$1.25	\$7,100	\$82,300	\$80,000	N	N	18	4,200	
Contract for service -- Other Contractor	233	35,570	1,530	\$99,600	\$1.25	\$7,100	\$92,500	\$80,000	N	Y	18	4,200	
Operate In-house	233	16,650	860	\$78,500	\$1.25	\$7,100	\$71,400	\$80,000	Y	Y	18	4,200	
ELC Daily + Minden/Gardnerville 2 Times per Day 2 day per Week + Minden/Gardnerville 3 Times per Day 1 Day per Week													
ELC Only													
Contract for service -- DART	86	5,986	229	\$56,200									
Contract for service -- Other Contractor	86	11,496	516	\$33,540									
Operate In-house	86	1,978	172	\$36,046									
MG 2X Day													
Contract for service -- DART	104	14,770	572	\$22,800									
Contract for service -- Other Contractor	104	15,758	658	\$42,791									
Operate In-house	104	11,116	502	\$31,323									
MG 3X Day													
Contract for service -- DART	52	12,046	398	\$17,200									
Contract for service -- Other Contractor	52	10,449	429	\$27,885									
Operate In-house	52	8,128	351	\$22,159									
Contract for service -- DART	242	32,800	1,200	\$96,200	\$1.25	\$7,500	\$88,700	\$80,000	N	N	19	4,500	
Contract for service -- Other Contractor	242	37,700	1,600	\$104,200	\$1.25	\$7,500	\$96,700	\$80,000	N	Y	19	4,500	
Operate In-house	242	21,220	1,030	\$89,500	\$1.25	\$7,500	\$82,000	\$80,000	N	Y	19	4,500	

Note 1: Requires 6 hours per day of service.
Note 2: DART requires a minimum of 1,500 hours of service per year.

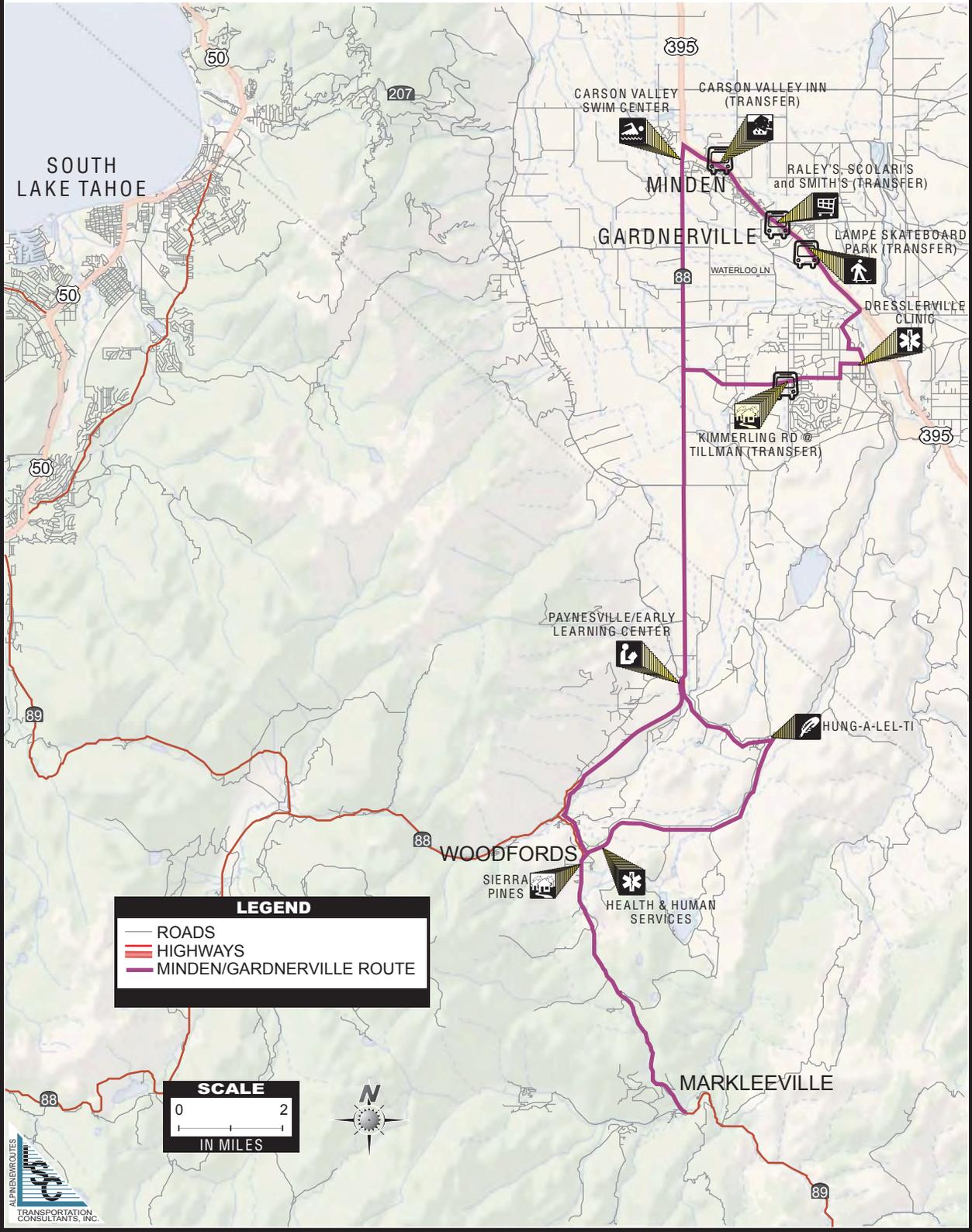
TABLE 16: Alpine Mountain Transit Service Alternatives Performance Analysis

FY 2008-2009 Performance Analysis

Alternative	Performance Measure					
	Passengers Per VSH	Passengers Per VSM	Cost Per Pass. Trip	Subsidy Per Pass Trip	Farebox Ratio	
ELC Only						
Contract for service -- DART	4.4	0.2	\$27.96	\$25.96	7.15%	
Contract for service -- Other Contractor	2.6	0.1	\$25.41	\$23.59	7.16%	
Operate In-house	6.3	0.5	\$19.48	\$17.48	10.27%	
ELC Daily + Minden/Gardnerville 2 Times per Day 1 day per Week						
Contract for service -- DART	4.3	0.2	\$24.00	\$22.16	7.68%	
Contract for service -- Other Contractor	2.4	0.1	\$27.66	\$25.81	6.67%	
Operate In-house	5.3	0.3	\$19.09	\$17.25	9.66%	
ELC Daily + Minden/Gardnerville 3 Times per Day 1 day per Week						
Contract for service -- DART	3.8	0.1	\$25.03	\$23.21	7.26%	
Contract for service -- Other Contractor	2.3	0.1	\$28.79	\$26.97	6.32%	
Operate In-house	4.7	0.3	\$20.48	\$18.67	8.88%	
ELC Daily + Minden/Gardnerville 2 Times per Day 2 days per Week						
Contract for service -- DART	4.0	0.2	\$22.59	\$20.84	7.78%	
Contract for service -- Other Contractor	2.6	0.1	\$25.16	\$23.41	6.98%	
Operate In-house	4.9	0.3	\$19.46	\$17.70	9.03%	
ELC Daily + Minden/Gardnerville 2 Times per Day 1 day per Week + Minden/Gardnerville 3 Times per Day 1 Day per Week						
Contract for service -- DART	4.1	0.1	\$21.29	\$19.60	7.94%	
Contract for service -- Other Contractor	2.7	0.1	\$23.71	\$22.02	7.13%	
Operate In-house	4.9	0.3	\$18.69	\$17.00	9.04%	
ELC Daily + Minden/Gardnerville 2 Times per Day 2 day per Week + Minden/Gardnerville 3 Times per Day 1 Day per Week						
Contract for service -- DART	3.8	0.1	\$21.38	\$19.71	7.80%	
Contract for service -- Other Contractor	2.8	0.1	\$23.16	\$21.49	7.20%	
Operate In-house	4.4	0.2	\$19.89	\$18.22	8.38%	

Note: Deadhead time included.

FIGURE 9
 Alpine Mountain Transit Plan Map



SERVICE ALTERNATIVES

Operating Cost Assumptions

Unfortunately, Alpine County's potential transit program is severely limited by the amount of funding available. As shown in Table 10 in Chapter 3, there will be about \$80,000 of operating subsidy available (not including farebox revenue) available in Fiscal Year 2008/09. Due to rising fuel costs and the expiration of the current operating contract, Fiscal Year 2008/09 operating costs are anticipated to be greater than Fiscal Year 2006/07 costs. Therefore, a Fiscal Year 2008/09 cost allocation model was developed to evaluate the service alternatives.

Contractor Costs and Benefits

For most entities operating a transit system, the primary advantage of contracting for transit services is cost reduction. With a fixed contract price, the contractor has the incentive to control costs. Contracting can be particularly beneficial for small transit systems that have limited staff such as Alpine County. Not only are drivers and operations management provided but the contractor is responsible for worker's compensation, employee benefits, and retirement programs. The major disadvantage of contracting for transit services is that the Transit Coordinator has less control over daily operations, which in turn can have an effect on service quality. High employee turnover can result from poor contractor personnel management and situations over which the Transit Coordinator has little or no control. Additionally, transit contractors may require a minimum number of service hours per day or per week in order to make a profit. Transporting the preschool children to the Early Learning Center requires only a few hours of service a day, making contracting for this service as a standalone operation problematic.

DART

DART has operated AMT since the beginning of transit service in 2003. Over the years, DART and ACLTC have maintained a good working relationship. The current AMT operating contract expired in June 30, 2008. As Douglas County is also experiencing budget constraints, DART will require a minimum number of contract service hours (1,500 per year or 29 per week) going forward to make operating AMT feasible and worthwhile. DART proposes to structure a new contract in a similar manner to the existing contract. Operating costs will be based on the driver's salary, and a set percentage of the scheduler's, managers and other administrative employees' salaries. Maintenance, fluids and other miscellaneous operating supplies will be estimated by DART and added to total expenditures. DART also proposes a 25 percent administrative fee in order to take on the AMT contract. The consultant was provided with DART's projected operation expenses for Fiscal Year 2008/09 and proposed fee schedule. This was used to develop an operating cost model specific to DART Fiscal Year 2008/09 operating costs with a minimum of 1,500 hours of service required. Not included in DART's Fiscal Year 2008/09 contract costs are vehicle insurance and fuel costs. Separate estimates for these cost factors were developed by the Consultant and added to DART contract costs. Fuel and insurance costs assume the following:

- The gas mileage for a Type III vehicle is about seven to eight miles per gallon.

- The price of gasoline at the Alpine County pump will be \$4.54 per gallon in Fiscal Year 2008/09. This represents a 10 percent increase over today's rate.
- Property and liability insurance for the new AMT bus was estimated by the County Auditor's office.

As presented in Table 17, the DART cost equation is:

$$\text{Operating Cost} = \$0.75 \times \text{annual vehicle service miles} + \\ \$20.60 \times \text{annual vehicle service hours} + \\ \$47,033 \text{ in annual fixed costs.}$$

This equation was used to evaluate the DART operated service alternatives in Table 15.

TABLE 17: DART Cost Model FY 2008-09				
At Minimum 1,500 Driver Hours per Year				
	Total Cost	Mile Related Costs per Vehicle Service Mile	Hour Related Cost per Vehicle Service Hour	Fixed
<u>DART Contract Costs</u>				
Administrative Salary/Benefits 5%	\$ 6,137			\$ 6,137
Office Assist/Accounting Salary/Benefits 10%	\$ 8,068			\$ 8,068
Driver Salary/Benefits -one 29-Hour Position	\$ 24,718		\$ 16.48	
Scheduler Salary/Benefits 25%	\$ 15,666			\$ 15,666
Maintenance and Repair	\$ 3,371	\$ 0.10		
Fluids 100%	\$ 409	\$ 0.01		
Physicals	\$ 100			\$ 100
Operating Supplies	\$ 1,175			\$ 1,175
Admin Charge - 25%		\$ 0.03	\$ 4.12	\$ 7,787
<u>Other Transit Costs</u>				
Insurance	\$ 8,100			\$ 8,100
Fuel		\$ 0.61		
Total Cost Factors		\$ 0.75	\$ 20.60	\$ 47,033
Source: DART.				

Other Contractor

Typically, contract operating cost estimates are based on a set dollar amount per unit such as revenue vehicle service-hours. This figure often includes all labor, fuel, administrative time and maintenance with the exception of some major repairs. DART is the closest transit operator which could be contracted for AMT service, however there are other contractors in the general

vicinity such as Area Transit Management (ATM) in South Lake Tahoe, El Camino Trailways (formerly Aztec Transportation) in Carson City and MV Transportation with operations throughout the country including Carson City. Based on consultant research a reasonable contract cost estimate for providing service in Alpine County is \$65 per vehicle service hour. This figure was used to analyze the other contractor service alternatives in Table 15.

It was also assumed for the analysis that any contractor other than DART would need to travel an average of 45 minutes per day in each direction from an operations base to Alpine County. This driving time is referred to as “deadhead time,” which will add to overall contract costs. It should be noted that negotiating contract terms specific to the needs of Alpine County are possible and could reduce the operating costs. For example, if an Alpine County resident was hired as the AMT driver, it might be possible to keep the bus in the Alpine County Public Works yard until routine maintenance is required, and therefore reduce the deadhead time and contract cost.

“In House” Operating Costs

Given that any transit contractor would be traveling from at least 15 miles away to operate service in Alpine County, it is worthwhile to consider the costs of operating AMT “in house”. This would require taking on the responsibilities previously performed by the contractor such as driver training and liability insurance. A separate cost allocation model was developed to evaluate the cost impacts of operating transit service in-house. This equation is and presented in Table 18:

$$\text{Operating Cost} = \$0.75 \times \text{annual vehicle service miles} + \\ \$45.67 \times \text{annual vehicle service hours} + \\ \$26,700 \text{ in annual fixed costs.}$$

The following assumptions were used in the Fiscal Year 2008/09 in-house cost model calculations:

- The price of gasoline at the Alpine County pump will be about \$4.50 per gallon. This represents a 10 percent increase over today’s rate.
- Driver wages, benefits and training costs are based on the wage and benefits for Alpine County road crew. As there will need for a backup driver, 1.25 full-time equivalent (FTE) was assumed.
- Both the Federal Transit Administration and the Federal Motor Carrier Safety Administration require random drug testing of transit drivers and persons associated with vehicle maintenance. ACLTC will need to contract with a drug and alcohol testing facility. It is estimated that testing will cost on the order of \$320 per year.
- Approximately \$20,000 of the Transit Coordinator’s time was allocated for transit management duties. This includes grant writing, driver hiring and overall supervision and management of AMT.

TABLE 18: Alpine Mountain Transit Cost Allocation Model
Estimated Fiscal Year 2008-09

Line Item	Total	Vehicle Service Miles	Vehicle Service Hours	Fixed
Driver Wages, Benefits and Training (1.25 FTE)	\$ 85,384		\$ 85,384	
Drug and Alcohol Testing	\$ 320			
Transit Management	\$ 20,000			\$ 20,000
Fuel	\$ 20,387	\$ 20,387		
Vehicle Insurance (Property and Liability)	\$ 8,100		\$ 8,100	
Workers Compensation Insurance	\$ 650			
Maintenance and Repair	\$ 5,000	\$ 5,000		
Operating Supplies - Uniforms/Parts	\$ 1,500		\$ 1,500	
Marketing (Classifieds)	\$ 300			\$ 300
Indirect Costs ⁽¹⁾	\$ 6,400			\$ 6,400
Total Expenditures	\$ 148,041	\$ 25,387	\$ 94,984	\$ 26,700
Unit Quantities		33,657	2,080	--
Cost per Unit		\$0.75	\$45.67	--

Source: Alpine County, LSC Transportation Consultants Inc.

- Vehicle, liability and workers compensation insurance are based on estimates from the Alpine County Auditor's office.
- As discussed in the *Capital Alternatives* section, ACLTC needs to purchase a new transit vehicle. A conservative estimate of \$5,000 for maintenance and repair costs was included in the cost model as a placeholder.
- Operating supplies and marketing costs are assumed to be the same as in Fiscal Year 2006/07.
- Indirect costs (accounting and other administrative duties performed by non-transit related county staff) were increased by three percent annually from Fiscal Year 2006/07 costs to adjust for inflation.

In addition to annual operating costs, there would be initial set up costs involved to license and train a driver. A person operating a transit vehicle is required to obtain a Class B Commercial Drivers License with a General Public Paratransit Vehicle Certificate (GPPV) or Verification of Transit Training Document (VTT). This requires at least 20 hours of classroom training and 15 hours of behind-the-wheel training. The closest Department of Motor Vehicles (DMV) office that offers this type of license is in West Sacramento. Other transit agencies in rural counties budget approximately \$2,500 per driver for initial license and training. Companies that operate commercial vehicles transporting passengers or hauling cargo in interstate commerce must be registered with the Federal Motor Carrier Safety Administration (FMCSA) and must have a

USDOT number. As AMT crosses stateliness, AMT would fall under this rule. The processing of the FMCSA paperwork could be included as part of the Transit Coordinators job duties. A small fee of \$60 would be required initially and \$30 per year to renew the certification. All in all, ACLTC should leave approximately \$5,000 of LTF funds available during the first year of in-house operation to pay for initial costs of driver training and licensing or any other unexpected set up costs and fuel price increases. Another disadvantage to operating AMT in-house would be that there is no backup vehicle available. If service were operated by a contractor, part of the agreement could include the use of the contractor's spare vehicles if the AMT bus breaks down.

Alternative: End Transit Program

With a productivity performance indicator of 1.76 one-way passenger trips per vehicle service hour and a farebox recovery ratio of 1.5 percent in Fiscal Year 2006/07, it is not out of the question to consider terminating transit service in Alpine County. One option would be to simply eliminate the public transit program, and instead use the TDA funding for streets and roads. ACLTC may not redirect TDA funds to streets and roads if there are "unmet transit needs that are reasonable to meet." ACLTC recently adopted a resolution to file under Article 8 of the TDA and set a target farebox ratio of 1.0 percent. As demonstrated in the following scenario and Tables 15 and 16, serving the Early Learning Center children is an unmet transit need that is reasonable to meet (based upon the definition currently adopted by the ACLTC). Eliminating this service (assuming that a contractor is available to provide the service at the costs discussed in this document) would therefore not be consistent with the Transportation Development Act, and could potentially lead to a legal challenge.

Additionally there is strong public support for AMT. The general public mail-in survey showed that nearly 90 percent of respondents from all parts of the County believe that AMT should continue to serve Alpine County. As fuel costs rise and the population ages, there will be additional incentives for residents to ride transit.

Alternative: Serve Early Learning Center (ELC) Preschool Only

The First Five Early Learning Center preschool is in session 5 days a week for about 43 weeks per year or about 215 days. The children require transportation between Hung-a-Lel-Ti and the ELC at 8:30 AM and 12:40 PM. The travel time between destinations is only ten minutes. This alternative assumes that transit service would only be provided during the ELC school year.

Contract for Service – DART

Discussions with DART have indicated that they would be willing to operate a few hours a day on some days as long as DART is paid for operating a total of 29 hours per week or 1,500 hours per year. If DART operated a transit service that ran directly from the DART operations base to Hung-a-Lel-Ti to the ELC and return, only 570 vehicle service hours would be required. An example schedule of a DART ELC-only service is presented in Table 19. Using the DART cost model, it is estimated that for DART to operate an ELC-only service, an annual operating subsidy of \$64,900 would be required and carry around 2,500 one-way passenger trips. This alternative would involve operating only 570 annual vehicle service hours, and therefore would

not meet the minimum 1,500 annual hours required by DART. If DART did not require a minimum number of vehicle service hours this alternative would be financially feasible. As shown in Table 16, this alternative requires an operating subsidy per passenger trip of \$25.96 and will produce a farebox ratio of 7.15 percent.

Contract for Service – Other Contractor

Transit contractors find it difficult to hire reliable drivers who are willing to work for less than 6 hours per day. This means that if AMT contracts with a company other than DART for an ELC-only service, it is likely that the bus must run at least 6 hours per day (including deadhead time traveling between Alpine County and the contractor's base). Larger transit contractors might be willing to operate 6 hours per day for only a few days per week, as the driver could be placed on another route on the non-AMT days. However, the ELC service must operate 5 days per week for the duration of the school year.

If a contracted ELC-only scenario requires at least 6 hours a day of operation, it would be possible for the bus to make two round trips between Markleeville and Gardnerville in addition to serving the preschool children. By adding a small amount of farebox revenue from the Minden/Gardnerville trips to the \$5,000 donated by the ELC, total farebox revenue is estimated at \$6,000. Therefore, as shown in Table 15, the estimated annual operating subsidy for contracting an ELC service with a non-DART contractor is \$77,850, just under the Fiscal Year 2008/09 budget. The trips to Minden/Gardnerville are anticipated to generate an extra 800 annual one-way passenger trips on top of the trips generated by the preschool students. Table 16 shows that the service would carry 2.6 passengers per vehicle service hour and 0.1 passengers per mile. This is improved performance over the existing service. Under Article 8 of the TDA, this service would meet farebox ratio requirements with a ratio of 7.16 percent.

If a transit contractor (other than DART) were found who did not require a minimum number of vehicle service hours to operate the ELC-only service, the financial picture is much brighter. With a 3.25 hour service day, annual operating costs would only be \$45,400, operating cost per passenger trip would be \$18.23 and farebox recovery ratio would be 11.01 percent.

Operate In-House

Using the in-house cost allocation model, it is estimated that providing the ELC service only without the assistance of a transit contractor would cost approximately \$48,700 or require an annual operating subsidy of \$43,700, well under budget. Ridership for this alternative is assumed to remain steady at the current 2,500 one-way passenger trips or so currently generated by the ELC service. Table 20 presents an example schedule for this service. With a subsidy per one-way passenger trip of \$17.48 and a farebox ratio of 10.27 percent, this scenario is an attractive option for Alpine County.

TABLE 19: AMT Service Example Schedule - DART Operation

ELC only		ELC + Minden/Gardnerville 2X Day		ELC + Minden/Gardnerville 3X Day	
Time	Stop	Time	Stop	Time	Stop
7:45 AM	Driver check-in at DART base	6:55 AM	Driver check-in at DART base	6:55 AM	Driver check-in at DART base
8:30 AM	Pick up at Hung-a-Lei-Ti	7:50 AM	Markleeville	7:50 AM	Markleeville
8:40 AM	Drop off at ELC	8:00 AM	Sierra Pines	8:00 AM	Sierra Pines
9:00 AM	Return to DART Base	8:05 AM	Health and Human Services	8:05 AM	Health and Human Services
	Break in Service	8:30 AM	Pick up at Hung-a-Lei-Ti	8:30 AM	Pick up at Hung-a-Lei-Ti
12:05 PM	Driver check-in at DART base	8:40 AM	Drop off at ELC	8:40 AM	Drop off at ELC
12:40 PM	Pick up at ELC	8:55 AM	Tillman & Kimmerling	9:00 AM	Waterloo Skateboard Park (Request Stop Transfer to Kingsbury X at 9:00 AM)
1:30 PM	Drop off at Hung-a-Lei-Ti	9:10 AM	Dresslerville Clinic	9:05 AM	Raley's/Smiths/Scolaris (Transfer to DART at 9:15 AM)
	Return to base - out of service	9:20 AM	Raley's/Smiths/Scolaris (Transfer to DART at 9:15 AM)	9:15 AM	Dresslerville Clinic
		9:25 AM	Carson Valley Inn (Transfer to DART at 9:25 AM)	9:20 AM	Tillman & Kimmerling (request stop)
		9:35 AM	Carson Valley Swim Center	9:40 AM	Carson Valley Inn
			Return to DART base	9:50 AM	Return to DART base
			Break in Service		**Break in Service**
		12:05 PM	Driver check-in at DART base	12:05 PM	Driver check-in at DART base
		12:20 PM	Depart DART base	12:20 PM	Depart DART base
		12:40 PM	Pick up at ELC	12:40 PM	Pick up at ELC
		12:50 PM	Drop off at Hung-a-Lei-Ti	12:50 PM	Drop off at Hung-a-Lei-Ti
		12:55 PM	Paynesville	12:55 PM	Paynesville
		1:10 PM	Tillman & Kimmerling	1:10 PM	Tillman & Kimmerling
		1:15 PM	Dresslerville Clinic	1:15 PM	Dresslerville Clinic
		1:25 PM	Raley's/Smiths/Scolaris (Transfer from DART at 12:40 PM)	1:25 PM	Raley's/Smiths/Scolaris (Transfer from DART at 12:40 PM)
		1:35 PM	Carson Valley Inn (Transfer from DART at 12:30 PM)	1:35 PM	Carson Valley Inn (Transfer from DART at 12:30 PM)
		1:40 PM	Carson Valley Swim Center	1:40 PM	Carson Valley Swim Center
		2:00 PM	Hung-a-Lei-Ti	2:00 PM	Hung-a-Lei-Ti
		2:05 PM	Health and Human Services	2:05 PM	Health and Human Services
		2:10 PM	Sierra Pines	2:10 PM	Sierra Pines
		2:20 PM	Markleeville	2:20 PM	Markleeville
		2:55 PM	Return to base - out of service	2:55 PM	Return to base
			Break in Service		**Break in Service**
		4:10 PM	Depart DART base	4:10 PM	Depart DART base
		4:20 PM	Carson Valley Swim Center	4:20 PM	Carson Valley Swim Center
		4:25 PM	Carson Valley Inn	4:25 PM	Carson Valley Inn
		4:30 PM	Raley's/Smiths (Transfer from DART at 4:25 PM)	4:30 PM	Raley's/Smiths (Transfer from DART at 4:25 PM)
		4:35 PM	Waterloo Skateboard Park (Transfer from Kingsbury X at 4:25 PM)	4:35 PM	Waterloo Skateboard Park (Transfer from Kingsbury X at 4:25 PM)
		4:45 PM	Dresslerville Clinic	4:45 PM	Dresslerville Clinic
		4:50 PM	Tillman & Kimmerling	4:50 PM	Tillman & Kimmerling
		5:05 PM	Paynesville	5:05 PM	Paynesville
		5:10 PM	Hung-a-Lei-Ti	5:10 PM	Hung-a-Lei-Ti
		5:15 PM	Health and Human Services	5:15 PM	Health and Human Services
		5:20 PM	Sierra Pines	5:20 PM	Sierra Pines
		5:30 PM	Markleeville	5:30 PM	Markleeville
		6:05 PM	Return to base - out of service	6:05 PM	Return to base - out of service
Total Hours	2.66	5.50		7.66	

ELC only		ELC + Minden/Gardnerville 2X per Day		ELC + Minden/Gardnerville 3X per Day	
Time	Stop	Time	Stop	Time	Stop
8:00 AM	Driver check-in at Woodfords base	7:40 AM	Driver check-in at Woodfords base	7:40 AM	Driver check-in at Woodfords base
8:30 AM	Pick up at Hung-a-Lei-Ti	8:10 AM	Markleeville	8:10 AM	Markleeville
8:40 AM	Drop off at ELC	8:20 AM	Sierra Pines	8:20 AM	Sierra Pines
8:55 AM	Return to base	8:25 AM	Health and Human Services	8:25 AM	Health and Human Services
	Break in Service	8:30 AM	Pick up at Hung-a-Lei-Ti	8:30 AM	Pick up at Hung-a-Lei-Ti
12:10 PM	Driver check-in at Woodfords base	8:40 AM	Drop off at ELC	8:40 AM	Drop off at ELC
12:40 PM	Pick up at ELC	8:55 AM	Tillman & Kimmerling	9:00 AM	Waterloo Skateboard Park (Request Stop Transfer to Kingsbury X at 9:00 AM)
12:50 PM	Return to base - out of service	9:00 AM	Dresslerville Clinic	9:05 AM	Raley's/Smiths/Scolaris (Transfer to DART at 9:15 AM)
1:05 PM		9:10 AM	Raley's/Smiths/Scolaris (Transfer to DART at 9:15 AM)	9:15 AM	Carson Valley Inn (Transfer to DART at 9:25 AM)
		9:20 AM	Carson Valley Inn (Transfer to DART at 9:25 AM)	9:30 AM	Dresslerville Clinic
		9:25 AM	Carson Valley Swim Center (request stop)	9:35 AM	Tillman & Kimmerling
		9:45 AM	Hung-a-Lei-Ti	9:55 AM	Hung-a-Lei-Ti
		9:50 AM	Health and Human Services	10:00 AM	Health and Human Services
		10:00 AM	Out of service	10:10 AM	Out of service
			Break in Service		**Break in Service**
		12:10 PM	Driver check-in at Woodfords base	12:10 PM	Driver check-in at Woodfords base
		12:40 PM	Pick up at ELC	12:40 PM	Pick up at ELC
		12:50 PM	Drop off at Hung-a-Lei-Ti	12:50 PM	Drop off at Hung-a-Lei-Ti
		12:55 PM	Paynesville	12:55 PM	Paynesville
		1:10 PM	Tillman & Kimmerling	1:10 PM	Tillman & Kimmerling
		1:15 PM	Dresslerville Clinic	1:15 PM	Dresslerville Clinic
		1:25 PM	Raley's/Smiths/Scolaris (Transfer from DART at 12:40 PM)	1:25 PM	Raley's/Smiths/Scolaris (Transfer from DART at 12:40 PM)
		1:35 PM	Carson Valley Inn (Transfer from DART at 12:30 PM)	1:35 PM	Carson Valley Inn (Transfer from DART at 12:30 PM)
		1:40 PM	Carson Valley Swim Center (request stop)	1:40 PM	Carson Valley Swim Center (request stop)
		2:00 PM	Hung-a-Lei-Ti	2:00 PM	Hung-a-Lei-Ti
		2:05 PM	Health and Human Services	2:05 PM	Health and Human Services
		2:10 PM	Sierra Pines	2:10 PM	Sierra Pines
		2:20 PM	Markleeville	2:20 PM	Markleeville
		2:40 PM	Return to base - out of service	2:40 PM	Return to base
			Break in Service		**Break in Service**
		3:55 PM	Health and Human Services	3:55 PM	Health and Human Services
		4:15 PM	Tillman & Kimmerling	4:15 PM	Tillman & Kimmerling
		4:20 PM	Dresslerville Clinic	4:20 PM	Dresslerville Clinic
		4:30 PM	Smiths/Scolaris (Transfer from DART at 4:25 PM)	4:30 PM	Smiths/Scolaris (Transfer from DART at 4:25 PM)
		4:35 PM	Waterloo Skateboard Park (Transfer from Kingsbury X at 4:25 PM)	4:35 PM	Waterloo Skateboard Park (Transfer from Kingsbury X at 4:25 PM)
		4:55 PM	Paynesville	4:55 PM	Paynesville
		5:00 PM	Hung-a-Lei-Ti	5:00 PM	Hung-a-Lei-Ti
		5:05 PM	Health and Human Services	5:05 PM	Health and Human Services
		5:10 PM	Sierra Pines	5:10 PM	Sierra Pines
		5:20 PM	Markleeville	5:20 PM	Markleeville
		5:40 PM	Return to base - out of service	5:40 PM	Return to base - out of service
Total Hours	2.00		4.83		6.75

Alternative: ELC Service Daily + Minden/Gardnerville 2 Times per Day 1 Day per Week

The next alternative reviewed was to add two round trips (morning and mid-day) between Markleeville and Minden/Gardnerville 1 day per week while providing the ELC-only service the remaining 4 days of the week during the school year. When ELC is not in session, transit service would be provided only 1 day a week. The two round trips to Minden/Gardnerville could be scheduled around the ELC times so that connections to other DART services would be possible at Smiths and the Carson Valley Inn (refer to Tables 19 and 20 for example schedules). In the morning, an Alpine passenger would only have to wait five minutes for a transfer to the DART route and could arrive at Wal-Mart in Carson City by 9:55 AM. The Alpine County resident would then have approximately 1 hour and 45 minutes to shop before catching the return DART bus back to the AMT transfer point at Smiths or the Carson Valley Inn. Unfortunately, on this end of the trip there could be up to an hour layover before the AMT bus arrived in Minden/Gardnerville. The Alpine resident could then be home in Markleeville by 2:20 PM. Other stops on the Minden/Gardnerville loop could include the Ranchos neighborhood, Dresslerville Clinic and the Carson Valley Swim Center. Annual ridership for this alternative is estimated at 3,200 one-way passenger trips. Farebox revenue for this alternative and the following alternatives is calculated using the \$5,000 donation from First Five Alpine and an average fare of \$1.25. The average fare figure assumes that farebox collection performance will be improved over Fiscal Year 2006/07 where the data shows that many passengers were not charged for their trip.

Contract for Service – DART

As shown in Table 15, if this alternative were operated by DART, approximately 5.5 hours of service would be required 1 day per week and only 2.6 hours of service would be required the remaining 4 days per week during the school year for a total of 740 annual vehicle service hours and 19,360 vehicle service miles. This does not meet DART's minimum service requirements. As shown in Table 19, the AMT bus would leave the DART base at the Douglas County Airport at around 7:00 AM, return to base at around 9:30 AM for a 2.5-hour break, and go out of service around 3:00 PM. This alternative will require an annual operating subsidy of \$70,900, making it financially feasible.

Under this alternative, AMT would carry about 4.3 one-way passenger trips per vehicle service hour and 0.2 one-way passenger trips per mile. The subsidy per passenger trip would be \$22.16 and farebox ratio is estimated at 7.7 percent.

Contract for Service – Other Contractor

It is estimated that to operate AMT under another transit contractor, approximately 1,360 vehicle service hours and 30,870 vehicle service miles would be required. The route and schedule would be similar to the example schedule under the DART operated option but there would be increased deadhead time at the beginning and end of the day. Although the daily vehicle service hours required under this alternative would only be slightly more than under the ELC-only

alternative, service would be operated year round and therefore the operating subsidy for this alternative would be greater than the \$80,000 subsidy available. This alternative is not considered financially feasible.

Operate In-House

By operating this alternative in-house, there would be no deadhead time. The service would require 600 annual vehicle service hours and 9,510 vehicle service miles. With estimated farebox revenue of \$5,900, the annual operating subsidy would be \$55,200. As shown in Table 16, this alternative would carry approximately 5.3 passenger trips per hour and have subsidy of \$17.25 per passenger trip (within the reasonable to meet category). Assuming an average fare of \$1.25 for non-ELC passengers, the anticipated farebox recovery ratio is 9.66 percent. Raising fares is an option that would not decrease ridership significantly and could boost the farebox ratio for this alternative to 10 percent.

Alternative: ELC Service Daily + Minden/Gardnerville 3 Times per Day 1 Day per Week

Instead of making 2 roundtrips to Minden/Gardnerville 1 day per week for shopping and medical trips, this alternative includes 3 roundtrips 1 day per week. The extra afternoon trip will allow for direct transfers to/from the new Kingsbury Express service to South Lake Tahoe at the Waterloo Skateboard Park at 9:00 AM and 4:30 PM. This could allow Alpine County residents to access medical services that are part of the MediCal program in South Lake Tahoe. The afternoon trip will also provide Alpine residents with the option of a longer day in the Carson Valley and a more efficient afternoon transfer between DART and AMT at Smiths at 4:30 PM. Service would generally begin at 7:00 AM and end at 6:00 PM with a break in service between 10:00 AM and noon and then again between 2:40 PM and 4:00 PM. It is estimated that approximately 100 more one-way trips per year would be carried on the 3 times per day route, versus the 2 times per day route. Therefore, farebox revenue of about \$6,000 could be anticipated including the ELC donation.

It should be noted that the option of providing a direct trip to South Lake Tahoe before the morning ELC trip and a return trip around 3:00 PM was also reviewed. However, traveling over Luther Pass during the winter months could add substantial time, and in order to return to Alpine County in time to operate the ELC route, passengers would need to be picked up starting around 6:30 AM and dropped off in South Lake Tahoe by 7:50 AM at the latest. This early service time would preclude most potential passengers from using the service. As a direct connection with the Kingsbury Express route is possible and would involve fewer vehicle service hours and miles, the option of providing direct service to South Lake Tahoe was not considered any further.

Contract for Service – DART

The Minden/Gardnerville day would take about 7.6 hours of vehicle service under DART operation. The route and times would be very similar to the 2 times a day alternative with the addition of the afternoon round trip between 4:00 PM and 6:00 PM roughly (See Table 19). Total annual vehicle service hours would be about 860 and total annual vehicle service miles would be

about 24,020. With an estimated annual operating subsidy of \$76,600, this alternative is financially feasible but requires fewer than 1,500 annual vehicle service hours. Productivity for this alternative is 3.8 one-way passenger trips per hour and 0.1 trips per mile. Subsidy per passenger trip and farebox ratio are estimated to be similar to the 2 times per day alternative, \$23.21 and 7.26 percent respectively.

Contract for Service – Other Contractor

Service with a non-DART contractor would require approximately 1,460 hours of service and 33,440 miles. The estimated annual operating subsidy would be \$89,000 or \$9,000 more than the available subsidy.

Operate In-House

With 700 annual vehicle service hours and 12,080 vehicle service miles, the annual operating subsidy for the in-house option would be approximately \$61,600. This alternative is financially feasible. The productivity of this alternative (4.7 passenger trips per hour) is slightly less than the 2 times per day 1 day per week option (5.3 passenger trips per hour), but the subsidy per passenger trip remains within the “reasonable to meet” range at \$18.67 and the farebox recovery ratio (8.88 percent).

Alternative: ELC Service Daily + Minden/Gardnerville 2 Times per Day 2 Days per Week

Another option would be to operate the 2 times per day service to Minden/Gardnerville route twice a week. This option would not allow for connections to Kingsbury Express; however, Alpine residents would have two choices for shopping/medical appointment days. Approximately 3,700 one-way passenger trips and farebox revenue of \$6,500 was estimated for this alternative.

Contract for Service – DART

Approximately 920 vehicle service hours and 23,750 vehicle service miles would be required for DART to operate this service. With an operating subsidy of \$77,100, this alternative is financially feasible for DART but does not meet the minimum service hour requirement. This alternative will carry approximately 4.0 one-way passenger trips per vehicle service hour and require a subsidy per passenger trip of \$20.84, slightly less than the previous alternatives. Farebox ratio will be about 7.78 percent.

Contract for Service – Other Contractor

Using another contractor for this alternative would not be within the AMT Fiscal Year 2008/09 operating budget.

Operate In-House

If operated in-house, this alternative will require 760 hours and 14,080 miles of service. The estimated annual operating subsidy is \$65,500. Passengers per vehicle service hour will be 4.0 trips per hour and the subsidy per passenger trip will be \$17.70. Farebox ratio is estimated to be very close to the TDA guideline at 9.03 percent.

Alternative: ELC Service Daily + Minden/Gardnerville 2 per Day 1 Day per Week + Minden/Gardnerville 3 Times per Day 1 Day per Week

This alternative essentially combines the alternatives discussed previously. The ELC-only service would be operated the remaining days of the week during the school year. The benefit of this alternative is that Alpine residents would have two days a week to go shopping or make medical appointments in either Minden/Gardnerville or South Lake Tahoe. Ridership for this alternative is estimated at 3,900 annual one-way passenger trips and farebox revenue is estimated at \$6,800 per year including the ELC donation.

Contract for Service – DART

This alternative would require 1,030 vehicle service hours, 28,410 service miles and an operating subsidy of \$82,600. This alternative is neither financially feasible nor does it allow for the minimum vehicle service hours required by the proposed DART contract.

Contract for Service – Other Contractor

Using another contractor for this alternative would not be within the AMT Fiscal Year 2008/09 operating budget.

Operate In-House

Roughly 16,650 vehicle service miles and 860 vehicle service hours would be required to operate this service in-house. With an annual subsidy required of \$71,700, this alternative is still within Alpine County's financial limitations and considered feasible. It is estimated that this service would carry about 4.5 passenger trips per vehicle service hour and 0.2 passenger trips per vehicle service mile. Subsidy per passenger trip is estimated at \$18.38 and farebox ratio is estimated at 8.66 percent.

Alternative: ELC Service Daily + Minden/Gardnerville 2 Times per Day 2 Days per Week + Minden/Gardnerville 3 Times per Day 1 Day per Week

This alternative adds 1 more day per week that serves Minden/Gardnerville. The ELC-only service would only need to be operated 2 days per week during the school year. Ridership would increase by 600 one-way passenger trips per year over the 2 times per day 1 day per week plus 3 times per day 1 day per week alternative. Correspondingly, farebox revenue would increase by \$1,000.

Contract for Service – DART

If DART were to operate this service, AMT would accumulate about 1,200 vehicle hours and 32,800 vehicle miles per year. With an estimated annual operating subsidy of \$88,700, this option is not financially feasible and still does not allow for 1,500 annual vehicle service hours. The performance measures for this alternative would be quite similar to the performance of the previous alternative for DART.

Contract for Service – Other Contractor

Using another contractor for this alternative would not be within the AMT Fiscal Year 2008/09 operating budget.

Operate In-House

If operated in-house this alternative would require 1,030 vehicle service hours and 21,220 vehicle service miles. The annual subsidy required to operate this service would be \$2,000 greater than the subsidy available. Performance of this alternative would be similar to the 2 times per day, 1 day per week plus 3 times per day, 1 day per week alternative that is within the budget.

Alternative: ELC Service Operated by County Office of Education or Washoe Tribe

Another alternative considered was to discontinue AMT operation of the ELC service and work with the County Office of Education to provide the service. Ideally, a small amount of TDA funds would be allocated to the Office of Education to help offset operating costs of the ELC service. With the transit needs of the ELC provided for, ACLTC could hire a separate contractor to provide general public transit services a few times a week. A bus schedule could even be arranged such that the same ACLTC-owned vehicle could be used by the Office of Education and the other transit contractor on the same day for their respective services. As all school buses are in use during ELC service hours, this would eliminate the need for the Office of Education to purchase a new vehicle. The Office of Education would need to provide a driver with a Class B Commercial Drivers License.

In order to subsidize the Office of Education operation of the ELC service with TDA funds, ACLTC must enter into a contractual arrangement with the Office of Education and file for TDA funds under Article 8. Additionally the TDA statutes state that:

“If the county, city, or transit district is being served by an operator, the contract entered into by the county, city, or transit district shall specify the level of service to be provided, the operating plan to implement that service, and how that service is to be coordinated with the public transportation service provided by the operator. Prior to approving any claim filed under this section, the transportation planning agency, or the county transportation commission in a county with such a commission, shall make a finding that the transportation services contracted for under subdivision (c) are responding to a transportation need not otherwise being met within the community or jurisdiction of the claimant and that, where appropriate, the services are coordinated with the existing transportation service.”

Initial discussions with Office of Education staff indicate a willingness to develop this alternative further. Staff also mentioned that the Office of Education owns two 8-passenger Suburbans. It is unknown at this time if these vehicles would be available for the ELC service.

At least 90 percent of ELC attendees are Washoe Tribe members. Therefore, it is logical to include the Washoe Tribe in a coordinated relationship with Alpine County and the Office of Education for the provision of ELC service. There is a federal transit-funding source available to Native American Tribes for operating and capital expenses that is not available to ACLTC, FTA 5311 (c) Tribal Transit Program. As discussed below in the financial alternatives section, the Washoe Tribe would need to submit the funding application as well as demonstrate financial, technical and legal capability. The primary benefit of Tribal Transit Program funding is that there is no local match requirement. After the completion of the Washoe Tribal Transit Plan, Alpine County should work with the tribe and the Office of Education to consider the possibility of using Tribal Transit Program funds for the operation of the ELC service.

If the ELC service would be operated by the Office of Education or the Washoe Tribe, a potential AMT (general public transit) service alternative would be as follows. Other contractors have expressed interest in operating transit service in Alpine County if 6 hours of service could be guaranteed a few times a week. The problem with other contractors occurs when they are only needed for a few hours a day. Two round trips per day between Alpine County and Minden/Gardnerville could be provided in a 6 hour service day, while an 8.5 hour service day would allow for 3 round trips per day to Minden/Gardnerville and connections to Kingsbury Express. If AMT operated the 6 hour (or 2 trips per day) service, 2 times per week, and the 8.5 hour service (or 3 trips per day) 1 time per week, this alternative would require 1,050 vehicle service hours per year for an approximate operating cost of \$70,700 per year (assuming a contract cost of \$65 per hour). This would still leave \$9,300 in the budget to contribute to the operation of the Early Learning Center or some of the other alternatives discussed below.

Alternative: Demand Response Service

Another service alternative for AMT, which was suggested through the survey process is changing the AMT deviated fixed route service to a demand response service. In this alternative, passengers would call the contractor dispatch to arrange pick up and drop off times preferably 24 hours in advance. Requests for service upon shorter notice would be accommodated as feasible. Service hours for an AMT Dial-A-Ride would be similar to the existing service hours of 7:30 AM to 4:00 PM with a break for lunch. The Dial-A-Ride service would be a curb-to-curb service.

One advantage of a demand response service over a fixed route service in some rural areas is that a greater number of residents would have access to door-to-door transit service. In Alpine County, the majority of residents live within one mile of the highways or Diamond Valley Road. As AMT deviates within one mile of a scheduled stop, there would be a smaller service area advantage to a Dial-A-Ride service.

The disadvantage of having a demand response service is that fewer passengers per hour can be carried. For example, if one resident needs a ride from Mesa Vista to Gardnerville to do some shopping, this trip will take about one-half hour and only 1 passenger-trip will be carried. There

is the possibility that a resident of Hung-a-Lel-Ti may also need to go to Gardnerville at the same time and the trips can be coordinated. Even so, efficient Dial-A-Ride systems in areas with a consolidated service area only carry about 2.5 one-way passenger trips per hour. As noted in Chapter 3, AMT currently carries about 1.76 one-way passenger trips per vehicle service hour on a deviated fixed route system which is typically significantly more productive than a demand response system. Additionally, it would be difficult to serve the Early Learning Center preschool children on a regular basis. Dial-A-Ride services sometimes offer subscription service where an organization can “reserve” trips up to one month in advance for their clients. Given that it takes approximately one-half hour to travel between Gardnerville and Woodfords, an AMT Dial-A-Ride service would have to block out approximately 3 hours each day to serve the Early Learning Center subscription service in case AMT was in Gardnerville just prior to ELC pick up time. This would leave approximately 5 hours per day available for general public Dial-A-Ride. A region with a large service area such as Alpine County would be better served by a deviated fixed route service even if transit service were available 5 days per week.

Alternative: Volunteer Driver/Transportation Assistance Program

Volunteer driver programs can be useful in serving rural areas where budgets will not allow all areas to be served, or demand is so low and infrequent that regular service is not warranted. The biggest challenge in providing a volunteer driver program is finding, training, and maintaining a volunteer base. Managing the volunteers requires extensive oversight, which can be provided by a half-time transit agency administrative position, or under the oversight of a volunteer board.

A number of rural areas in California have volunteer driver or subsidized transportation assistance programs which illustrate the various types of programs as well as “lessons learned.” These are described below.

Gold Country Telecare

Gold Country Telecare in Nevada County began in the 1970s as an all-volunteer transportation service. Telecare’s program began as a volunteer service to offer various aid to seniors, but it was quickly realized that transportation was the greatest need of those calling for assistance. Telecare recruited drivers to take seniors to medical appointments. By the mid-1970s, the volunteer program was not enough to meet the needs of residents, so a paid driver program was established. The paid program currently has 21 full- and part-time drivers operating 21 vehicles, covering Western Nevada County, which has a population of around 77,500. The paid program operates 2,100 hours per month serving 4,900 boardings (an average of 2.3 passenger trips per hour). However, because Telecare has a limited service area, it still maintains the volunteer driver program. There have been as many as 12 volunteer drivers in recent years, but currently there are six. Volunteer drivers are reimbursed at \$0.40 per mile, and the client is charged \$0.55 (the \$0.15 going towards administration, particularly dispatching).

Virtually all of the trips provided by the volunteer program are for medical appointments, primarily in Roseville or Sacramento. Previously, trip purpose was limited to medical appointments only, but when Telecare reduced its service area, it opened up the volunteer program to all trip purposes. Nonetheless, despite the occasional shopping trip to town, the primary use is still for medical trips.

Telecare staff has not found that having a paid program impacts the willingness of residents to volunteer. Where there is an unmet need (such as outside of the paid program service area), volunteers continue to feel their service is worthy. However, other factors have impacted volunteerism. Specifically, one volunteer is 86 years old, and two have declining health; that is half of the volunteers. Additionally, volunteers have declined to continue when their insurance providers increased their premiums after having identified them as “commercial drivers” because they are paid to drive (though many insurance providers do not consider this a problem). Also, volunteers are facing increased liability costs, increased maintenance costs, and increased fuel costs.

Community Resources Connection, Sonoma/Mendocino Coast

Community Resources Connection (CRC) started in 1999 as a telephone referral service for the South Coast Seniors, Inc. in Gualala, California. CRC gave referrals to individuals seeking services in the community, and offered a handy-person service – wherein volunteers would go to callers’ homes to do minor repairs. The majority of phone calls were inquiries regarding transportation services, primarily for medical appointments. Responding to this need, CRC organized a volunteer transportation program offering free transportation to anyone in the region with an “essential need.”

Approximately 40 volunteer drivers who use their own private vehicles and gasoline provide the transportation. In addition, the regional transit provider, Mendocino Transit Authority, leases a Dodge Caravan to CRC for \$1.00 per year, which is used for weekly trips to either Santa Rosa or Fort Bragg, also using volunteer drivers. There are approximately eight volunteers who are qualified to drive the van. Van drivers must be fingerprinted and trained.

CRC went from being part of the South Coast Seniors to receiving administrative oversight from Redwood Coast Medical Services. In 2004, however, CRC became a 501(c)(3) nonprofit corporation. CRC has 11 volunteer board members who meet on a monthly basis to handle normal board matters as well as manage the organization’s administrative functions. In addition to board members, CRC has volunteer committee chairs and members who are not on the board.

The Redwood Coast Medical Services (RCMS), the only local medical clinic in the region, provides for the operating cost of the van (insurance, gasoline, and maintenance). The in-kind service by RCMS includes office space, office expenses including a toll-free phone number and insurance, maintenance and gasoline for the van. Approximately 60 RCMS clients use the van service annually.

In addition to costs covered by the RCMS, the projected cash outlay for 2005 was approximately \$5,000. This covered the cost for the Directors and Officers and General Liability Insurance, as well as office supplies and an annual volunteer appreciation dinner. Cash contributions are received from clients, the general public, and board members.

CRC provides approximately 1,100 one-way passenger trips annually: 760 local (less than 20 miles round trip) and 240 to Fort Bragg or Santa Rosa (110 to 170 miles round trip). Passengers call CRC Monday through Friday between noon and 4:00 PM to schedule trips, with 48-hour advance notice required. Most of the trips are for medical or dental appointments, or for other errands for daily living, including grocery shopping. Phone volunteers who arrange the trips encourage the passenger to make efficient use of the service by completing several errands in one trip rather than scheduling trips on multiple days.

In total, CRC volunteers donate over 3,150 hours per year, driving more than 26,200 miles in their personal vehicles and another 6,500 miles in the van.

Tehama County Medical Transportation Services (METS)

Tehama County has a volunteer driver program to provide medical transportation. The 23 year-old program is under direction of the Transit Manager (Department of Public Works), with a supervisor working part time Monday through Wednesday to oversee daily operations. The supervisor is paid \$9.34 hourly without benefits and has an annual maximum of 1,000 hours.

METS currently has 12 volunteer drivers. Drivers who use their personal vehicles are reimbursed at the federal IRS rate (currently \$0.485 per mile). Drivers are recruited by word-of-mouth. Ten-year DMV records are required, but fingerprinting is not. As of this year, drivers are covered by Workman's Compensation Insurance.

The Supervisor coordinates appointments and assigns trips to drivers. This employee is also responsible for recruiting volunteers, record-keeping and reimbursing drivers. Efforts are made to assign drivers who live closest to the passenger in need for greatest efficiency.

Clients are asked for a \$5.00 round trip donation within Tehama County or \$10.00 round trip donation to Butte, Glen, or Shasta Counties. An estimated 80 to 90 percent of clients pay this donation. METS receives \$0.14 per mile reimbursement from the American Cancer Society for passengers seeking cancer treatment. There are 150 regular clients. The program provides between 60,000 to 90,000 reimbursed vehicle miles each year. While the program is for medical trips only, clients may do shopping in conjunction with picking up prescriptions, at the driver's discretion. Clients must be ambulatory to use the service. Spouses or attendants may accompany the passenger if desired. Most of the clients are elderly, though some children and other adults use the service as well.

Trinity County Transportation Assistance Program

In response to the need for increased transit services in rural Trinity County, the Trinity County Planning/Transit Department implemented a transportation assistance program. Human Resource

Network (HRN), a private non-profit organization is contracted to administer the program. The HRN program serves residents in the northern portion of the County and a similar program is administered through Southern Trinity Health Services and serves the southern portion of the County Different from the other volunteer programs discussed above, Trinity County's program does not have a list of volunteers. Persons needing transportation to medical or social service appointments may recruit their own volunteer who will then be reimbursed for mileage at the rate of \$0.25 per mile. A person is eligible for the program if they are: (1) a Trinity County resident, (2) unable to transport themselves because of no means of transportation, unable to drive because of medical reasons or advanced age, or (3) in a low-income category (200 percent of poverty level) and have no money for gas.

HRN has developed a process to ensure that the program is not being abused. First, the volunteer and the applicant are required to meet with HRN staff to discuss the arrangement. HRN staff confirms that the driver holds a valid California Driver's License, valid insurance and vehicle registration. The medical or social service provider is also contacted to verify the appointment. The volunteer driver records the mileage of the trip and submits a receipt for transportation funds to HRN. Staff compares the mileage to actual distance between major destinations before paying the driver.

Trinity County will also reimburse residents needing transportation to a medical or social service appointment who are able to drive themselves but cannot afford to pay for gas. Again, the medical or social service provider is contacted before a fuel voucher is provided. The fuel voucher is valid for seven days. Volunteers/applicants are not limited where they can travel for medical and social service appointments, but will only be reimbursed for up to the equivalent of one tank of gas.

HRN was an established non-profit agency in Trinity County before the transportation assistance program was implemented. Therefore actual staff time and set up costs for the program were minimal. For example, HRN already had a database system in place to record volunteer trips as well as existing relationships with vendors such as the Mini-Mart (HRN reimburses persons in need of propane).

Each quarter, HRN bills Trinity County for the cost of the vouchers. Additionally Trinity County paid HRN an administrative fee of 10 percent of contract costs at the beginning of the contract. The original contract in Fiscal Year 2006/07 to operate the Transportation Assistance Program with HRN was \$15,000 per year. The program was so popular that an additional \$10,000 was added within the first year of operation. Currently Trinity County spends about \$30,000 on the Transportation Assistance Program. HRN staff feels that the administrative fee they are paid does not completely cover actual administrative time spent on the program. Between meeting with the program participant, contacting providers and accounting for the trip, HRN staff estimate it takes about 1.5 to 2 hours of staff time for each new program participant. This equates to roughly a quarter-time administrative position.

Amador County Transportation Reimbursement Program

The Transportation Reimbursement Program (TRP) is a service planned for Amador County residents that are unable to transport themselves due to the lack of a personal vehicle, are unable

to drive as a result of a medical condition or advanced age, or are in the low-income category (200 percent of poverty level) and cannot afford fuel. Participation and transportation needs must be associated with at least one hour of work per day. This program has been developed as a result of unmet transit needs that were deemed reasonable to meet by the Social Services Transportation Advisory Council (SSTAC) in January 2008.

Based on the Trinity County program, the TRP is a demonstration program for a total of one year, beginning in Fiscal Year 2008/09 or sooner, with service beginning on July 1, 2008. SSTAC has requested a total of \$10,000 for the pilot program, which includes upfront administrative costs and working capital, and the remaining for program reimbursements. Any reimbursement funds that are not spent will go back into the program unless the budget is increased the following year.

Qualified participants (residents who meet the criteria discussed above) will be provided with gas vouchers from Amador Regional Transit System (ARTS) based on mileage estimates. ARTS will cover the costs of transportation incurred by the provider and will be reimbursed by the Amador County Transportation Commission (ACTC) upon submittal of the claims. Claims will be reviewed on a monthly basis within the TRP program and will be submitted to the ACTC for reimbursement quarterly. It is likely that a new staff position will need to be developed that would coordinate and oversee the program either directly with ARTS or with the ACTC. In turn, this would require additional funding.

Lessons Learned

The review of volunteer transportation programs in similar Northern California communities indicates the following:

- Volunteer driver programs typically start out from a grass roots effort based on an identified need.
- Overseeing the volunteers requires a dedicated individual, likely a paid employee. In CRC's case, the program is overseen by a board with the rotating chairman overseeing day-to-day operations. Over 40 volunteers keep the CRC program running.
- Some volunteer programs provide reimbursements, and some do not.
- The biggest challenge is to recruit and maintain volunteers. The volunteers want to feel they are providing a worthwhile service. Turnover is high due to burnout or declining ability.
- Volunteers are more difficult to recruit as gas prices and auto insurance costs increase.
- Grant funding can be obtained to offset costs of reimbursed driver volunteer programs. Using such grants may limit trip purpose and client eligibility.
- Even with the low mileage reimbursement of \$0.25 per mile in Trinity, the transportation reimbursement program has been tremendously successful.

- Regardless of whether or not a list of volunteers is directly maintained by the agency or the program only provides gas vouchers, a part-time administrative position dedicated to the volunteer program is necessary.

Volunteer Driver/Transportation Reimbursement Program in Alpine County

Alpine County is similar to Trinity County in that there are relatively few medical and social services available to residents within the county. Alpine County residents who are MediCal participants are required to travel within the state to South Lake Tahoe for medical appointments. It is not practical for AMT to serve South Lake Tahoe directly. Given that funds are available, a volunteer driver/transportation reimbursement program could supplement AMT's service by providing residents with direct trips to medical appointments in South Lake Tahoe as well as Minden/Gardnerville.

Currently, much of this need is being met through the Alpine County HHS. Staff provides approximately 20 trips per week to medical and social service appointments using one of the seven passenger vehicles available to the department. HHS staff only provides these trips to persons who qualify for assistance and have no other transportation. HHS also does not provide trips that could be provided by Tribal TANF. Depending on the funding available, a transportation reimbursement program could expand the number of trips provided for HHS program participants or replace some of the trips already provided by HHS staff and thereby free up HHS staff for other duties. Tribal TANF representatives have stated that they are short staffed and therefore do not have time to provide as much transportation for clients as they feel is necessary. A reimbursement program could help fill this need.

If a trial transportation-reimbursement program were implemented in Alpine County, at least \$5,000 in TDA funds should be made available to pay for transportation reimbursements. This would be sufficient funding to reimburse volunteer drivers and applicants for four round trips to South Lake Tahoe per week. The administrative duties could be performed by the Transit Coordinator. Qualified program participants would be low-income individuals. Qualified trips would include medical and social service appointments in Minden/Gardnerville, South Lake Tahoe, Carson City and Reno. Volunteer drivers could be reimbursed at \$0.50 per mile or gas vouchers would be provided to low income persons with a vehicle at the same rate.

Alternative: Taxi Voucher Program

In rural areas and small communities, transit route service can be an inefficient way to serve transportation needs when demand is relatively low. Taxicab operators can provide needed mobility in a more efficient manner. In this case, subsidy funding is provided directly to the user (the passenger) who in turn provides the subsidy to a private taxicab service provider. Transit funding is needed only to pay for actual trips as opposed to hours of service. Other areas such as Colusa County and Amador County have implemented subsidized taxi programs to provide trips during the evening or other low demand periods. In Alpine County, a taxi voucher program could supplement AMT by providing trips to Minden/Gardnerville on days AMT does not offer this service.

A taxicab voucher program requires some type of system for transferring subsidies for transit trips from the subsidizing agency to the passengers. Subsidy systems also must be designed to ration available subsidy funds among eligible passengers or types of trips, and containing the total subsidy cost. In selecting and designing a subsidy system, the following criteria should be considered:

- Ease of use by the target group and service providers
- Administrative requirements and costs
- Potential for fraud on the part of the passenger or provider
- Upfront expense to the passenger
- Cash flow problems for service provider
- Ease of controlling subsidy cost

Under a voucher system, after an eligible passenger completes a trip the driver completes a voucher for the subsidized portion of the trip cost (often 50 percent) and collects the balance in cash from the passenger. Completed vouchers are submitted to the subsidizing agency, which then reimburses the service provider for the voucher amounts.

Voucher systems are best suited for programs that have relatively few providers, passengers, or when relatively few providers need to be trained to properly complete the vouchers. A voucher system is well suited for use with taxicabs and other providers with variable fares based on trip distance, and can provide a valuable built-in mechanism for monitoring system usage. However, vouchers place some administrative burden on service providers. They also provide opportunities for fraud on the part of the service provider such as falsification of trips.

As stated in Chapter 3, there is one taxi company that serves the Minden/Gardnerville and Alpine County region. Minden Taxi currently provides subsidized trips for Medicaid patients and is open to the idea of providing subsidized trips for eligible Alpine County residents. Minden Taxi's full fare for transportation between Markleeville and Gardnerville is approximately \$157.25. This includes a drop fee of \$3.25 plus a mileage rate of \$3.50 per mile both directions. Minden Taxi has stated that a discounted mileage rate may be possible for the "deadhead" trip especially if a round trip is guaranteed. Unfortunately, the taxicabs are not ADA accessible. Given the long travel distances (and associated high fares) and lack of an ADA accessible vehicle, this is not considered to be a viable alternative in Alpine County.

Alternative: Rideshare Program

The general public mail-in surveys have shown that the overwhelming majority of persons who work or go to school drive alone. This is largely due to the fact that AMT does not serve persons working a typical day time work shift job in Minden/Gardnerville. Census data and survey data show that approximately 20 percent of the Alpine County employed residents work in Douglas County. The service alternatives section has demonstrated that Alpine County cannot afford to operate transit service more than 1,300 hours per year or that meets the needs of commuters. Additionally, potential transit ridership is reduced due to the need for many commuters to use a personal vehicle as demonstrated by the mail-in survey. One option that the Alpine County transit coordinator can undertake to help Alpine County commuters is to develop a rideshare

program. This could be as simple as advertising the program in the local newsletter, maintaining a database of contact information in an excel spreadsheet for commuters and distributing the contact list to interested commuters, if an appropriate match is found. There are several established rideshare databases and matching services on the internet which are free to commuters: www.eRideShare.com and www.iCarpool.com. The transit coordinator could promote the use of these websites by Alpine County residents and employees.

CAPITAL ALTERNATIVES

Vehicle Replacement

Currently, ACLTC owns a 20-passenger (18 ambulatory plus two wheelchair positions), 25 foot-long Ford E450 paratransit bus equipped with a rear wheelchair lift. The vehicle is gasoline powered and has an approximate Gross Vehicle Weight Rating (GVWR) of 14,050 pounds. As discussed in Chapter 3, the AMT bus is five years old and has traveled approximately 270,000 miles. The Federal Transit Administration (FTA) has established a service life policy to ensure that buses purchased with federal funds remain in transit use for a reasonable period of time. If a vehicle purchased with FTA funds is replaced before the end of its designated normal service life, the grantee is liable for the Federal share of the vehicle's remaining value. According to FTA policy, the useful service life of a light duty, medium sized transit vehicle is 5 years or 150,000 miles. During the transit plan process, the rear axle and brakes on the AMT bus failed. Repairing the vehicle would cost on the order of \$6,000 or more than the vehicle is worth.

Regardless of which service alternative is chosen, it is clear based upon public sentiment and the requirements of the Transportation Development Act that at least some level of public transit service should continue to be operated in the future (if an operator can be retained). Given this and the state of the existing vehicle, ACLTC should purchase a new vehicle during as soon as possible.

The type and size of the new vehicle is dependent on several factors: projected passenger capacity, type of transit service and type of terrain through which the vehicle must travel. As discussed in the service alternatives section, a demand response type of service would not be the most cost efficient service alternative for AMT, as peak loads exceed the capacity of a smaller vehicle. Therefore, it is not recommended that ACLTC purchase a modified minivan typically used for community Dial-A-Ride services. The current AMT vehicle has a maximum passenger capacity of 18 ambulatory passengers and 2 wheelchairs. According to the boarding and alighting survey data discussed in Chapter 3, the highest passenger load on the AMT vehicle was 11 persons at one time. This occurs when the preschool children are being transported between Hung-a-Lel-Ti and the Early Learning Center. Therefore, a vehicle with a minimum passenger capacity of 16 ambulatory persons should be purchased. One of the goals of this study is to develop a transit system in Alpine County that will increase ridership above the current levels. Additionally, it is also reasonable to assume that rising gasoline prices will influence resident's transportation choice in favor of public transit. Therefore, a larger capacity vehicle could be considered.

It is recommended that the vehicle be provided with automatic tire chains. The current AMT bus has automatic chains, and DART staff has confirmed that this bus accessory is important to AMT service. Also important to bus travel through mountainous terrain is a brake retarder that conserves the brakes by using a frictionless braking mechanism to slow the bus. The existing AMT bus has 20 BESE Inc. Universal Securement Vests with the five-point harness system. As Early Learning Center preschoolers make up a large portion of AMT ridership, having a child restraint safety system for the new bus is important. As it is possible to transfer the securement vests from the old bus to the new bus, the cost of purchasing new securement vests is not included in the cost estimate. In an effort to increase passenger capacity, flip seats can be purchased and placed in the wheelchair positions for use by ambulatory passengers when wheelchair passengers are not onboard.

Fuel Type

To reduce pollution from mobile sources, the United States Environmental Protection Agency (EPA) has adopted a variety of regulations as required by the Clean Air Act Amendments (CAAA) of 1990. On February 24, 2005, the California Air Resources Board (CARB) adopted new emissions reduction regulations applicable to diesel or alternative fueled transit vehicles. According to the rule, on-road vehicles operated by a public transit agency that are less than 35 feet in length and 33,000 pounds Gross Vehicle Weight Rating (GVWR), but greater than 8,500 GVWR, powered by heavy-duty engines fueled by diesel or alternative fuel are considered transit fleet vehicles and are subject to the following requirements (CARB, 2007):

- The particulate matter emissions of the total transit fleet excluding non-transit fleet vehicles such as gas-powered vehicles as of January 1, 2005 is considered the baseline emissions measurement.
- By December 31, 2007, particulate matter emissions of total transit fleet vehicles had to be reduced by 40 percent from baseline and NOx emissions could be no more than 3.2 grams per brake horsepower hour (g/bhp-hr). By December 31, 2010, total particulate matter (PM) emissions of transit fleet vehicles must be reduced by 80 percent from baseline and NOx must be no more than 2.4 g/bhp-hr.

The current AMT vehicle is gasoline powered and therefore not subject to the new CARB regulations. If a diesel-powered vehicle is chosen as the replacement, ACLTC must be sure that the engine meets the following CARB requirements:

- PM emissions - 0.01 grams per brake horsepower/hour
- NOx emissions - 2.4 grams per brake horsepower/hour

There are advantages to choosing a non-gasoline powered vehicle. The life of a gas-powered vehicle is less than that of a diesel-powered vehicle. Gasoline engines typically start needing significant maintenance after about 150,000 miles, whereas a diesel vehicle may last for 250,000 miles before excessive maintenance is required. According to DART staff, a diesel-fueled vehicle is the appropriate vehicle for the type of service AMT provides (all day runs through mountainous terrain). Diesel-fueled engines have traditionally dominated the transit vehicle

marketplace with their fuel efficiency and durability. From an air quality perspective, diesel engines have very low tailpipe emissions of CO and other organic gases. The concern from an air quality perspective, however, has been the emission rates of NOx and particulate matter. Modern diesel engines use ultra-low sulfur diesel fuel that enables the use of advanced emission control technologies such as particulate traps and catalytic converters. The majority of diesel engines purchased after 2007 comply with the CARB PM and NOx emissions standards.

Global climate change or “global warming” is a major environmental issue that needs to be acknowledged in planning documents. Climate change is caused by the release of greenhouse gases (GHG’s) such as carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride into the atmosphere that traps heat and increases temperatures near the earth’s surface. Forecasted, long-term consequences of climate change range from a rise in the sea level to a significant loss of the Sierra snow pack. As a direct result of Assembly Bill (AB) 32, CARB has been charged with developing rules and regulations that will reduce GHG emissions in the State of California to 1990 levels by 2020. At the time of this writing, CARB has not developed GHG emission standards. Nevertheless, GHG emissions should be considered when choosing a fuel type.

There is a variety of alternative fuels available to the transit industry:

- Compressed Natural Gas (CNG) is a fuel type that reduces PM emissions, although greenhouse gas emissions (GHG) are not improved over a diesel engine. Unfortunately, the cost of a CNG bus \$25,000 more than a comparable diesel bus, and the nearest fueling stations are located in South Lake Tahoe and Reno making this an infeasible option.
- Hybrid electric buses have been successful at larger transit agencies. The major advantages of a hybrid electric bus is the decrease in PM and GHG emissions. Again, this type of vehicle is more expensive than a diesel fueled vehicle especially when battery replacement costs are considered.
- Biodiesel is another alternative fuel employed in the transit industry. Biodiesel can be legally blended with petroleum diesel in any percentage. The percentages are designated as B20 for a blend containing 20 percent biodiesel, 80 percent petroleum diesel, B100 for 100 percent biodiesel, and so forth. B20 is the most common biodiesel blend in the United States and provides the benefits of biodiesel but avoids many of the cold-weather performance and material compatibility concerns associated with B100. PM and GHG emissions are reduced when using this alternative fuel and can be used in nearly all diesel equipment; however, NOx emissions are increased. The closest biodiesel refueling facility is located not too far from DART operations in Minden. Another facility is located in Meyers, California.

Cost Estimates

Purchasing a vehicle through the California State Contract is the most economical bus procurement method. There are two types of vehicles currently available on the state contract list that matches AMT’s needs. A Type III 25-foot paratransit bus has the capacity for 16 ambulatory passengers and two wheelchairs. Standard features and options of this Ford E-450 chassis Allstar

model vehicle are presented in Appendix B. The Type III vehicle is the closest to the current AMT bus. The standard contract vehicle is gasoline-powered with an option for a Ford diesel engine. Although the diesel engine in this vehicle would provide more durability over a gasoline engine, the Ford diesel engines are not compliant with CARB 2007 PM standards; therefore, a diesel-powered Type III vehicle would need to be replaced by 2010. The contract with Bus West for the Type III vehicle expires this June but a contract extension is being negotiated. Unfortunately, there could be a 10 percent increase in costs from the bus manufacturer with the new contract. This cost increase is reflected in Table 21. A base model Type III vehicle is around \$50,000. In addition to the options discussed above (automatic chains, brake retarder and farebox), the bus distributor highly recommends an alternator upgrade to preserve the life of the battery. If all these options are added, total estimated cost with taxes is around \$71,000.

Option	Cost Estimate	
25' , 16 + 2 Pax Vehicle	\$	47,879
Driveline Brake Retarder	\$	7,778
On Spot Tire Chains	\$	2,821
Farebox	\$	1,750
Foldaway Seat, Double	\$	725
Alternator Upgrade, 200 Amp	\$	1,545
Miscellaneous Fees and Delivery	\$	2,168
Sales Tax (7.25%)	\$	3,700
	Total \$	68,366

Source: Caltrans, BusWest.

The second vehicle that is appropriate for AMT is a Type VII vehicle. This medium duty diesel-powered bus comes in 27- and 29- foot lengths. The smaller bus has the passenger capacity of 16 ambulatory persons plus two wheelchair positions or 22 ambulatory persons. The next larger sized bus can hold 20 ambulatory passengers plus two wheelchairs or 26 ambulatory passengers. The Type VII vehicle is an El Dorado National – Aero Elite with a Chevrolet 5500 chassis (See Appendix B for standard features). The Chevrolet diesel engine will be compliant with CARB 2010 requirements, although at a premium. As shown in Table 22, total estimated cost of the Type VII 27- and 29-foot vehicles with the recommended options are \$103,730 and \$112,120, respectively. The contract with Creative Bus Sales for the Type VII vehicle expires on November of 2008.

The current AMT bus has been in service for nearly five years of 12 hours per day operations and about 270,000 miles. It is likely that a diesel bus will be able to travel 100,000 miles more than a gasoline bus under the same conditions. However, all alternatives in this plan would result in a reduction in service hours and miles, due to funding limitations. Assuming that funding

TABLE 22: Cost Estimate for Type VII Medium Duty Bus

Option	Cost Estimate	
	27-foot bus	29-foot bus
Base Vehicle Price	\$ 79,190	\$ 87,580
CARB Compliant Engine	\$ 2,570	\$ 2,570
Telma Brake Retarder	\$ 7,950	\$ 7,950
Automatic Tire Chains	\$ 3,250	\$ 3,250
Farebox - Diamond Model "D" (1) Vault	\$ 1,350	\$ 1,350
Luggage Rack - 30"	\$ 695	\$ 695
Flip Seats (2)	\$ 725	\$ 725
Tax and Fees	\$ 8,000	\$ 8,000
Total	\$ 103,730	\$ 112,120

Source: El Dorado Bus Sales, Caltrans 2008.

limitations will reduce AMT’s operations to about 20 hours or less per week instead of the previous 60 hours per week, it is reasonable that a replacement gasoline-powered bus will last longer than five years or beyond its FTA service life. The cost of the Type III bus is significantly more attractive, especially when funding is tight. Therefore, it is recommended that ACLTC purchase a gasoline powered Type III bus.

Other Transit Capital Improvements

Other potential future transit-capital improvements for AMT include bus shelters, benches and signage at high activity bus stops. The “street furniture” provided by the transit system is a key determinant of the system’s attractiveness to both passengers and community residents. In addition, they increase the physical presence of the transit system in the community. Bus benches and shelters can play a large role in improving the overall image of a transit system and in improving the convenience of transit as a travel mode. More importantly, a shelter is vital to those waiting for buses in harsh weather conditions. Adequate shelters and benches are particularly important in attracting ridership among the non-transit-dependent population – those that have a car available as an alternative to the bus for their trip. Preference should be given to locations with a high proportion of elderly or disabled passengers and areas with a high number of daily boardings. While the total cost including installation depends on site characteristics and the ability to use public works staff during off periods, the total cost for a new shelter falls in the range of \$8,000 to \$10,000. A perforated metal 8-foot bench may cost on the order of \$550. Signing bus stops acts as an important marketing tool by making Alpine and/or Douglas County residents aware of public transit service in the region. A bus stop sign may cost around \$500 per sign. All these types of transit capital improvements can be financed with Proposition 1B, Public Transportation Modernization, Improvement, and Service Enhancement Account (PTMISEA).

Early in 2008, Alpine County applied for \$44,800 in Community Based Transportation Planning grant funding for the development of a Bicycle Transportation Plan/Pedestrian Transportation Plan. The Markleeville area is popular with cyclists and a host to the Death Ride Endurance Bike Ride each year. If Alpine County is able to receive Bicycle Transportation Account (BTA) funding in the future, bicycle facilities such as bike racks on the bus could be considered.

INSTITUTIONAL ALTERNATIVES

Contractor Oversight

Through the transit planning process, the consultant discovered a few instances where better oversight of the transit contractor would improve the overall efficiency of AMT. If AMT service is to be operated by a private contractor, ACLTC and Alpine County staff may wish work closely with the contractor on the following items:

- **Late data reporting** – Monthly operating and financial data reports should be prepared in a timely manner by the contractor for Alpine County staff review. The Triennial Performance Audit recommended that Alpine County dedicate one staffer to the organization and collection of transit data.
- **Improved farebox collection** – As noted in Table 10, the average fare paid on AMT during Fiscal Year 2006/07 was \$0.36. The effective per trip cost of a child or senior monthly pass (the lowest fare rate) for a passenger who makes 2 trips per day, 5 days per week, is \$0.63 per trip. This indicates that either the data is being reported incorrectly or not all passengers are being charged a fare. Alpine County staff should monitor farebox collection through close review of the monthly data reports.

Coordination

Other Regional Transit Providers

Coordination is a key element to the success of the AMT service. As there is essentially no services available within the County, transit dependent residents are forced to travel out of county for shopping and medical trips. Alpine County has already established a good relationship with Douglas County through the AMT contract and transfers between the two systems are possible in Minden/Gardnerville. The *Minden/Gardnerville 3 Times a Day Route* discussed in the service alternatives section allows for timed transfers to the new Kingsbury Express route to South Lake Tahoe. Persons needing to travel as far as Reno or Bishop can access the CREST route with an hour layover in Minden/Gardnerville. Alpine County should maintain open communications with the all regional-transit operators so as to be aware of schedule changes that might affect transfers with AMT or potential ways to improve regional transportation.

Google Transit

Google Transit is a web based transit-planning tool that could be useful for Alpine County residents or visitors to the region. The tool is quite simple and accessible to anyone on the

Internet. If Alpine County decided to include AMT data on the Google Transit site, an Internet user wishing to use public transit could type in an origin and destination beginning and/or ending in Alpine County and be provided with departure times, route, cost, distance traveled, transfers required, directions to the transit departure point and the estimate cost of the trip if driven by car. Transit trip planning is only available for those public transit agencies that have signed up with Google Transit; however, several California transit operators are included and the number of participating agencies is growing.

Marketing

Approximately 38.2 percent of mail-in survey respondents who were not aware of AMT services and lived in the eastern portion of Alpine County where transit service is available. This indicates a need to increase marketing for AMT. As Alpine is such a small County, transit-marketing efforts do not have to be costly or time consuming. In addition to community outreach, improving transit service quality is a good marketing tool. If Alpine County residents believe that they can trust the bus to pick them up as stated in the schedule, they are much more likely to ride in the future. Consistency was the suggestion that arose several times during the survey process.

County Health and Human Services staff could help the public transit marketing effort by acting as public transit ambassadors. Although many HHS clients require trips into South Lake Tahoe for medical appointments and may not be able to use AMT, many HHS clients require services in Minden/Gardnerville. HHS staff could become familiar with the AMT schedule and encourage clients to schedule appointments around the bus service.

FINANCIAL ALTERNATIVES

The crux of any issue regarding the provision of public service is the matter of funding. Provision of a sustainable, permanent funding source has proven to be the single greatest determinant in the success or failure of transit service. With the downturn in the economy and the instability of transit funding sources, it will be necessary for ACLTC to seek funding from a variety of state and federal sources. A wide number of potential transit funding sources are available, particularly within California.

Federal Transit Funding Sources

FTA Section 5310 Elderly and Persons with Disabilities Program

FTA funds are potentially available through the Section 5310 Elderly and Persons with Disabilities Program (largely vehicles) that is administered by Caltrans. Until recently, recipients of Section 5310 funding were restricted to non-profit organizations; however, with passage of the Intermodal Surface Transportation Efficiency Act (ISTEA) and subsequent Transportation Equity Act of the 21st Century (TEA-21), however, local governmental jurisdictions are also eligible for funding. FTA FY 2007/08 apportionments totaled \$12.4 million statewide.

FTA Section 5311 Nonurbanized Area Formula Program

Federal transit funding for rural areas, such as Alpine County, is currently provided through the FTA Section 5311 Nonurbanized Area Formula Program. In California, a 16.43 percent local match is required for capital programs and a 47.77 percent match for operating expenditures. Per FTA section 5319, only a 10 percent local match is required for capital projects used to provide access for bicycles to transit facilities, or to install racks or other equipment for transporting bicycles on transit vehicles. These funds, administered by Caltrans, are segmented into “apportioned” and “discretionary” programs. The bulk of the funds are apportioned directly to rural counties based on population levels. The remaining funds are distributed by Caltrans on a discretionary basis and are typically used for capital purposes. FTA Section 5311 funds budgeted for AMT operations in FY 2008/09 is approximately \$40,000. Statewide, Section 5311 funds totaled nearly \$20 million in FTA FY 2007/08.

FTA 5311(f) Intercity Bus Program

This program funds intercity bus projects with emphasis on connectivity. Federal legislation mandated that states set aside a minimum percentage of funds for an intercity program to meet its needs. In California, remaining Section 5311 program funds (15 percent) are used to address intercity travel needs of residents in rural areas. There are three objectives for this program: (1) support connections between rural areas and larger regional or national system; (2) support services to meet rural residents’ intercity travel needs; and (3) support intercity bus infrastructure through planning, marketing assistance and capital investment. Most capital and operating assistance projects are eligible providing they meet one or more program objectives. However, funding is awarded on a statewide competitive basis for a maximum of two years before reapplication. Approximately \$3.2 million in FTA 5311(f) will be available statewide for Fiscal Year 2008/09. Both transit providers and tribal governments are eligible applicants. The local match for this program is 11.47 percent with a maximum award limit of \$300,000. Intercity transit services should address a designated route in the Intercity Bus Network and vehicle should have the capacity to carry luggage. Due to the limited nature of the AMT program, the potential for this funding source in Alpine County is low.

FTA Section 5313(b) State Planning and Research Program

The FTA provides a total of approximately \$10.8 million annually in funds to all the state departments of transportation for use in statewide planning projects and planning support in non-urbanized areas, as well as other research and demonstration projects. These funds are allocated to the states by population (with a minimum of 0.5 percent allocated to any one state), and require a 20 percent local match. This funding source is commonly used to fund transit plan studies.

FTA Section 5316 Job Access and Reverse Commute Program (JARC)

The JARC grant program assists states and localities in developing new or expanded transportation services that connect welfare recipients and other low-income persons to jobs and other employment related services. Job Access projects are targeted at developing new or

expanded transportation services such as shuttles, vanpools, new bus routes, connector services to mass transit, and guaranteed ride home programs for welfare recipients and low income persons. Reverse Commute projects provide transportation services to suburban employment centers from urban, rural and other suburban locations for all populations. Under SAFETEA-LU the JARC program is a formula program and allocation is based on the number of low income persons. States and designated recipients must select grantees competitively. Non-urbanized areas can apply for grants through the state. Estimated funding available for rural projects in FY 2007/08 in California is \$2.7 million. A JARC applicant must also have a Coordinated Human Services Transportation plan. An (80/20 match) is required for capital projects, and at least a 50 percent (50/50 match) of projects for operating assistance. A JARC-funded program in Alpine County would need to provide consistent schedules for access to employment, which is substantially beyond the program that can be currently funded.

FTA Section 5317 New Freedom Program

This new program under SAFETEA-LU provides formula funding for “new” public transportation services beyond those required by ADA for persons with disabilities. The idea behind the program is to help communities provide transportation services beyond those required by ADA as well as to help people with disabilities participate more fully in the workforce and in community life. Eligible projects include voucher programs and volunteer driver programs. Funds are apportioned to the individual states based on the disabled population, and only 20 percent is available to non-urbanized areas. To be eligible for funding, New Freedom projects outside urbanized areas must be included in or be consistent with the Statewide Long-Range Transportation Plan, as developed by the State, and must be included in the STIP. As with the JARC program, projects must be derived from the Coordinated Human Services Transportation Plan. An 80/20 match is required for capital projects, and at least a 50 percent (50/50 match) of projects for operating assistance. The maximum per project per year grant award is \$125,000.

State Transit Funding Sources

Transportation Development Act Local Transportation Funding (LTF)

A mainstay of funding for transit programs in California is provided by the Transportation Development Act (TDA). The major portion of TDA funds are provided through the Local Transportation Fund (LTF). These funds are generated by a one-fourth cent statewide sales tax, returned to the county of origin. The returned funds must be spent for the following purposes:

- Two percent may be provided for bicycle and pedestrian facilities, at the prerogative of the regional transportation-planning agency consistent with TDA regulations.
- The remaining funds must be spent for transit and paratransit purposes, unless the Transportation Commission finds that no unmet transit needs exist that can be reasonably met.
- If a finding of no unmet needs that are reasonable to meet is made, remaining funds can be spent on roadway construction and maintenance purposes.

- TDA-LTF funds allocated to the AMT program in FY 2006/07 totaled \$28,202, and usually no TDA funds are allocated to streets and roads. In FY 2008/09, LTF funding is anticipated to total \$60,000.

State Transit Assistance (STA) Funds

In addition to LTF funding, the TDA includes a State Transit Assistance (STA) funding mechanism. The sales tax on gasoline is used to reimburse the state coffers for the impacts of the one-fourth cent sales tax used for LTF. Any remaining funds (or “spillover”) are available to the counties for local transportation purposes. Being such a small County, Alpine receives only a small amount of STA funds each year (approximately \$10,000 in FY 06-07) and therefore has been keeping the funds as reserve for transit capital and operating expenses. Approximately \$22,000 in STA funds is in reserve at this time and could be used as a local match for a new vehicle.

Bicycle Transportation Account (BTA) Program

This program provides funding for projects that improve the safety and convenience for bicycle commuters. Local jurisdictions must have an adopted “Bicycle Transportation Plan” approved by Caltrans to be eligible for funding. Projects must conform to the requirements of Caltrans’ Highway Design Manual, Chapter 1000. Commuter bikeways are eligible.

Proposition 1B (PTMISEA)

On November 7, 2006, California voters approved Proposition 1B, the Highway Safety, Traffic Reduction, Air Quality, and Port Security Bond Act of 2006, which authorized the issuance of \$19.925 billion in general obligation bonds to invest in high-priority improvements to the state’s surface transportation system and to finance strategies to improve air quality. Among the programs contained in Proposition 1B is the \$3.6 billion Public Transportation Modernization, Improvement, and Service Enhancement Account (PTMISEA). When appropriated by the Legislature, funds in the PTMISEA are to be used to fund various mass transportation projects, including rehabilitation, safety or modernization improvements, capital enhancements or expansion, rail transit improvement, bus rapid transit improvements, the acquisition of rolling stock, and other similar investments. The funds in the PTMISEA are to be dispersed according to the formula used to distribute funds in the State Transit Assistance Fund (STA). Alpine County will receive about \$10,147 in PTMISEA funds in FY 2007/08.

Local Funding Sources

AMT has an agreement with the First Five Early Learning Center where unlimited transit trips are provided to the preschool children and their families in exchange for a \$5,000 farebox donation. This local funding source provides the majority of farebox revenue for AMT.

Supplemental Funding from County Human Services Programs

One potential source of income for the Alpine County transit program is funding from the Calworks and Adult Protective Services programs. Department of Health and Human Services staffs have indicated that they do not use their entire state allotment of funding for these programs and have expressed interest in sharing these funds with the County transit program. In order to justify the use of the social service program funds, AMT would need to serve the hours and destinations of HHS clients. Additionally, the amount of funding that could be transferred to the transit program should be directly related to the number of trips provided for HHS clients.

Calworks provides temporary financial assistance and employment-focused services to families with minor children who have income below the state poverty level. These clients would require transportation from Alpine County to the Minden/Gardnerville area 5 days a week. The bus would need to arrive in Minden/Gardnerville before 8:00 AM and leave Minden/Gardnerville no earlier than 5:00 PM. Direct-transfers to other DART services would ideally be possible. This would require an arrival time in Minden/Gardnerville of 7:30 AM. Adult Protective Services clients require transportation to medical appointments and shopping during the middle of the day. Therefore, a service that catered to HHS clients would require service beginning at around 6:30 AM and ending at 6:30 PM or a 12-hour service day. AMT service was just recently reduced from 12 hours to 8 hours and as demonstrated in the service alternatives section, Alpine County cannot afford more than 20 hours a week on the existing transit budget. Quick calculations show that operating costs of maintaining the existing 8 hour daily transit service would range from \$130,000 to \$148,000 depending on who operates the service. If Calworks clients were to fill up an entire bus (18 passengers) for a round trip to Minden/Gardnerville every weekday, approximately \$18,000 in farebox revenue could be assumed and paid for upfront by HHS. Even with this additional subsidy combined with the \$5,000 ELC farebox donation and \$3,500 or so of other farebox revenue, operating costs transit service 8 hours per day 5 days a week would still be over the available subsidy of \$80,000. To complicate matters, if service were operated from 6:30 AM to 6:30 PM, an additional part-time driver would be required. Therefore, operating AMT service that would fill the needs of Calworks clients is not a feasible option. HHS, however, should still continue to subsidize client transit trips that occur during AMT's service hours.

FTA 5311(c) Tribal Transit Program (TTP)

SAFETEA-LU amended FTA section 5311 to authorize tribes as direct recipients of 5311 program funds. This funding source is not meant to replace other federal funds available to Indian tribes or funds received through the main 5311 program. Funding is available for start-up services, enhancements or expansion of existing transit services, and for planning studies and operational planning. No local match is required and funding is based on a competitive process. Nationwide funding available through this program will reach \$15 million in Fiscal Year 2009/10.

The Washoe Tribe has already received \$25,000 TTP funds for the preparation of a transit plan. After completion of the plan, Alpine County should review recommendations from the plan that can be jointly pursued by the two entities. As Hung-a-Lel-Ti residents represent a substantial proportion of the transit dependent residents of the County, TTP funding is an attractive funding source for public transit in Alpine County.

Create Revenue through Goods Movement

Other counties have used goods movement as a way to boost revenues. The AMT bus could be used to transport packages, rental videos and other supplies between Minden/Gardnerville and Alpine County for a fee. It would be important that the time needed to pick up and drop off packages not significantly delay passengers. In addition, it should be noted that package revenues cannot be considered as “farebox revenue” when calculating farebox return ratio under the Transportation Development Act.

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Alpine County Short-Range Transit Development Plan

The following transit plan provides a road map for public transit services in Alpine County for Fiscal Years 2010/11 through 2014/15. This transit plan reflects the following:

- There is support for a transit program in Alpine County. A survey completed by 13 percent of total countywide residents indicated that almost 90 percent of respondents believe that a public transit program should be provided.
- Despite the rural character of the area, there are important transportation needs that depend upon the provision of public transit services. In particular, there is a need for Alpine County residents that cannot use an automobile to access shopping and medical services, and for children to access education. The majority of these services are located in Douglas County, South Lake Tahoe, Carson City, Reno or other urbanized areas outside of Alpine County.
- The recent increase in fuel costs is impacting all elements of society, particularly lower income residents in remote rural areas like Alpine County. Low-cost access to urban services may well be crucial in allowing some existing residents to stay in Alpine County.
- Stakeholders in Alpine County have come to the consensus that although a fixed route transit system would be beneficial to transit dependent residents, there is insufficient funding to operate frequent fixed route service and the region would be better served by a Dial-A-Ride system.

During the transit plan process, several changes occurred with respect to transit in Alpine County:

- The AMT bus experienced mechanical failure, with repairs estimated to cost more than the bus is worth.
- The contract with DART ended on June 30, 2008.
- DART is not willing to enter into a new contract with ACLTC.
- Therefore, AMT bus service ceased operation as of July 1, 2008, and HHS began operating interim demand response transit service.
- A five passenger wheelchair accessible mini-van was purchased in 2009 and Alpine County officially began operating general public Dial-A-Ride service.
- Alpine County has undergone staff reorganization due to budget cuts. The Transit Coordinator position has been eliminated and the duties will be performed by Community Development Department staff.

This revised transit plan encompasses Fiscal Years 2010-11 through 2014/15, and was developed in response to these changes, input from ACLTC, and other Alpine County stakeholders. This short-range transit plan also meets the fiscal constraints of the Fiscal Year 2010-11 transit budget. Much of the analysis used as a basis for the plan is presented in previous chapters; the reader is encouraged to refer to previous chapters for additional information and discussion regarding the various plan elements presented below.

SERVICE PLAN

Early Learning Center Service

As the Early Learning Center children have accounted for half of the ridership on AMT in the past, considerable time and effort was put into trying to design a service plan element that benefits both the general public and the Early Learning Center preschoolers. Unfortunately, Alpine County and the consultant came to the conclusion that it is not financially feasible to operate a general public transit service five days per week, as would be required for ELC service. Additionally, it could not be demonstrated that if TDA funds were provided directly to the Office of Education to operate their own transit service for the preschoolers that this specialized transit service could be coordinated with other general public transit services in Alpine County. Therefore, the Office of Education is currently researching possibilities for providing their own transit service for the ELC students.

Dial-A-Ride Service

After much debate and public input, ACLTC decided that a Dial-A-Ride system is the most appropriate transit service type for Alpine County. The intent of stakeholders is to build on the existing transportation provided by the HHS department and implement a transit program on a scale which can easily be managed by the County within current budget and staffing restrictions. The advantage of a Dial-A-Ride service for Alpine County is that the system can serve a wide range of transit destinations without a transfer. In Alpine County, some passengers require service to Minden/Gardnerville for shopping and medical needs while Medicaid recipients require transportation to medical services in California (Placerville or South Lake Tahoe). The disadvantage of a Dial-A-Ride is that demand response transit services are not as productive as fixed route services as the transit vehicle does not typically carry more than two to three passengers at one time. Additionally, due to the long distance between trip origin and destinations, the Dial-A-Ride vehicle is required to wait for the passenger(s) during the appointment or shopping trip thereby incurring vehicle hours when the vehicle is unavailable to pick up other passengers.

A financially constrained Dial-A-Ride service should include curb to curb general public service three days a week (Tuesday, Wednesday and Thursday) from 8:00 AM to 5:00 PM. The service area should incorporate the eastern portion Alpine County and other common medical, social service and shopping destinations in both Nevada and California. These destinations include Markeleville, Woodfords, Hung-A-Lel-Ti, Minden, Gardnerville, Dresslerville, South Lake Tahoe, Carson City, Reno and Placerville.

Passengers should be encouraged to book rides 48 hours in advance with priority booking given to senior and disabled passengers. Trip purpose should not be used as a basis for ride priority. The fare structure for Alpine County Dial-A-Ride should reflect trip distance, as the service area is quite expansive. For example, a \$2.00 fare per one-way trip could be charged for local trips in the Markleeville area while \$10.00 per one-way trip fare could be charged for rides to Carson City. Service to Reno and Placerville or other distant destinations should be limited to medical and social security purposes only and charged a higher rate of \$15.00 per one-way trip.

Another benefit of implementing a small Dial-A-Ride program is that the service can be operated “in house” by the Community Development Department. The community development director will act as the “transit manager” and be responsible for oversight of the program. Day to day operations will be conducted by other Community Development staff including the community development manager and part-time driver.

Table 23 presents estimated ridership and cost data for the new Alpine County Dial-A-Ride system for Fiscal Year 2010/11. Operating data estimates are based on actual operating statistics collected by the Dial-A-Ride driver from October 2009 to April 2010. The service will require approximately 900 vehicle hours and 17,800 vehicle miles each year and carry a total of 520 one-way passenger trips. The Dial-A-Ride service is estimated to cost \$65,000 per year.

TABLE 23 : Alpine County Transit Operator								
FY 2010-2011 Ridership, Cost Estimates, Performance Measures								
Dial-A-Ride	Days per Year	Annual					Ridership Impact (One-Way Trips)	
		Miles	Hours	Operating Costs	Farebox Revenue ⁽¹⁾	Subsidy Required	Daily	Annual
Ridership and Cost Estimates	150	17,800	900	\$65,000	\$2,100	\$62,900	3	520
Dial-A-Ride		Annual						
		Pax Per VSM	Pax Per VSH	Cost Per Pax Trip	Farebox Ratio	Subsidy Per Pax Trip		
Performance Measures		0.03	0.6	\$125.00	3.23%	\$120.96	--	--
Note 1: Assumes average fare of \$4.00 (based on actual fares October 2009 - April 2010).								

Table 23 also presents performance indicators for the Dial-A-Ride service. This plan element is anticipated to carry 0.03 one-way passenger trips per vehicle service mile and 0.6 one-way passenger trips per vehicle service hour. Operating cost per passenger trip is estimated at \$125. Assuming an average fare of around \$4.00 (based on actual fares from October 2009 to April 2010), approximately \$2,100 in fare revenue is anticipated. Dividing fare revenue by operating costs provides a farebox ratio of 3.2 percent which meets the one percent farebox ratio criteria recently adopted by ACLTC.

The Dial-A-Ride program will initially be operated using one wheelchair accessible minivan. The vehicle recently purchased by the County has the capacity for five ambulatory passengers and two wheelchair tie-downs. This size vehicle is sufficient for existing transit demand however; the small capacity leaves little room for growth of the transit system. Additionally, there is no

wheelchair accessible backup vehicle in case maintenance is required. Alpine County is located in mountainous terrain where chains are often required on roadways. As the existing minivan is not well equipped for the snow, there is no transit service on snow days. In the future, procuring a larger van with on spot chains is recommended in the capital plan.

This Dial-A-Ride service plan element does not represent an improvement in ridership or productivity over previous transit services. Most notably, the estimated operating cost per passenger trip of \$130 for Dial-A-Ride is significantly higher than AMT's actual operating cost per passenger trip of \$24. However, at least for the short term, the Dial-A-Ride option represents a feasible method of fulfilling unmet transit needs on a reduced budget.

Community Development Department staff should closely track ridership levels in the first year of service to determine common trip patterns. For example, if there are repeated requests for service to South Lake Tahoe on Tuesdays or Minden/Gardnerville at 9:00 AM, the Community Development Department could establish a set day and time for service to these destinations.

According to the general public mail in surveys, Minden/Gardnerville is the most popular transit destination. The majority of respondents would also like to see transit service five days per week. If there is significant transit demand for service to the Minden/Gardnerville area on a regular basis that exceeds the capacity of the minivan, and if funding levels allow, the Community Development Department could consider implementing one of the Minden/Gardnerville service alternatives without service to the Early Learning Center using a larger capacity vehicle.

FINANCIAL PLAN

Table 24 presents the overall "constrained" financial plan. The Transportation Reimbursement Program (listed below) is considered financially "unconstrained" and should be implemented as funding becomes available. As shown in the table, total annual operating costs for the transit service plan are approximately \$65,000 and annual operating transit revenues are estimated at \$72,100, leaving a positive balance of \$7,100. This is a reasonable level of contingency funding for the early years of the program, which could potentially be allocated to expand services in future years after costs are better defined.

CAPITAL PLAN

Table 25 presents the capital plan. ACLTC recently (in 2009) purchased a five passenger plus two wheelchair position minivan. This vehicle is sufficient for the short-term needs of the Alpine County Dial-A-Ride service; however, the vehicle cannot be operated on snow days and will not allow for ridership growth of the transit system. As the vehicle accrues more mileage, having a backup vehicle will prevent interruptions in transit service due to mechanical failures. The FTA service life standard for a minivan is 4 years or 100,000 miles. Therefore, it is recommended that as soon as funding allows, Alpine County purchase a Type I or Type II small transit vehicle with a passenger capacity of less than 10 persons, from the state contract. As a commercial driver's license is not required for a vehicle transporting fewer than 10 people, additional costs in licensing and training will not be incurred.

**TABLE 24: Alpine County Transit Financial Plan
FY 2010-11**

Plan Element	\$
Operating Plan ⁽¹⁾	
<u>Annual Operating Costs</u>	
Dial-A-Ride Expenses	
Administrative Salaries and Benefits	\$ 23,400
Part-time Driver Wages	\$ 16,200
Professional Services	\$ 8,000
Fuel	\$ 4,000
Insurance	\$ 7,400
Marketing	\$ 1,000
Vehicle Miscellaneous	\$ 2,000
Miscellaneous	\$ 3,000
<i>Total Annual Operating Costs</i>	<i>\$ 65,000</i>
<u>Annual Operating Revenues</u>	
Farebox Revenues	\$ 2,100
LTF Revenues	\$ 45,000
FTA Section 5311	\$ 25,000
<i>Total Annual Operating Revenues</i>	<i>\$ 72,100</i>
Balance	\$ 7,100
<p>Note 1: Operating costs and revenues are anticipated to remain flat over the next five years. This represents a financially constrained plan. Source: LSC Transportation Consultants, Inc.</p>	

TABLE 25: Alpine County Transit Capital Plan

	FY 10-11	FY 11-12	FY 12-13	FY 13-14	FY 14-15
Capital Costs					
Purchase Type I or II Vehicle	\$ -	\$ -	\$ 70,000	\$ -	\$ -
<i>Total Capital Cost</i>	<i>\$ -</i>	<i>\$ -</i>	<i>\$ 70,000</i>	<i>\$ -</i>	<i>\$ -</i>
Capital Revenues					
TDA - STA/LTF	\$ 25,000	\$ 27,000	\$ 27,000	\$ 25,000	\$ 25,000
PTMISEA	\$ -	\$ -	\$ 45,000	\$ -	\$ -
<i>Total Capital Revenues</i>	<i>\$ 25,000</i>	<i>\$ 27,000</i>	<i>\$ 72,000</i>	<i>\$ 25,000</i>	<i>\$ 25,000</i>
Balance	\$ 25,000	\$ 52,000	\$ 54,000	\$ 79,000	\$ 104,000

Source: Alpine County, LSC.

The estimated cost of a Type I or II short vehicle purchased on the state contract with automatic chains and taxes is \$70,000. Alpine County obtained roughly \$45,000 in PTMISEA funds which can be put towards the purchase of a new vehicle in FY 2012-13. The difference can be financed with TDA funds. The “vehicle miscellaneous” category in the Alpine County Transit Financial Plan (Table 25) accounts for a small set aside of LTF funds for the purchase of a new vehicle. Recent legislative action has secured funding for the STA program. Alpine County expects to receive around \$25,000 in STA funds annually which can be used for either operating or capital purposes.

OTHER PLAN ELEMENTS

Transportation Reimbursement Program

In order to serve the needs of transportation-dependent residents that occur outside the service hours and area of the Dial-A-Ride service, a transportation reimbursement program could be established as funding becomes available. The general idea behind a transportation reimbursement program is to provide financial assistance to individuals who are unable or cannot afford to drive themselves to medical and social service appointments. Reimbursements can be provided in the form of gas vouchers directly to the individual in need or to a volunteer driver recruited by the individual in need. This type of a transportation reimbursement program does not maintain a list of volunteers; rather, it is up to the program participants to arrange their own volunteer driver. The primary benefit of this program is that it will benefit the entire County, not just the eastern portion. Additionally, this program will help meet transit needs that cannot be accommodated by the Dial-A-Ride Program. Finally, as passengers choose their own volunteer driver, the County avoids a role in designating individuals as drivers and thereby minimizes any potential liability.

The Community Development Department ideally should administer the program. The Alpine County Transportation Reimbursement program should incorporate the following requirements:

- Qualified program participants must be:
 - An Alpine County resident, and
 - Low-income individual (those in household with income less than 200 percent of the poverty level) with no transportation, or
 - Unable to drive due to medical conditions, or
 - Unable to drive because of advanced age (65 years or older).
- Qualified program trips would include medical and social service appointments in Minden/Gardnerville, South Lake Tahoe, Carson City, and Reno.
- Volunteer drivers should be recruited by program participants and should be reimbursed at the rate determined appropriate by the Social Services Transportation Advisory Committee (SSTAC). Additionally, gas vouchers should be provided to low-income persons with a vehicle for qualified trips at the same rate.

Approximately \$10,000 annually in TDA funds should be made available to pay for transportation reimbursements. Any reimbursement funds not spent during a fiscal year will be returned to the program the following year. If warranted, the transportation reimbursement annual budget could be increased by demand and if adequate funds are available.

Suggested steps to implementing a transportation reimbursement program in Alpine County are as follows:

1. Develop a program application that incorporates the following:
 - Description of eligibility requirements and procedures of the program.
 - Participant information, emergency contact and signature that certifies eligibility.
 - Volunteer driver information and certification
 - Volunteer name, program participant, trip origin and destination.
 - Certification that a volunteer holds a valid California Driver's License, auto liability insurance and vehicle registration.
 - Medical/social service appointment certification
 - Name, address and phone number of facility
 - Date and time of appointment
 - Mileage chart for trips between Alpine County and Minden/Gardnerville, Carson City, Reno, and South Lake Tahoe.
 - Hold harmless agreement that releases Alpine County from liability. The program participant and volunteer driver should sign the agreement.
 - Receipt for transportation funds that states the agreed upon distance and amount of reimbursement and is signed by the program participant.
2. A process should be established to ensure the proper use of vouchers: The first time an applicant is processed, the program administrator should meet with the applicant and volunteer driver to verify eligibility and documents. Requests for vouchers from an established client or volunteer will not require additional meetings. For each voucher request, however, the transit coordinator should contact the medical or social service provider to verify the applicant's appointment. After approval, the applicant or volunteer driver will receive a gas voucher based on the reimbursement rate and the mileage chart. This rate can be based upon the current Internal Revenue Service rate of \$0.50 per mile and modified in the future.

3. The program administrator should obtain a list of HHS clients who have required transportation in the past. This will assist with determining eligibility for program applicants.
4. Establish a method for recording and accounting for trips and vouchers:
 - Develop a spreadsheet or database of program participants that includes eligibility information, contact information, and medical and social service providers.
 - Each trip and voucher provided should be recorded. The program administrator should provide a monthly update of vouchers provided and funds left available in the program to ACLTC.
5. The program administrator will need to contract with a local gas station for the fuel vouchers. Once program applicants and/or volunteers are approved, they will be provided with a fuel voucher. The voucher will be redeemable at the contracted gas station for a set dollar amount. The gas station could collect the vouchers and bill the County monthly.
6. Obtain approval from legal counsel on application and agreements.
7. Market the program. All HHS staff should be familiar with the program, as they are the first point of contact for many transportation dependent residents.

Encourage Provision of Public Transit Connections between Calaveras County and Bear Valley, between Kirkwood and Amador County, and between Kirkwood and South Lake Tahoe

Transit services to these key Alpine County activity centers benefits the region by reducing traffic levels and encouraging increased visitation. While this plan does not include ongoing funding through Alpine County for these services, the County should look for opportunities to build these transit programs through the land use planning process, or through joint marketing efforts.

Expand Marketing

In Fiscal Year 2006/07, 0.24 percent of the transit-operating budget was spent on marketing. According to the American Public Transit Association, transit providers commonly budget between 0.75 and 3.0 percent of their gross budget on marketing promotions (excluding salaries) with the majority around 2 percent. In addition, 8.5 percent of mail-in survey respondents (that live in the eastern portion of Alpine County where transit service is available) were not aware of AMT services. Alpine County should set aside approximately \$1,000 each year for annual marketing expenses such as updating published schedules and community outreach. Alpine County recently developed Dial-A-Ride Service Guidelines which are available in paper format and are displayed on the County website. Using the balance of transit operating funds the following marketing plan elements should be pursued to the extent possible:

- Develop a Spanish version of the Dial-A-Ride Guidelines, and provide copies to social service agencies and Hispanic advocacy groups
- Develop an informational poster about Dial-A-Ride to place at the Markleeville General Store, post offices and Hung-a-Lel-Ti community center.
- Establish a brand for use on the vehicle, signs, facilities and materials
- Outreach to potential transit “gatekeepers” such as HHS staff and Tribal TANF. Conduct presentations at senior lunches and social service program sites to encourage transit use.

Rideshare Program

Even with provision of the limited transit service discussed in this plan, many transportation needs, particularly for commuting, will not be addressed. Additionally, Alpine County does not provide transit service to the western portion of the county. Given the low population and employment levels in Alpine County, a ridesharing program is an appropriate means of meeting additional transportation needs. Alpine County is in the process of partnering with neighboring counties to become a participant in the Foothill Rideshare database and website. Foothill Rideshare is a comprehensive website and rideshare matching database for Calaveras, Amador and Tuolumne counties. The website also includes links to transit information, RTPA meetings and SSTAC meetings for participating counties. Foothill Rideshare will be particularly helpful for western county residents as both Calaveras and Amador counties are included in the database.

Coordination with Health and Human Services

An important element of the overall Alpine County Transit Plan is coordination with other entities, which are involved with the transit dependent population. The HHS department has been operating an informal transportation service for clients using non-wheelchair accessible vehicles. This transit plan was designed to serve as many transit needs as possible within financial limitations of public transit funding. However, there are transit needs such as service on Mondays and Fridays which can not always be met by Dial-A-Ride, but which could be filled by the HHS department. Coordination with the HHS department is key as HHS staff could boost public transit ridership by encouraging clients to schedule appointments during Dial-A-Ride service hours. As a convenience to clients, HHS staff could sell monthly passes out of their office.

Coordinate with the Washoe Tribe

This document provides a general overview of the transit needs of the Washoe Tribe in Alpine County. The tribe has received funding to develop a tribal transit plan. The Community Development Department should become involved in this process as much as possible and review opportunities for coordination between Alpine County and the Washoe Tribe. As discussed in Chapter 5, a unique federal transit-funding source is available to the Tribe that is not available to Alpine County.

Emergency Evacuation

Wildfire is a potential threat to the residents of Alpine County that could require the swift evacuation of residents. The transit vehicle constitutes a valuable community resource for providing transportation in case of an emergency, particularly for disabled residents or persons without a vehicle. The Community Development Department should coordinate with the Sheriff's Department and other emergency responders to make them aware of the availability of the wheelchair accessible minivan, and to establish procedures by which the vehicle can be made available in a timely fashion.

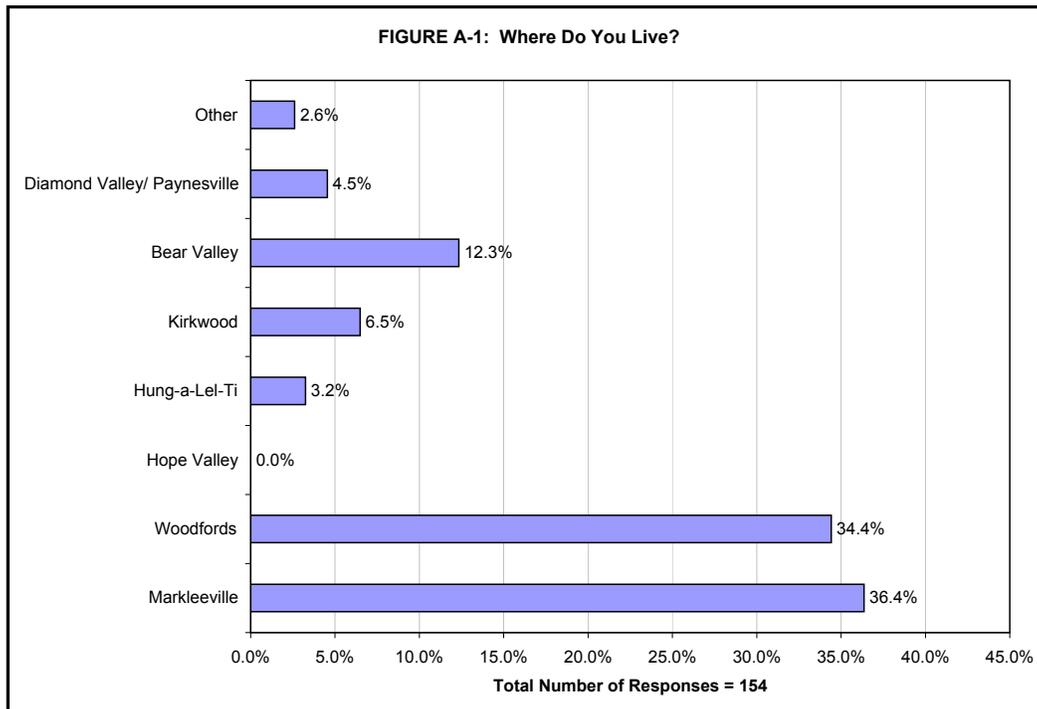
Appendix A
Detailed Survey Results

Appendix A – Alpine County Mail-In Survey Results

On April 10, 2008, surveys were mailed to each post office box and home on the Markleeville post office route. On May 5, 2008, surveys were mailed to each post office box in Bear Valley and Kirkwood. The survey form included separate answer spaces for three members of the household. A total of 87 households returned completed survey forms in a timely fashion, and the input of 269 persons was collected. This represents approximately 13.4 percent of the estimated 2007 Alpine County population.

The form itself (see Attachment A-1) uses a sequential format that asks respondents to only respond to pertinent questions. For example, if a person is retired, we do not want him or her to answer questions regarding commute patterns. This on-going “filtering” process helps us address the real needs of individuals in addition to assessing attitudes about public transportation. Results are shown graphically and in tabular format on the following pages. The graphs and tables closely follow the format of the survey form. Where applicable, the results of this 2008 survey are compared to results from a similar survey conducted by LSC Transportation Consultants, Inc. in 2000 as part of the *Alpine County Countywide Transit Needs Assessment*. Specific results include:

- Nearly 75 percent of respondents live in or near the Markleeville/Woodfords area (36.4 percent in Markleeville, 34.4 percent in Woodfords and 3.2 percent in the Woodfords Indian Community of Hung-a-Lel-Ti). See Figure A-1 for details. This relatively high concentration of residents along one corridor confirms the provision of public transportation in this location.



- Approximately 90 percent of respondents are full-time residents of Alpine County.
- A total of 7.8 percent of respondents have zero operable vehicles, and another 15.7 percent have only one operable vehicle. See Table A-1 and Figure A-2 for details. These figures are consistent with data collected in the 2000 U.S. Census, which showed that only 6.2 percent of households had no automobiles. Interestingly, these figures are lower than results from the 2000 mail in survey conducted by LSC Transportation Consultants, Inc. which showed that 9.2 percent of households had no vehicle available to them.

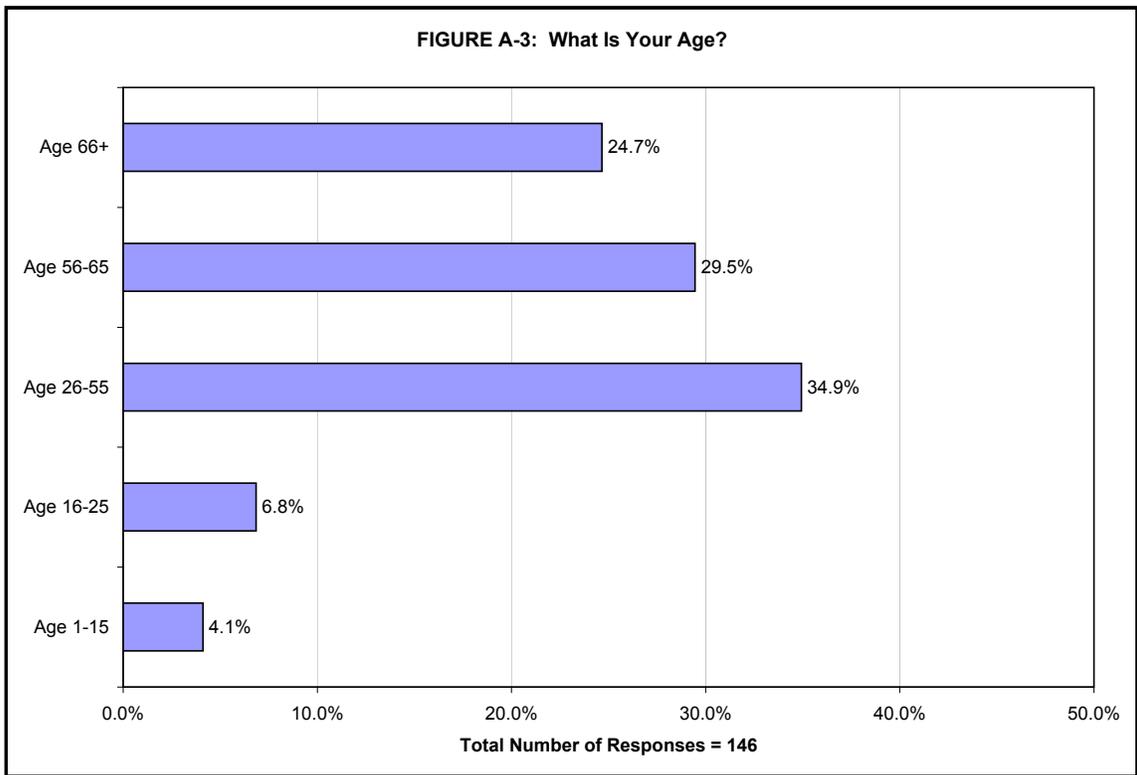
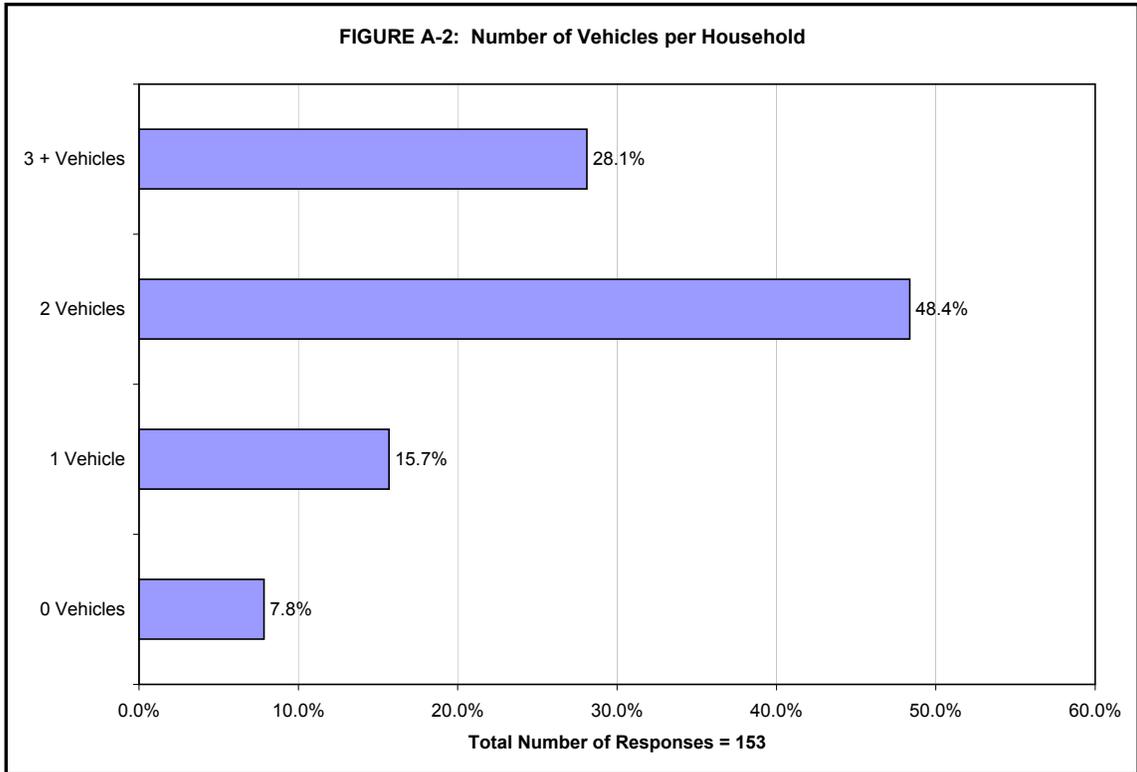
The rate of ownership varies according to where the respondent lives. Approximately two-thirds of survey respondents with no vehicle available live in Woodfords or Hung-a-Lel-Ti. Another 25 percent of respondents with no vehicle available live in Markleeville. Table A-1 presents this information in more detail.

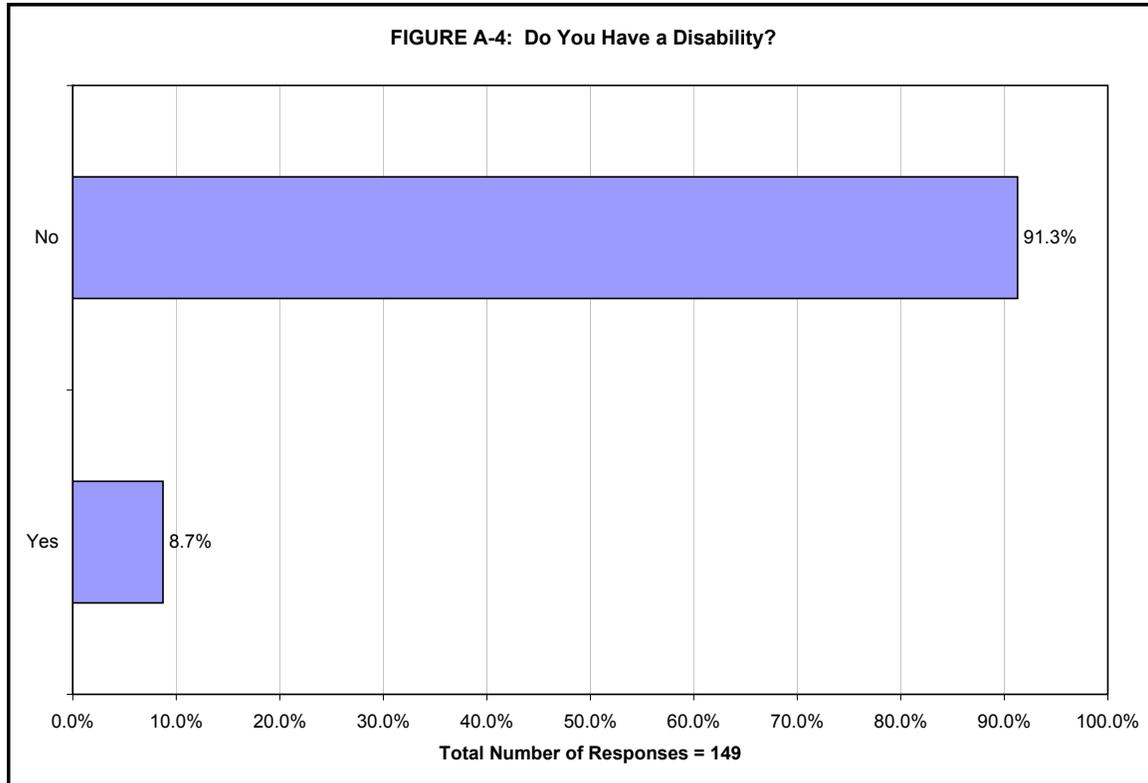
- Most respondents were between the ages of 26 and 55 years of age, as shown in Figure A-3. The average age of all respondents was 53 and 41.8 percent of the respondents were over 60 years old. The percentage of senior respondents is significantly higher than the figures collected in the 2000 U.S. Census. Indeed, the census figure was 9.9 percent. It seems this particular segment made a strong effort to submit input.
- Only 13 respondents (8.7 percent) reported having a mobility limitation. In 2000, 14.9 percent had a mobility limitation. Of these, only four persons (2.7 percent) use a wheelchair. See Figure A-4 for details. The first figure is significantly higher than the 2000 U.S. Census figure where 1.7 percent of the population has a mobility limiting disability (as wheelchair use is not evaluated by the U.S. Census Bureau, however, no comparison can be made).
- Tables A-2 through A-5 present where Alpine County residents go for medical, banking, pharmacy, and grocery shopping. As shown, the Minden-Gardnerville area is the prime destination for these services. Carson City is the next most popular destination for these services, particularly for medical services and grocery shopping, followed by South Lake Tahoe and Calaveras County.
- Almost 96.6 percent of respondents 16 years old or older have a driver's license. Of these, 95.8 percent have access to an operable automobile.
- The majority of Alpine County residents (77.6 percent) are aware of AMT services. Approximately 61.8 percent of the residents not aware of transit service live in the western portion of the county which is not serviced by AMT. Nevertheless, the data reveals that increased marketing could be beneficial for AMT.
- Slightly less than 40 percent of respondents are retired. This figure is not abnormally high considering the tranquil environment and relatively remote location of Alpine County. Note that persons who stated they are retired were asked to skip to question number 15 on the survey (see Attachment A-1 for details).

TABLE A-1: Number of Vehicles Available by Area

Area of Alpine County	0-Car Available		1-Car Available		2-Cars Available		3+ Cars Available		Total Respondents ⁽¹⁾	
	Number of Respondents	Percent of Total	Number of Respondents	Percent of Total						
Markleeville	3	25.0%	7	29.2%	31	41.9%	15	34.9%	56	36.6%
Woodfords	4	33.3%	5	20.8%	28	37.8%	16	37.2%	53	34.6%
Hung-a-Lel-Ti	4	33.3%	0	0.0%	1	1.4%	0	0.0%	5	3.3%
Kirkwood	0	0.0%	7	29.2%	3	4.1%	0	0.0%	10	6.5%
Bear Valley	1	8.3%	4	16.7%	10	13.5%	3	7.0%	18	11.8%
Diamond Valley/ Paynesville	0	0.0%	1	4.2%	1	1.4%	5	11.6%	7	4.6%
Other	0	0.0%	0	0.0%	0	0.0%	4	9.3%	4	2.6%
Total	12	7.8%	24	15.7%	74	48.4%	43	28.1%	153	100.0%

Note 1: Only includes surveys who indicated both area of residence and number of vehicles available.
Source: Alpine County 2008 Mail-In Survey.





- Greater than 75 percent of respondents who are not retired work outside the home or go to school beyond high school. Note that respondents who stated they did not work outside the home or go to school beyond high school were asked to skip to question 15 on the survey (see Attachment A-1 for details).

Of those respondents who did work outside the home or go to school beyond high school, approximately 50 percent of respondents work or go to school in Alpine County. As shown in Figure A-5, 25.0 percent of respondents work in Markleeville. The next largest proportion of respondents (21.3 percent) work or go to school in Minden/Gardnerville. Table A-6 presents a cross tabulation of where respondents live and go to work/school. A significant number of respondents live and work in the same area and therefore have no need for AMT service for commuting purposes.

Approximately 81 percent of respondents drive alone to work or school, as presented in Figure A-6. Of these:

- Just over 78 percent need an automobile for personal or business reasons during the workday.
- Approximately 12.5 percent drop-off or pick-up a child on the way to work or school.

TABLE A-2: Where People Live Vs. Where They Go for Medical Services

Location of Medical Services	Where People Live								Total	Percent of Total
	Markleeville	Woodfords	Hung-a-Lel-Ti	Kirkwood	Bear Valley	Diamond Valley / Paynesville	Other			
Markleeville	0	3	0	0	0	0	0	0	3	1.8%
Gardnerville/Minden	29	38	3	3	0	5	4		82	48.8%
South Lake Tahoe	11	6	1	5	0	0	0		23	13.7%
Carson City	20	13	0	0	0	1	0		34	20.2%
Reno	3	1	0	0	1	1	0		6	3.6%
Calaveras County	0	0	0	0	10	0	0		10	6.0%
Amador County	0	0	0	1	0	0	0		1	0.6%
Sonora	0	0	0	0	1	0	0		1	0.6%
Other	2	0	0	1	5	0	0		8	4.8%
Total	65	61	4	10	17	7	4		168	100.0%

Note: Some respondents indicated multiple locations for medical services.
Source: Alpine County 2008 Mail-In Surveys

TABLE A-3: Where People Live Vs. Where They Go for Banking Services

Location of Banking Services	Where People Live								Total	Percent of Total
	Markleeville	Woodfords	Hung-a-Lel-Ti	Kirkwood	Bear Valley	Diamond Valley / Paynesville	Other			
Markleeville	0	2	0	0	0	0	0		2	1.4%
Gardnerville/Minden	39	46	3	3	0	6	2		99	67.8%
South Lake Tahoe	6	3	1	4	0	0	0		14	9.6%
Carson City	6	6	0	1	0	0	0		13	8.9%
Reno	1	0	0	0	0	0	0		1	0.7%
Calaveras County	0	0	0	0	13	0	0		13	8.9%
Amador County	0	0	0	0	0	0	0		0	0.0%
Sonora	0	0	0	0	0	0	0		0	0.0%
Other	0	0	0	0	4	0	0		4	2.7%
Total	52	57	4	8	17	6	2		146	100.0%

Note: Some respondents indicated multiple locations for banking services.
Source: Alpine County 2008 Mail-In Surveys

TABLE A-4: Where People Live Vs. Where They Go for Pharmacy Services

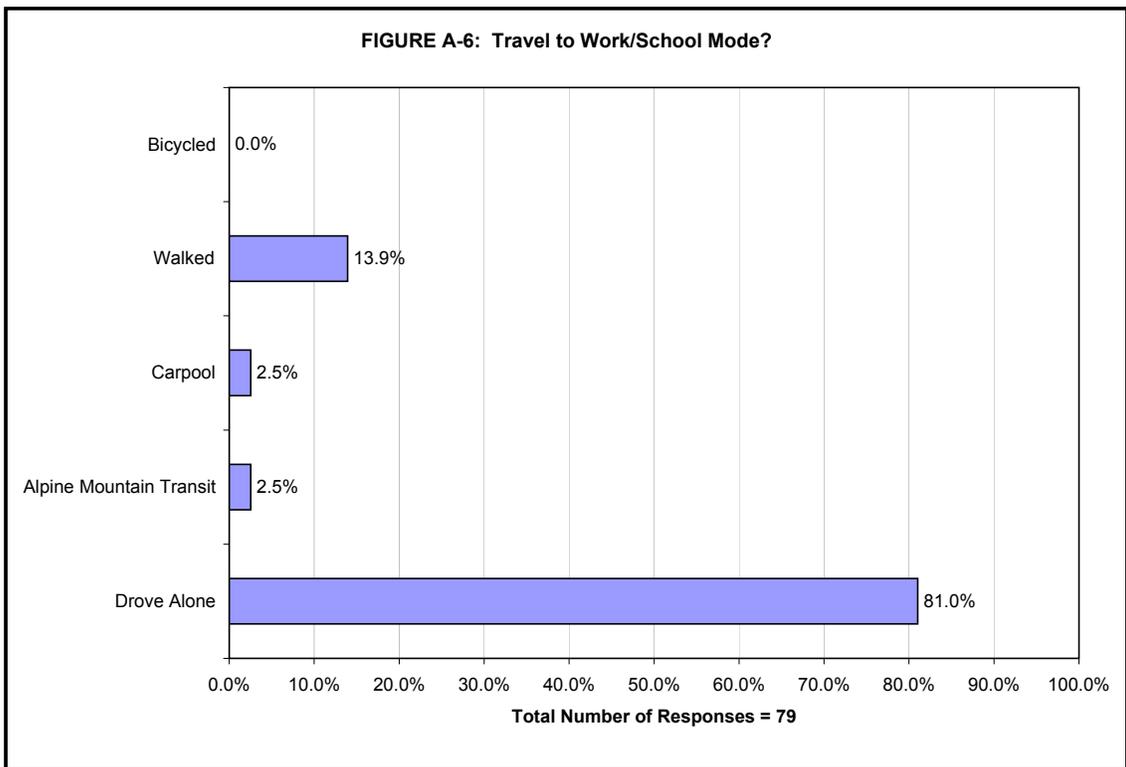
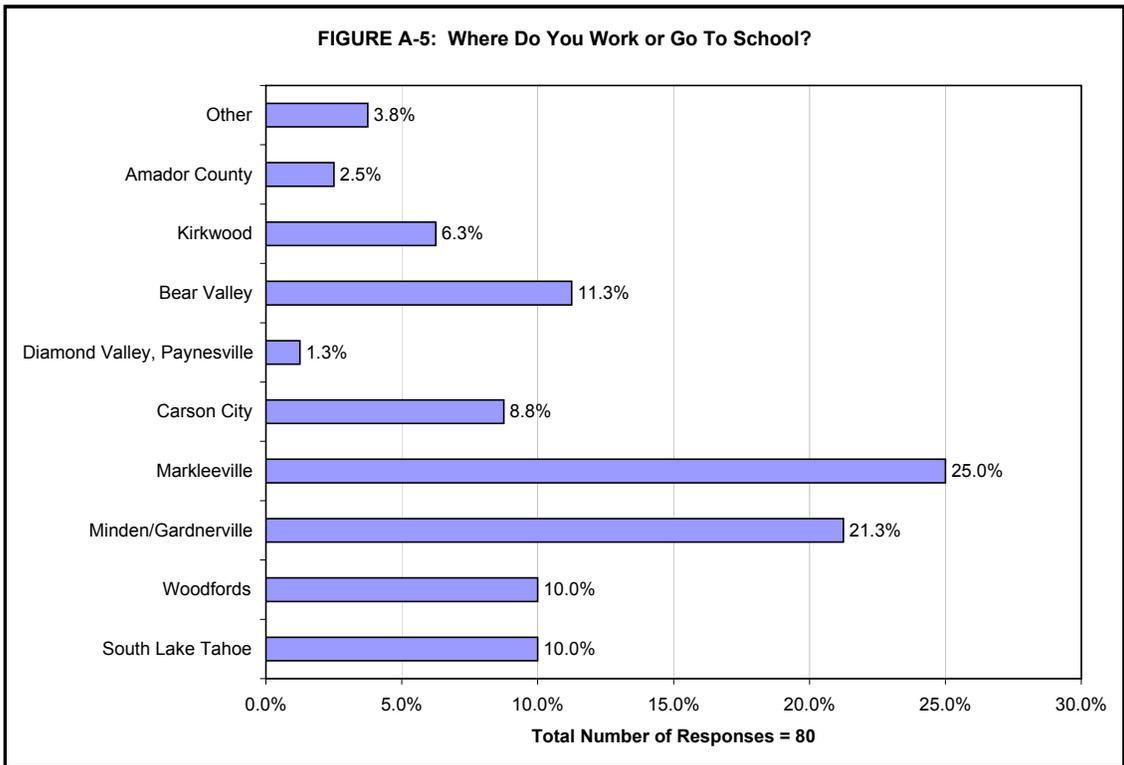
Location of Pharmacy Services	Where People Live							Total	Percent of Total
	Markleeville	Woodfords	Hung-a-Lei-Ti	Kirkwood	Bear Valley	Diamond Valley / Paynesville	Other		
Markleeville	1	5	0	0	0	0	0	6	4.0%
Gardnerville/Minden	40	45	3	3	0	6	4	101	67.3%
South Lake Tahoe	2	0	1	4	0	0	0	7	4.7%
Carson City	11	6	0	2	0	0	0	19	12.7%
Reno	1	0	0	0	1	0	0	2	1.3%
Calaveras County	0	0	0	0	10	0	0	10	6.7%
Amador County	0	0	0	0	0	0	0	0	0.0%
Sonora	1	0	0	0	1	0	0	2	1.3%
Other	1	0	0	0	2	0	0	3	2.0%
Total	57	56	4	9	14	6	4	150	100.0%

Note: Some respondents indicated multiple locations for pharmacy services.
Source: Alpine County 2008 Mail-In Surveys

TABLE A-5: Where People Live Vs. Where They Go for Groceries

Location of Grocery Store	Where People Live							Total	Percent of Total
	Markleeville	Woodfords	Hung-a-Lei-Ti	Kirkwood	Bear Valley	Diamond Valley / Paynesville	Other		
Markleeville	0	0	0	0	0	0	0	0	0.0%
Gardnerville/Minden	39	47	3	3	0	6	4	102	61.8%
South Lake Tahoe	2	0	0	4	0	0	0	6	3.6%
Carson City	17	12	0	2	0	3	0	34	20.6%
Reno	2	0	0	0	0	0	0	2	1.2%
Calaveras County	0	0	0	0	14	0	0	14	8.5%
Amador County	0	0	0	1	1	0	0	2	1.2%
Sonora	0	0	0	0	2	0	0	2	1.2%
Bear Valley	0	0	0	0	2	0	0	2	1.2%
Other	0	0	0	0	1	0	0	1	0.6%
Total	60	59	3	10	20	9	4	165	100.0%

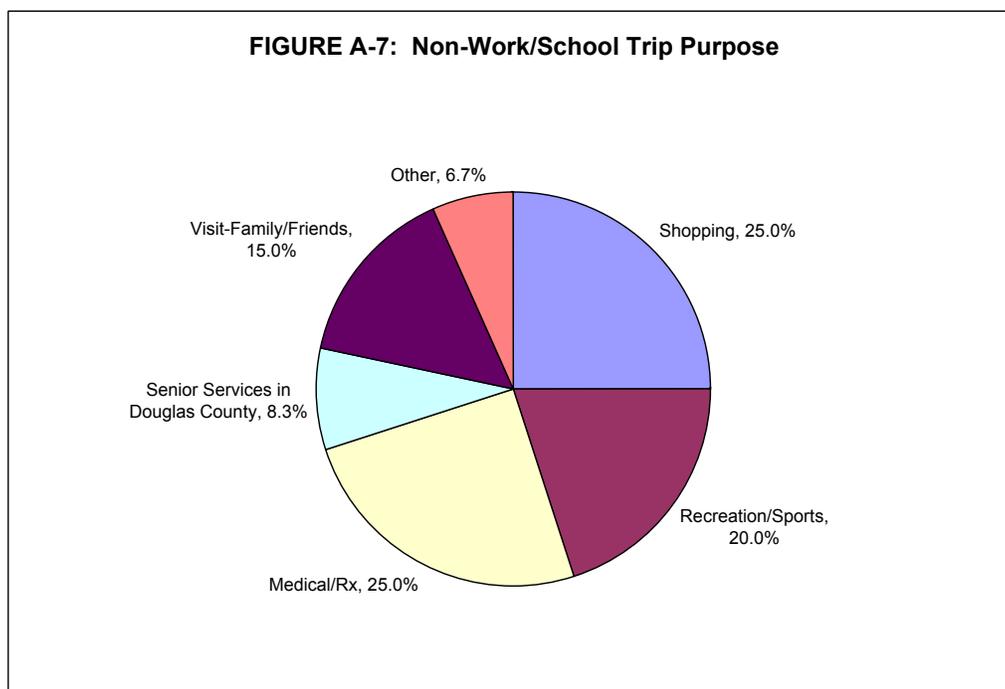
Note: Some respondents indicated multiple locations for groceries.
Source: Alpine County 2008 Mail-In Surveys



- Only 2.5 percent of respondents or two respondents stated that they use AMT to travel to work/school. One of these transit commuters has two vehicles available to them and the other has no vehicle available in their household.
- Only 23 percent of respondents (32 respondents) stated that they use AMT for purposes other than work or school. As shown in Figure A-7, shopping and medical appointments make up half of the non-work transit trips. Recreation and sports represent 20 percent, visiting family and friends represents 15 percent, Douglas County Senior Services represent 8.3 percent and “Other” represents 6.7 percent of non-work/school related transit trips on AMT.

Of those respondents who use AMT for non-work/school related purposes, 53.1 percent of respondents (17 respondents) had two or more vehicles available in their household, 21.9 percent or 7 respondents had one vehicle available to them and 25 percent of respondents (8 respondents) had no vehicle available to them. These results demonstrate that not just the transit dependent Alpine County residents use the public transit system.

- Overall, nearly 90 percent of respondents stated a bus should continue to serve Alpine County. Although the majority of respondents would like the bus to serve areas currently served such as Minden/Gardnerville and Markleeville, a considerable number of respondents feel that Kirkwood, South Lake Tahoe and the western portion of the county should be served by transit. When asked whom should AMT be designed to serve, only 20 percent of respondents felt that transit service should be designed to only serve seniors and disabled while 80 percent of respondents feel that the service should be designed to benefit the general public. Most respondents would like transit service from 8:00 AM to 5:00 PM five days a week at least. Many respondents would like service seven days per week or earlier and later service.



Suggestions for transit service in Alpine County are included as Attachment A-2.

In summary, respondents feel that the bus schedules should be adjusted so as to accommodate employees living in Woodfords/Markleeville and working in Minden/Gardnerville. Respondents would like service directly to Carson City without a transfer and would like service to South Lake Tahoe and Kirkwood. Implementing transit services in the western portion of the county was also addressed, particularly for employees of the ski resorts. Several respondents feel that a demand–response type of service would be more effective in Alpine County. Improve marketing and post bus schedules were other suggestions.

Conclusions

Broad conclusions of the survey can be summarized as follows:

- Based on results of the survey, a substantial majority of all residents support some form of public transportation.
- The majority of respondents have at least one vehicle available to them. This is confirmed by the 2000 Census data. Therefore AMT service would have to be significantly more frequent and convenient for more residents to switch transportation modes.
- Most respondents feel that AMT should not just focus on serving the specialized transportation needs of persons without access to an automobile such as youth, seniors and disabled. This demonstrates that efforts should be made to serve the general public as well as the preschool children at the Early Learning Center.
- Meeting the transportation needs of commuters (including persons who go to school beyond high school) would be difficult given their stated need for an automobile during the day.
- The survey confirms that the Minden/Gardnerville region is the most popular destination for groceries, banking services, pharmacy and other medical services. Carson City is the next most popular destination in the eastern portion of the county followed by South Lake Tahoe. Therefore it will be important to maintain the connection with Carson City transit services – connections to South Lake Tahoe would also be beneficial. In the western portion of the county, Calaveras County was cited as a common destination for groceries, medical and financial services.

Attachment A-1

Alpine County Public Transit Survey

Alpine County is conducting a survey of Alpine County residents regarding public transportation issues, and we would like to include your opinion and the opinions of others in your household. Each survey form is designed to collect opinions from all members of your household – should you have more than three individuals in your household, please use an additional sheet or contact us at (800) 866-5446 for additional surveys.

When completed, please re-fold this form so that the pre-stamped return address is showing, TAPE it shut (please do not use staples), and either drop it by the Transportation Coordinator's office at 75A Diamond Valley Road, Markleeville or in the mailbox. We would appreciate your response by April 25, 2008. Thank you for participating!

1. What general area of Alpine County do you live in?

- A. Markleeville B. Woodfords C. Hope Valley D. Hung-a-Lel-Ti
 E. Kirkwood F. Bear Valley G. Diamond Valley/Paynesville H. Other: _____

2. Are members of your household: A. Full-time Alpine County residents B. Part-time Alpine County Residents
 If part-time, how many months per year do you reside in Alpine County? _____

3. How many vehicles in operating condition are available at your house hold?

- A. 0 B. 1 C. 2 D. 3 or more

	<u>Person 1</u>	<u>Person 2</u>	<u>Person 3</u>
4. What is your Age?	_____	_____	_____
5. Do you have a disability that limits your mobility?	Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>
If yes, do you use a wheelchair?	Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>
6. Where do you usually go for the following services (such as Gardnerville or So. Lake Tahoe):			
Doctor Appointments?	_____	_____	_____
Banking?	_____	_____	_____
Pharmacy?	_____	_____	_____
Grocery Shopping?	_____	_____	_____
7. Do you have a valid driver's license?	Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>
If yes, do you have access to a working car?	Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>
8. Are you aware that Alpine Mountain Transit serves the eastern portion of Alpine County?	Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>
9. Are you retired? (if yes, skip to question 15)	Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>
10. Do you work outside the home or go to school beyond High School? (if no, skip to question 15)	Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>

11. In what town or area do you work or go to school?

12. How did you get to work or school the last time you went?

Drove alone	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Alpine Mountain Transit	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Carpool/auto passenger	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Walked	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bicycled	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other	_____	_____	_____

13. If you drove alone, do you usually need a car during the day for personal or business reasons?

Yes No Yes No Yes No

14. If you drove alone, Do you drop-off or pick-up children at school/daycare on your way to/from work or school?

Yes No Yes No Yes No

15. Do you use Alpine Mountain Transit for purposes other than going to work or school?

Yes No Yes No Yes No

If yes, for what purpose(s)? Check all that apply.

Shopping	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Recreation/Sports Activities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Medical/Pharmacy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Senior Services in Douglas County	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Visit friends/family	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other	_____	_____	_____

If no, why not? _____

16. Should Alpine Mountain Transit (the bus) continue to serve Alpine County? Yes No

If yes:

where should it serve? _____

whom should it be designed to serve (seniors, persons with disabilities, youth, visitors, commuters, general public, etc.)? _____

what hours and days of service should be available? _____

If no, why not? _____

17. Do you have any suggestions on how Alpine Mountain Transit could serve you and your family's transportation needs better? _____

Alpine Mountain Transit Survey Form

Alpine County Department of Public Works is conducting a survey that will be used to help improve transit services. You can help us by answering the questions below and returning the form to the driver as you leave the bus.

All responses are confidential. Thank you!

PLEASE FILL OUT THIS FORM EACH TIME YOU RIDE THE BUS
Mark only one response for each question

1. What time did you board the bus for this ride?

_____ AM PM

2. What is the main purpose of your trip? (**Check only one**)
If you are going home, what was the main purpose of your trip?

- A. School/College E. Work
B. Shopping F. Medical/Dental
C. Senior Center G. Personal Business
D. Recreation/Social H. Other _____

3. Was there a vehicle that you could have used for this trip instead of Alpine Mountain Transit?

- A. Yes B. No

4. If Alpine Mountain Transit service was not available, how would you have made this trip?

- A. Walk D. Drive E. Get a ride
B. I would not have made this trip
C. Other _____

5. How often do you use Alpine Mountain Transit?

- A. Daily D. 2-4 days per month
B. 2-4 days per week E. Less than 2 days per month
C. 1 day per week F. My first time riding

6. Do you use Alpine Transit to transfer to other DART services? Yes No

7. What is the general location of your home?

Town/Neighborhood _____

Or nearby intersection _____

8. Are you: Male Female

9. What is your age?

- A. 12 or younger B. 13-18 C. 19-24
D. 25-61 E. 62-74 F. 75 or older

10. Do you require a wheelchair lift to board or exit the bus?

Yes No

11. Do you have a driver's license?

Yes No

12. Please indicate your opinion of Alpine Mountain Transit using the list below. 1 being the lowest and 5 the highest, if you have no opinion, leave your answer blank:

- | | | | | | |
|----------------------------|---|---|---|---|---|
| A. System Safety | 1 | 2 | 3 | 4 | 5 |
| B. On-time performance | 1 | 2 | 3 | 4 | 5 |
| C. Driver courtesy | 1 | 2 | 3 | 4 | 5 |
| D. Travel time | 1 | 2 | 3 | 4 | 5 |
| E. Areas served | 1 | 2 | 3 | 4 | 5 |
| F. Bus cleanliness | 1 | 2 | 3 | 4 | 5 |
| G. Bus comfort | 1 | 2 | 3 | 4 | 5 |
| H. Phone info. services | 1 | 2 | 3 | 4 | 5 |
| I. Printed info. materials | 1 | 2 | 3 | 4 | 5 |

13. Overall, how do you rate Alpine Mountain Transit?

- A. Excellent B. Good C. Fair D. Poor
-

14. What improvements would you like to see to the transit program?

15. Other comments: _____

Thank you for helping us improve Alpine Mountain Transit by participating in this survey!

Attachment A-2

Do you have any suggestions on how Alpine Mountain Transit could serve you and your family's transportation needs better?

Provide better service for the kids that have after school activities in Gardnerville

I think the current schedule of so many trips to and from Carson Valley to Alpine Co are excessive.

Please come back to Markleeville, especially in the summer months.

(1) Offer Dial-A-Ride

(2) Adapt service to work schedule to take people to and from work

The transit is very important to the Alpine resident.

Need bus stop at Mesa Inn in Woodfords on Emigrant Trail

Would like bus line to Carson and Reno and South Lake Tahoe without transferring buses

We don't use the service, but know people who do and enjoy it. It is nice to have in this remote area. Thanks!

Have pickup for persons with disabilities

Let's work with El Dorado County. Maybe a transfer at Picket's Junction to Kirkwood on weekends.

We would like to have some kind of public transportation available - perhaps a smaller run or on-demand service.

Suggest "call-a-ride" to schedule trips for seniors for shopping and picking up prescriptions.

Need a late bus from school and pool

Arrive earlier in Alpine County and drop off later so people can get jobs outside the County.

Need more bus stops

Funds should be invested in bicycle paths/lanes to encourage tourism at Grover High School, Lake Alpine; bus service to and from populated areas - like Mammoth. Mammoth good example.

Make connection to Carson City or Wal-Mart area. Better with longer stay between buses.

Create a service designed to bring company employees to and from Gardnerville. Put bus stop signs with schedules on them. Make the bus look cool and attractive to young people. Have a Saturday service to bring dinner groups (or lunch) to restaurants or clubs like Lions. On Saturday nights could have discounted fare for folks who had dinner in Markleeville or Woodfords.

Expand hours during the summer months

Should make connections with other buses so we could go to Reno, Carson, SLT, train airport, etc.

Be available as the auto gas prices increase.

May use AMT when gasoline becomes too expensive.

Primary short trips and rapid return, during week and Saturdays. Longer, time-consuming trips should be limited.

Schedule posted online, phone requests for added periodic stops.

Need better schedule to Gardnerville

Need early morning runs and later evening runs

Come to Markleeville on a regular basis. With the price of gas, more people will use the bus!

Alpine Mountain Transit should coordinate with Calaveras Transit for regular runs between Bear Valley and Arnold during the winter months. Many winter employees hitchhike for services outside the community.

Treat Alpine County as a whole, not a half

Shuttle from Kirkwood to Minden and Carson City for shopping, movies, etc.

Spend some transit money to lease a morning run from Arnold to Bear Valley

A regular schedule and maybe a trip to Carson City once a week

Frequent service to Kirkwood. It should at least run mid-morning to afternoon, so people who cannot drive and get to the store (which means Gardnerville and Minden).

Appendix B

Transit Vehicle Specifications

TYPE III

BUSWEST



**CUSTOMIZED TO
YOUR EXACT
REQUIREMENTS!**

Caltrans Type III Paratransit Bus Make: Starcraft / Model: AllStar

State of California, Department of General Services Statewide Procurement # 1-06-23-15 Equipment Number: 2310-000-0024-1

Standard Features & Options

BODY CONSTRUCTION

- Fully welded Unitized Steel Structure
- Aluminum Exterior Body Panels/FRP Transition Panels
- One piece FRP Roof Panel
- Steel reinforcement at ALL tie-downs, lifts, stanchions & optional seats
- High-Strength Low-Alloy Steel (HSLA) Integrated Seat Track
- Galvanized Wheel Wells
- Tectyl 121-B Undercoat

INTERIOR

- Grey Padded Vinyl Driver Area
- Grey FRP on Ceiling
- Grey FRP on Rearwall
- Grey FRP on Sidewall Under Seat Track

FLOORING

- 3/4" Plywood Floor, 7-Ply
- APA Certified C-C plug grade
- Grey Colored Rubber on Entire Floor
- Ribbed Rubber Aisle and Entry
- White or Yellow Step Nosing

EXTERIOR, BODY

- (2) 5" Transit Stripe ref. 3M Reflective
- Fleet White Exterior Finish

CHASSIS

- Driver side Running Board, diamond plated step
- Mon-Ryde RL Suspension System
- Spare Tire / Wheel with Spare Tire Carrier
- Valve Stem Extenders
- BrakeMax
- Exhaust Turn Down
- HELP Bumper with Hawkeye Reverse Assist System with Anti-Ride Installed
- Driver Entry Assist Handle at B-Pillar

HEATING & AIR CONDITIONING

- TransAir® TA733 Super, 68,000 BTU
- TA73 Evaporator
- SMC3L Condenser
- Dual Compressor, Split System
- Silicone Heater Hoses & Special Clamps
- Hot Water Heater, 40,000 BTU
- Dash A/C, Heat defrost

ELECTRICAL

- Ergonomic Driver Electrical Controls Mounted Overhead
- Battery Box and Slide Out Tray
- Stainless Steel Slides
- As Built Wiring Schematic
- Packard type connectors throughout bus
- Additional Battery, ≥ chassis OEM Largest (total 3)

EXTERIOR LIGHTS

- All Dialight® Exterior lighting
- 18" Dialight® Center Mount Brake Light
- Dialight® LED Stepwell Lights (70-81CB)
- Independent RED Brake & AMBER Turn Signal Lights
- Taillights to be recessed in Body
- Hooded Entry Step Light

INTERIOR LIGHTS

- Door Activated Interior Lights with Driver Override

AUDIO / VISUAL

- 4 Speakers with Wire (Chassis OEM AM/FM Stereo/CD)
- Ground Plane for 2-Way Radio, Pull Cord, Conduit

DOORS / HATCH / WINDOWS

- Passenger Door, Electric, 36"
- FMVSS Compliant Emergency Exit Windows
- Exterior Entry Door Key

STORAGE

- Driver Storage in Cab Overhead with Lock

PARATRANSIT EQUIPMENT

- Double Wheelchair Doors, with Two Windows
- (2) Additional Exterior Lights
- Choice of Ricon® S-Series or Kleerview Braun® Millennium or Vista Lift
- Lift FMVSS 403 Compliant
- Ground Lift to Side Battery
- Fast Idle with FMVSS 403 Interlock
- SureLok® or Q'Straint® Retractor Tie Downs, Comb Lap/Shoulder with 'L' Track
- SureLok® or Q'Straint® Belt Cutter (ship loose)
- Priority Seating Sign
- Wheelchair Decal
- Tool Box Wheelchair Belt Storage
- Tie Down Training Video
- Master Control Switch with indicator light

SEATING - DRIVER

- Recaro® SHS Driver Seat
- Driver Seat Cover to match passenger seats

GRAB RAIL / STANCHION / PANELS

- Dual Ceiling Grab Rail
- 1 1/4" Grab Rail Parallel to Entrance Steps
- Stanchion and Modesty Panel Behind Driver
- Tinted Plexiglass Upper Panel with Cut-out for Handhold and driver Modesty Panel

CHASSIS SPECIFICATIONS

- Ford E-450 SuperDuty Chassis
- 158" Wheelbase
- 6.8L Triton V-10 Gasoline Engine
- TorqShift® 5-Speed Automatic Transmission
- 14,050 lbs. GVWR
- 4.56:1 Rear Axle Ratio
- Power Steering
- Power Brakes with ABS
- 130 Amp OEM Alternator
- Dual Batteries
- OEM AM/FM Stereo/CD
- Cruise Control/Tilt Steering
- Chrome Appearance Package
- Aerodynamic Headlamps

SAFETY EQUIPMENT

- B&R® S2003/2004 Mirrors with Remote for Flat Glass
- Integral Turn Signal
- 5 lb. Fire Extinguisher
- 16 Unit First Aid Kit
- Emergency Triangle Kit
- Back-Up Alarm
- Interior Convex Mirror
- Red Lights Over Emergency Exits
- White or Yellow "Standee" Line
- Emergency Exit Decals, Red
- Intermotive Park Crank Only Module (PCOM)
- Operators Manual, Parts Book in 3 ring binder

POPULAR OPTIONS

- Additional wheelchair Tie Downs
- Raised Flat Floor
- Flip or Folding Seats
- Route Signs
- Passenger Stop Requests
- Non-Slip Altro Flooring
- Diesel Engine
- High Output Alternator
- Custom Paint
- Custom Graphics
- Fare Boxes
- Larger Air Conditioning
- Bike Racks
- Security Systems
- AVL-GPS Systems

FLOORPLANS OVERLEAF

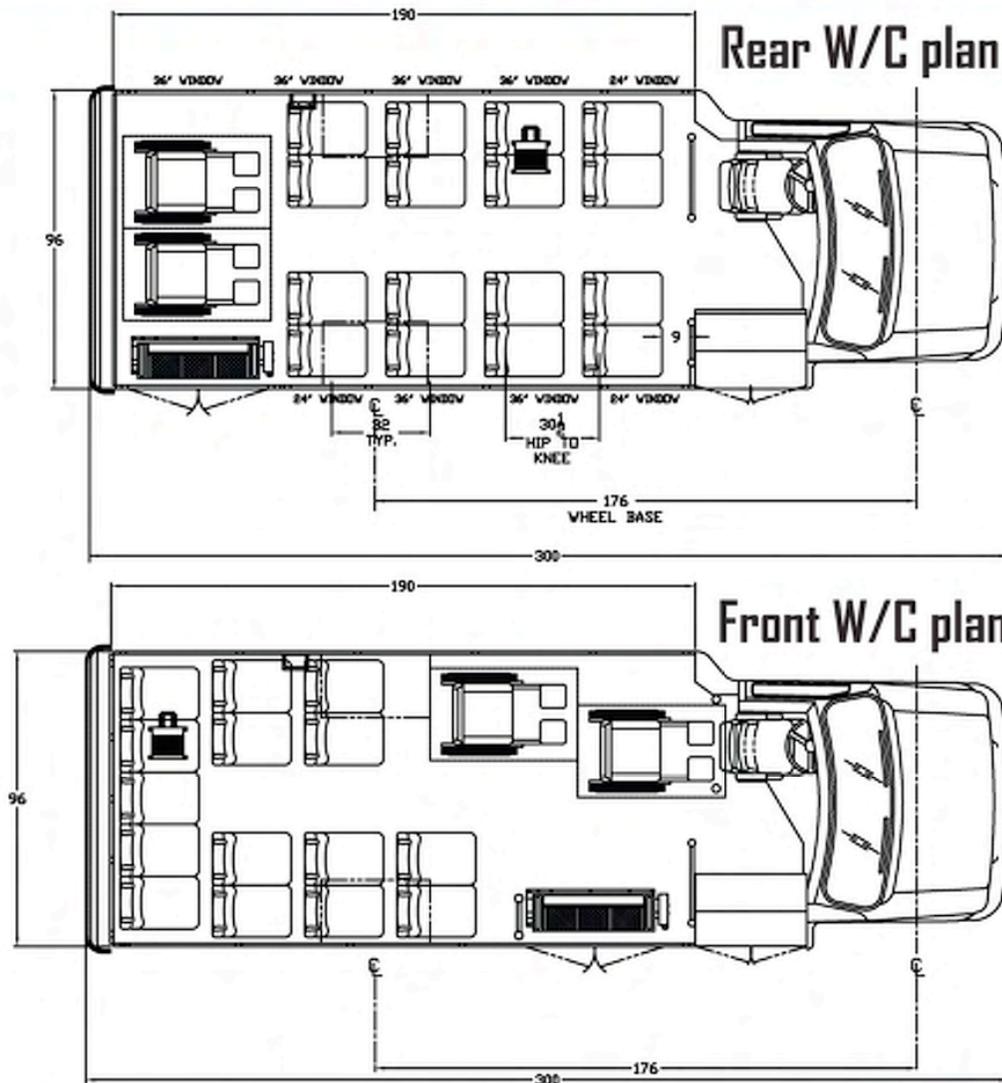
TYPE III

BUSWEST



Caltrans Type III Paratransit Bus Make: Starcraft / Model: AllStar
State of California, Department of General Services Statewide Procurement # 1-06-23-15 Equipment Number: 2310-000-0024-1

Standard Floorplans - Other Options Available



PASSENGER SEATING:

- Mid High Back Seats with Lumbar Support
- Aisle Side Arm Rests
- FMV 302 Construction with Docket 90 Seat Covers
- Track Mounted to Body Structure
- Seat Back Grab Handles
- Retractable Seat Belts (USR)

Due to a program of continuous product improvement, specifications, features and options are subject to change without notice. Contact BusWest for complete information.

www.buswest.com

info@buswest.com

Toll Free: (800) 458-9199

Main: (310) 984-3900

Fax: (310) 984-3996

21107 South Chico Street

Carson, CA 90745

**State Contract – Type 7
27' Bus – 29' Bus – 32' Bus**

**Eldorado National – Aero Elite
Chevrolet 5500 - Chassis**



Standard Chassis Features

- ❑ Chevrolet 5500 Chassis
- ❑ 6.6 Liter Dura-Max Diesel 300hp
- ❑ Allison Transmission
- ❑ Dual 105 Amp Alternators
- ❑ 60 Gallon Fuel Tank
- ❑ High Idle System

- ❑ 27' Bus – 16 + 2 Wheelchairs or 22 Ambulatory Passengers

- ❑ 29' Bus – 20 + 2 Wheelchairs or 26 Ambulatory Passengers

- ❑ 32' Bus – 24 + 2 Wheelchairs or 30 Ambulatory Passengers

Standard Body Features

- | | |
|--|--|
| <ul style="list-style-type: none"> ❑ Mor/Ryde Rear Suspension ❑ Streetside Exhaust ❑ Rear Tow Hooks ❑ Rear "Help" Bumper w/Hawkeye Sonar System ❑ Backup Alarm ❑ ILIS Electronic Interlock ❑ (2) Grounds – Engine to Frame & Body to Frame ❑ Rustproofing ❑ 36" Electric Entry Door ❑ Entry Door Exterior Keylock ❑ 39" x 29" Windows ❑ Red Exit Light Egress Windows ❑ Rear Exit Window Buzzer ❑ Thermo-King S40-II A/C ❑ TM-31 A/C Compressor ❑ 65,000 BTU Rear Heater ❑ Silicone Heater Hoses ❑ LED Lighting Package ❑ LED Rear Center Brake Light ❑ LED Side Turn Signals ❑ Stepwell LED Lights ❑ Ground Plane ❑ Two-Way Radio Prep ❑ External ADA PA Speaker ❑ PA System w/Hand-Held Mic ❑ Battery Disconnect Switch ❑ AM/FM/CD ❑ "Stop Request" System ❑ Wheelchair Touch Tape ❑ Transpec Roof Hatch ❑ Valve Stem Extenders | <ul style="list-style-type: none"> ❑ First Aid Kit – 16 Unit ❑ Fire Extinguisher ❑ Triangle Reflectors ❑ B & R Remote Control Mirrors with Built-In Turn Signals ❑ BDS Interior Mirror 6" x 9" ❑ Spare Tire Shipped Loose ❑ Steel Wheelwells ❑ Hubodometer ❑ Farebox Stanchion – Only ❑ Tectyl Undercoating ❑ Anti-Sail Mudflaps ❑ Altro Interior Flooring ❑ Right Hand Entry Assist Rail ❑ Overhead Hand Rails ❑ Altro Yellow Stepnosing ❑ Altro Yellow Standee Line ❑ Front Electric Destination Sign ❑ Side Electric Destination Sign ❑ Cove Molding ❑ Driver Modesty Panel ❑ Drivers Plexiglass Shield ❑ Mid-High Passenger Seats ❑ Seat Grabrails, Aisle Side Armrests, Synergy Fabric ❑ Under-Seat Retractor Seatbelts ❑ Seatbelt Extender ❑ Recaro Ergo Metro Driver Seat ❑ Ricon or Braun 403 Lift ❑ Q'Straint Wheelchair Tiedowns ❑ Torso Pad ❑ Lift Pad Cover ❑ As-Built Manual |
|--|--|



Partial List of Available Options

- Gasoline Engine Options
- Telma Brake Retarder
- Electronic Destination Signs
- All Wheelchair Floorplans
- Raised Flat Interior Floor
- Alcoa Aluminum Wheels
- Custom Paint & Graphics
- Digital Surveillance Systems
- DVD Message Systems w/Monitor
- Perimeter Seating Options
- GPS Systems
- Farebox Options
- Transit Seating Options
- Overhead/Interior Storage Racks
- Bike Rack Storage Systems
- Automatic Tire Chains
- Rear Air Ride Suspension
- Commuter Bus Package
- Interior Seat & Color Options

Northern California -Eldorado Bus Sales
29220 Pacific St. Hayward, CA 94544
(888) 353-6287 – Toll Free

www.creativebussales.com

Southern California – Creative Bus Sales
13501 Benson Ave. Chino, CA 91710
(800) 326-2877 – Toll Free