

## VI. ANALYSIS OF DEMAND

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The objective of analyzing bicycle and pedestrian travel demand is to identify the following travel characteristics:

- Level of existing bicycle and pedestrian trips;
- Patterns of travel for bicycle and pedestrian trips;
- Level of future bicycle and pedestrian trips; and
- Possible methods of stimulating additional bicycle and pedestrian trips.

This section identifies the location of existing major activity centers likely to attract bicycle and pedestrian trips, and provides information about population and employment trends and their influence on bicycle and pedestrian travel demand.

### EXISTING MAJOR ACTIVITY CENTERS

One purpose of the BPMP is to provide improved linkages from residential areas to employment, commercial, educational, and recreational centers. These linkages support bicycle and pedestrian travel demand for both commuter and recreational trip purposes. Major activity centers in the Lake Tahoe Basin were mapped for this plan and include regional commercial areas, large residential developments, employment and educational centers, schools, and parks (refer to Figure 6). Most of these centers are located within the urbanized areas of the Lake Tahoe Basin and are located along or near a state highway.

### POPULATION AND EMPLOYMENT TRENDS

The following discussion contains estimates of existing and forecasts of future, population and employment levels to determine trends and how they affect demand for bicycle and pedestrian facilities.

### EXISTING POPULATION AND EMPLOYMENT

According to the 2000 census, the Basin had an estimated total population of approximately 60,000 persons and an estimated total employment level of about 49,500 persons. Table 5 shows the breakdown of these population estimates by County within the Tahoe Basin as well as other areas of regional significance.

**Table 5A: Tahoe Basin Population Distribution**

Tahoe Basin Population Figures		
Jurisdiction	Population	Percent of Total
City of South Lake Tahoe, CA	23,609	38%
Placer County, CA	8,384	14%
El Dorado County, CA (Not including CSLT)	12,158	20%
Douglas County, NV	7,296	12%
Washoe County, NV	9,952	16%
Total	61,399	100%

Source: 2000 Census, United States Census Bureau, United States Dept. of Commerce.

**Table 5B: Regional Population Distribution**

Other Regional Population Figures		
Jurisdiction/Location	Population	Percent of Total
Town of Truckee, CA*	14,037	85%
Martis Valley, CA**	1,200	7%
Martis Valley, CA***	1,185	7%
Total	16,422	100%

\*--Source: 2000 Census, United States Census Bureau, United States Dept. of Commerce.  
 \*\*--Source: 1975 Martis Valley General Plan--Nevada County Portion  
 \*\*\*--Source: 2000 Census, United States Census Bureau, United States Dept. of Commerce--Placer County Portion

As shown in Table 5 A, most of Basin’s population and employment is located in El Dorado County, which includes all of City of South Lake Tahoe. A review of development patterns in the Basin revealed that much of the unincorporated development is located adjacent to the City of South Lake Tahoe, CA, Stateline, NV, Tahoe City, CA, Kings Beach, CA, and Incline Village, NV. Employment is also concentrated within these areas with the single highest concentration of employment being located in the Stateline, NV/City of South Lake Tahoe, CA area. Figure 7 shows the existing distribution of population on a map of existing land uses in the Basin. Table 5 B shows a substantial amount of existing population located just north of the Tahoe Basin. These areas greatly affect the Tahoe Basin due to the fact that are in close proximity to the Tahoe basin and provide additional concentration of housing units, employment

centers, and tourist accommodations. In addition, Placer County is currently proposing an extensive development project in the Martis Valley area. The 1994 Placer County General Plan has projected a potential for 25,262 year-round residents in the Plan area at ultimate development within this area. In addition to the proposed Martis Valley development, the Town of Truckee is also expected to experience increased growth in population. According to the Town of Truckee General Plan, Truckee is expected to have a population of 22,980 residents at full build-out. Other areas that are expected to have increased population growth are Squaw Valley, Alpine Meadows, Sacramento, and the Carson Valley.

While the Tahoe Basin has strict growth control measures, areas just outside the Tahoe Basin do not. Growth in these areas will have tremendous impact on regional transportation system, of particular concern in this plan is the bicycle and pedestrian system.

### **FUTURE RESIDENT POPULATION, VISITOR POPULATION, AND EMPLOYMENT**

According to the U.S. Census Bureau the resident population of the region has increased by approximately 7,000 over the past 10 years. Over the next 10 years, the resident population is projected to grow by an additional 2,300 residents, which reflects a slower growth rate than the previous decade. Interestingly, a review of visitor demographics contained in the August 2000 *Federal Transportation Plan/Regional Transportation Plan* shows that the average summer visitor population is similar to the resident population in terms of the amount and projected increase. However, some estimates show that visitor populations exceed 100,000 people per day during peak summer and peak winter days such as during the July 4<sup>th</sup> and Christmas/New Years holidays. Therefore, the visitor population contributes substantially to travel demand during peak summer and winter seasons.

As for employment, the current total of 49,500 may increase slightly over the next decade, but will be limited largely by constraints on new development due to land use restrictions and the physical carrying capacity of the Lake Tahoe Basin. To the extent that increases occur, lodging and gaming are expected to capture most new employees given that these industry groups represent approximately 25 percent of total existing employment.

Future growth and changes in population and employment are important to bicycle and pedestrian planning for two reasons. First, new

developments often require upgrades to existing roadways, which may create an opportunity to construct new bicycle and pedestrian facilities. Second, changes in land use patterns can make bicycling or walking more convenient.

## **BICYCLE AND PEDESTRIAN TRAVEL DEMAND**

Bicycle and pedestrian trips are not easily measured or projected for an entire region without extensive data collection efforts. Existing and available data is currently limited to the 2000 Census and limited user surveys, while projections regarding future travel demand are limited to vehicle trips within the Basin based on the TRPA travel demand-forecasting model. With this limited amount of information, the following discussion describes both existing and future bicycle and pedestrian trips and their relationship to the future development of a comprehensive bicycle and pedestrian system.

### **EXISTING DEMAND**

According to a recent Lou Harris Public Opinion Poll, nearly 3 million adults nationwide, or about one in 60, already commute by bike. This number could rise to 35 million if more bicycle friendly transportation systems existed (*The National Bicycling and Walking Study: Transportation Choices for a Changing America*, Federal Highway Administration, 1994). The concept of “demand” for bicycle facilities is difficult to measure. Unlike automobile use, where historical trip generation studies for different types of land uses allows an estimate of future “demand” for travel, no such methodology exists for bicycles.

A common term used in describing demand for bicycle facilities is “mode split.” Mode split refers to the form of transportation a person chooses to take, be that walking, bicycling, using public transit, or driving. Mode split is often used in evaluating commuter alternatives such as bicycling or walking, where the objective is to increase the “split” or percentage of people selecting an alternative means of transportation. From the 2000 Census, mode split information is available for the journey-to-work. This information is presented in Table 6 for the Lake Tahoe Basin.

**Table 6: Existing Mode Split Summary for the Lake Tahoe Basin**

Mode	Percent of Work Trips
Drive Alone	77%
Carpool	12%
Transit	2%
Bicycle or Walked	3%
Worked at Home	4%
Other	2%
Total	100%
Source: 2000 Census Journey-to-Work	

As shown in Table 6, bicycle and pedestrian trips represent approximately three percent of home-based work trips for Basin residents. Compared to other communities in California and Nevada, the non-motorized mode split. However, slightly higher percentages would likely result if the Census data included trips from home-to-school in the journey-to-work data set.

This is an important omission because home-to-school trips occur during the same morning peak hours as typical commuter trips. Since many children walk or ride bicycles to school, the actual number of bicycle and pedestrian trips during the morning peak hour associated with commuters is expected to be slightly higher. Further, the existing mode split does not represent visitor travel, which represents a substantial portion of overall travel in the region. According to the *Recreation User Preference Survey and Focus Group Research*, TRPA, March 2001, over 70 percent of visitors participate in walking activities while almost 40 percent bicycle on paved trails. Further, the *TCPUD Bicycle Trail User Survey*, TCPUD, September 1994 revealed that visitors to the region represented about half of all trail users. Another indication of high visitor demand for bicycling is the number of bicycle rental businesses in the region with large rental fleets (see an example in the photograph to the right).



## FUTURE DEMAND

Future bicycle and pedestrian trips will depend on a number of factors such as demographics, the availability of well-connected facilities, and the location, density, and type of future land development. According to projections from the August 2000 *FTP/RTP*, total daily peak summer vehicle-trips in the region will increase about 35 percent from approximately 343,000 to 462,700 between 1995 and 2025. Without a comprehensive bicycle and pedestrian system in place and assuming the existing mode split does not change and would be applicable to daily conditions, bicycle and pedestrian commute trips to/from work would increase by a similar percentage from 24,000 trips in 1995 to about 32,400 trips per day in 2025. According to *The National Bicycling and Walking Study: Transportation Choices for a Changing America*, Federal Highway Administration, 1994, a much larger increase could occur if more bicycle and pedestrian friendly transportation systems are constructed. For communities with a comprehensive bicycle and pedestrian system (such as the one presented in the next section) and a complimentary land use pattern, mode splits for bicycle and pedestrian trips can range from 10 to 20 percent.