

# CITY OF RIPON

## Short Range Transit Plan, 2008-2018

### *Technical Memorandum 1*



*Prepared for the*

City of Ripon

*Prepared by*

LSC Transportation Consultants, Inc.

**City of Ripon**

**SHORT RANGE TRANSIT PLAN**  
**2008-2018**

*Technical Memorandum 1*

*Prepared for the*

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## **INTRODUCTION**

Ripon is a city of nearly 15,000 people located in the Central Valley of California between Stockton and Modesto. It is part of the Modesto urbanized area, yet it has its own small-town feel and sense of identity. Public transit has not played a significant role in the community, with only a very limited Dial-A-Ride (DAR) service provided by the City, and some regional service provided by the San Joaquin Regional Transit District (RTD). The purpose of this Short Range Transit Plan (SRTP) is to evaluate the need for transit service in the City of Ripon and to determine the most appropriate strategies to meet those needs

With financial assistance from a Federal Transit Administration Transit Planning Assistance Grant, a SRTP study is being conducted to assess transit needs and related transportation issues within Ripon and provide a “road map” for the improvements in public transit programs over the upcoming five to ten years. The study will be conducted by an evaluation of existing conditions affecting the need for transit (demographics, youth transportation needs, employment and activity centers), as well as through public outreach via mail-in surveys and community-based meetings and or workshops. A wide range of alternatives will be evaluated. Additionally, an important element of this study will be to identify stable funding sources for operations and capital improvements of transit services. The ultimate goal of the study will be a comprehensive strategy of short-range service, capital, and institutional improvements, with a supporting financial and implementation plan.

This *Technical Memorandum (Tech Memo)* presents and reviews the setting for transportation services, including demographic factors and the recent operating history of the public transit service supplied by the San Joaquin RTD and the City of Ripon’s limited DAR. Survey efforts are summarized in this memorandum, and the need for transportation services is also examined. The findings of this *Tech Memo* will be used to develop alternatives in a subsequent *Tech Memo*. After any necessary changes are made to address comments and corrections, these materials will be incorporated into the Draft Final Report of this study.

## **STUDY ISSUES**

The following issues were identified for this study.

- ♦ **Identify Transit Needs** – With limited services offered, it is important to determine what new services are warranted in Ripon. Is there a need to provide transit for the elderly and disabled to access medical services in Modesto? Are youth able to get around Ripon? Can public transit play a role in moving people to and from special events? Can transit play a bigger role for commuters in Ripon? What other transit needs exist in Ripon?
  
- ♦ **Implement Ripon’s Congestion Mitigation and Air Quality Grant (CMAQ)** – The City of Ripon was awarded a CMAQ grant to purchase and operate two Compressed Natural Gas (CNG) vehicles. How can this grant best be implemented? What are the conditions of the grant?

- ♦ **Funding** – It is critical to plan for the long-term financial stability of any transit service. What will be the operating and capital costs each year for the next five years? If the CMAQ grant is adequate for funding the first three years of operation, how will the service be funded beyond that time? What sources of revenue – public and private – can be tapped to ensure the continuing improvement in transit services?
- ♦ **Capital Equipment** – What will be the appropriate capital equipment for transit service? What vehicles will be needed (including back up vehicles)? What passenger amenities, such as bus stop signs, benches and shelters, will be needed? What office and operating equipment will be needed?
- ♦ **System Evaluation/Performance Standards** – It is critical to the success of any organization to evaluate its performance. What are the appropriate service standards for Ripon?
- ♦ **Marketing and Outreach** – What marketing program can best promote transit service among both potential riders and the general public, while keeping the costs of marketing at a minimum? How should the capabilities of the internet be used in the marketing strategy?

These issues should be considered as part of a comprehensive look at the role of transit in Ripon and the service plan that best serves this role. This study will afford the leadership of the area an opportunity to take a long-range look at the transit services and identify the optimal manner in which transit can meet both the present and the future needs of the area.

## STUDY AREA

The City of Ripon is in San Joaquin County located between Stockton and Modesto on Highway 99. The town is divided by State Route (SR) 99, with approximately 45 percent of the development east of the highway and 55 percent of the development west of the highway. There are three roads which cross SR 99 providing access between the two sides: North Jack Tone Road, Fulton Avenue, and 2nd Street (which connects east and west Main). There is also a pedestrian overpass which connects Ripon High School and Ripon Christian High School on the west to businesses and residences on the east. Ripon is surrounded by agricultural lands and bordered on the south by the Stanislaus River, which is also the boundary between San Joaquin County and Stanislaus County. The study area is shown in Figure 1.

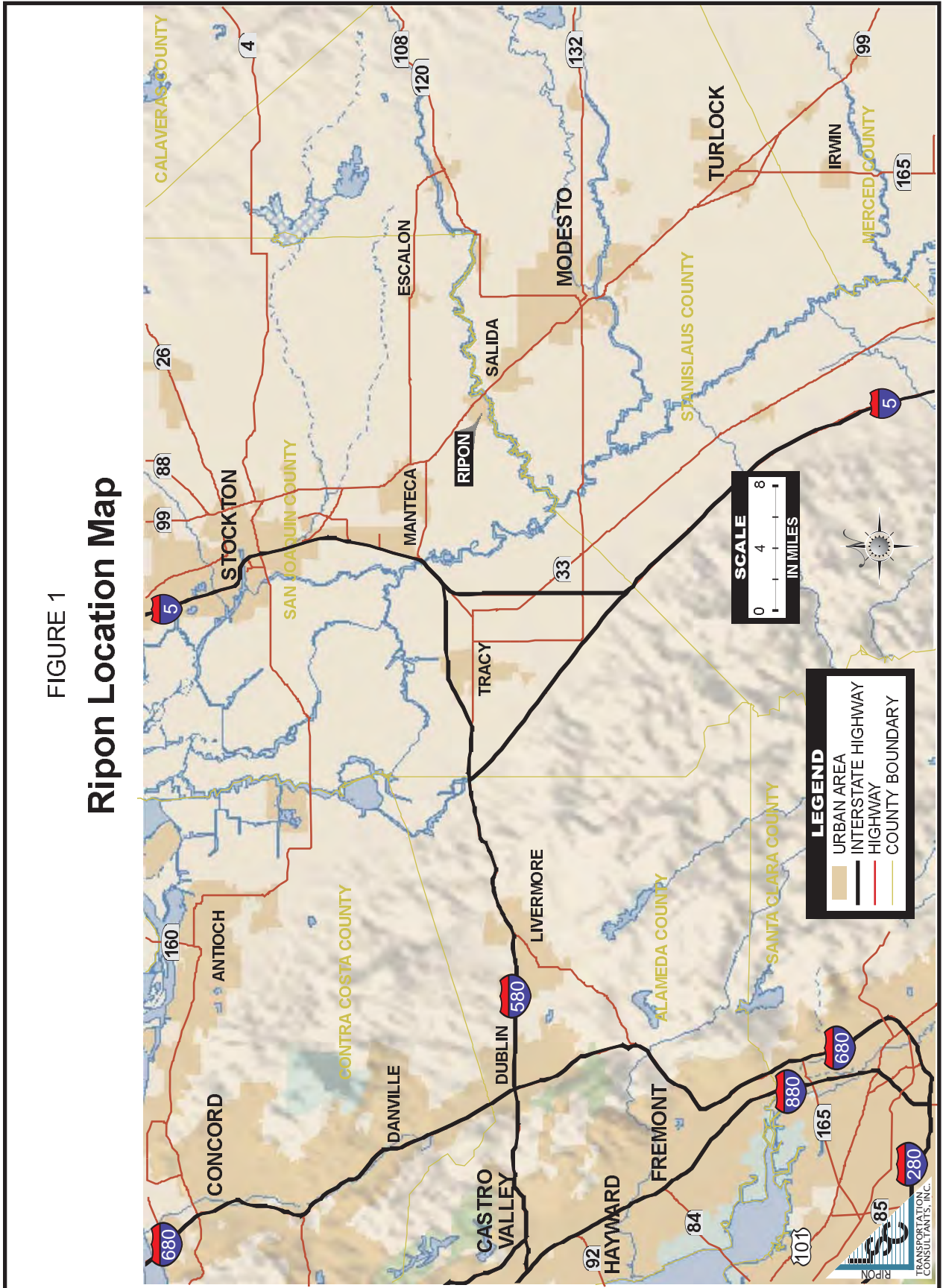
## Population

Estimates of current population are made by the California Department of Finance's Demographic Research Unit. The population of Ripon in 2008 is estimated to be 14,915 people. The increase in population was applied to the 2000 U.S. Census Data to estimate the total population by Census Block Group (CBG), as shown in Table 1 and Figure 2. It should be noted that CBGs 50.032 and 50.041 contain only a portion of the City of Ripon.

## Transit-Dependent Population

Nationwide, public transit ridership is drawn in large part from the "potentially transit-dependent" population – youth and the elderly, the low-income, the disabled, and members of households with no available vehicles. The transportation-dependent Youth population are those less than 16 years of age, are unable to drive, and may not have a parent available to transport them. In

FIGURE 1  
**Ripon Location Map**



**TABLE 1: Ripon Population Data by Census Block Group - Estimate for 2008**

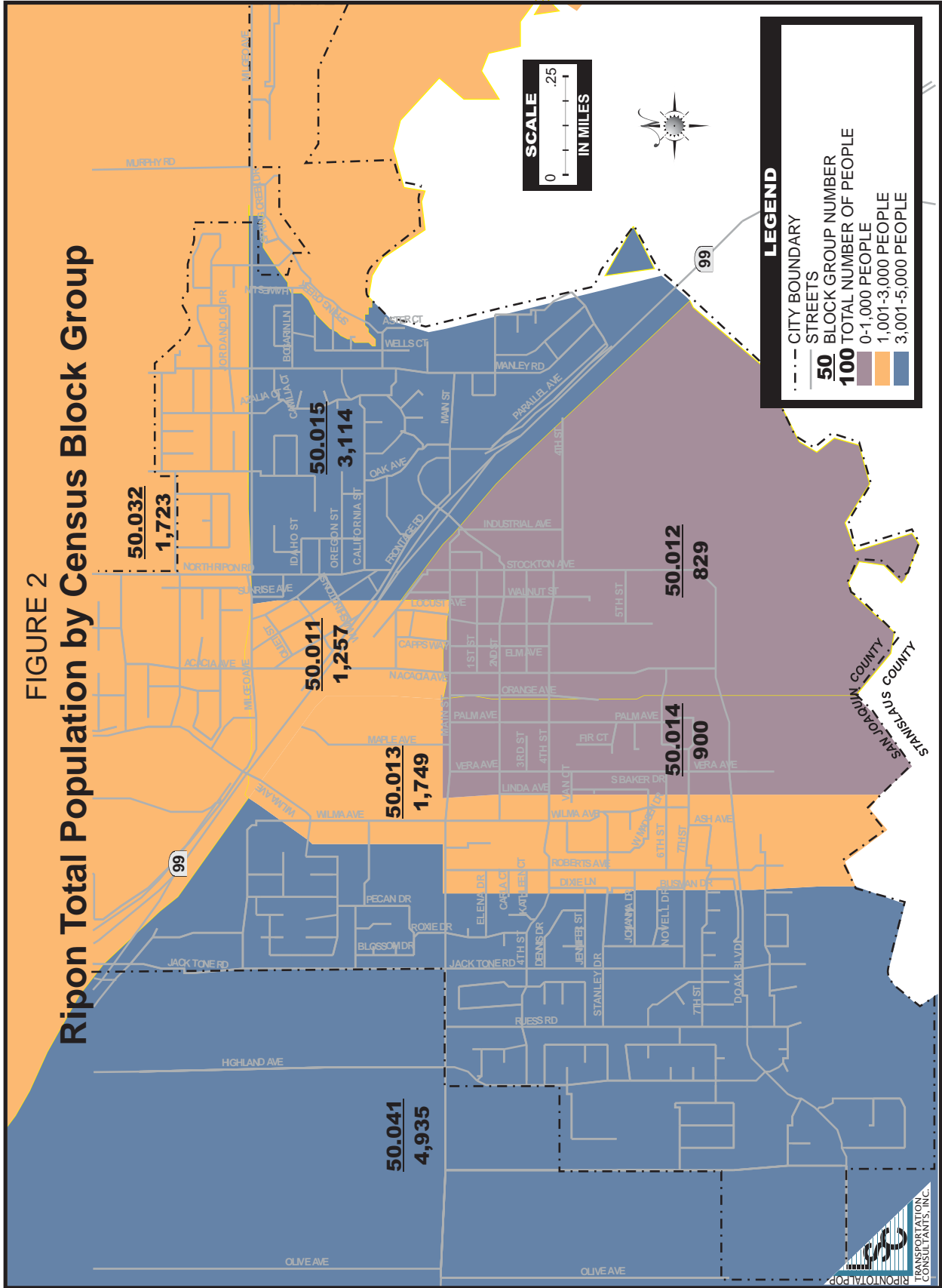
Census Block Tract <sup>1</sup> Group	General Description (Main streets of boundaries)	Square Miles	Total Pop. <sup>2</sup>	Pop. Per Sq. Mi	Population by Age <sup>3</sup>							
					Youth: 10-17		General 18 to 64		Elderly 65+		Below Poverty	
					10 to 17	%	18 to 64	%	#	%	#	%
1	Migeo, Stockton, Acacia, Main	0.2	1,257	8,379	168	13.3%	725	104	8.3%	233	18.5%	
2	Acacia to Main to SR 99 to Stanislaus River	0.8	829	1,036	107	12.9%	504	91	11.0%	50	6.1%	
3	Robert, Wilma, SR 99, Acacia, Main, Vera	0.4	1,749	4,267	198	11.3%	825	544	31.1%	68	3.9%	
4	Vera to Acacia; Main to Stanislaus River	0.3	900	3,213	144	16.0%	503	148	16.5%	67	7.4%	
5	Stockton to Migeo to Stanislaus River to SR 99	0.6	3,114	5,560	456	14.6%	1,930	300	9.6%	60	1.9%	
50.03	Partial: SR 99, Mello, Carrolton, the Stanislaus River	1.9	1,723	927	271	15.7%	991	162	9.4%	26	1.5%	
50.04	Partial: S. Austin, Frontage, Wilma, Robert, the Stanislaus River	1.4	4,935	3,528	863	17.5%	2,925	277	5.6%	351	7.1%	
<b>City of Ripon</b>	<b>City Boundaries</b>	<b>5.5</b>	<b>14,915</b>	<b>2,737</b>	<b>2,351</b>	<b>15.8%</b>	<b>8,634</b>	<b>1,511</b>	<b>10.1%</b>	<b>931</b>	<b>6.2%</b>	
<b>Average for California</b>						<b>12.0%</b>			<b>11.0%</b>		<b>14.2%</b>	

Note 1: Ripon is only partially in Census Tracts 50.03 and 50.04.

Note 2: California Dept. of Finance estimated growth rates by census block group were applied to the total 2000 population of each census block group.

Note 3: Percentage of population by age group from 2000 was applied to the total population estimate for 2008 by census block group.

Source: US Census and California Dept. of Finance.



particular, junior high school students who are independent enough to attend after-school activities but are unable to drive are a representative group. The population between 10 and 17 years of age (inclusive), delineated by population district, is presented in Table 1 and Figure 3. Approximately 2,351 transit-dependent youths live in Ripon, comprising 15.8 percent of the total population. Census block groups with the highest percentage of youth populations include the central area surrounding Palm and 4th Street, as well as the area east of Highway 99.

As shown in Table 1 and Figure 4, the population 65 years of age and older comprised 10.1 percent of Ripon's population (1,511 individuals), which is very close to the statewide average of 10.7 percent. However, there are definite concentrations of elderly; in particular, CBG 50.013 has 31.1 percent elderly. This CBG contains Bethany Homes senior facilities.

The U.S. Census also counts the population living below the poverty level, defined by a number of factors, including household income and the number of dependent children in a household. Residents living below the poverty level comprise 6.2 percent of the City's population, which is low compared to 13.2 percent statewide. As shown in Table 1 and depicted in Figure 5, however, 18.5 percent of the population in CBG 50.011, which includes the area known as Ripona, is at or below poverty level.

The 2000 U.S. Census data also shows that 4.1 percent (619 persons) of the City's population was comprised of residents reporting that they were transportation disabled due to mobility limitations. Table 2 and Figure 6 depict the mobility-limited population of each CBG in the City. The two areas with the highest levels of mobility-impaired residents correspond to the CBGs with the most elderly and the poorest. CBG 50.013, which also has a high concentration of elderly, and CBG 50.011, which has a high concentration of individuals below poverty, each have limited mobility in 9.7 percent of the population.

The number of households without a vehicle available is perhaps one of the strongest indicators of a transit-dependent household. As shown in Table 2, CBG 50.013, with high concentrations of elderly, also has the highest number of zero vehicle households at 13.4 percent, compared to 3.9 percent city-wide.

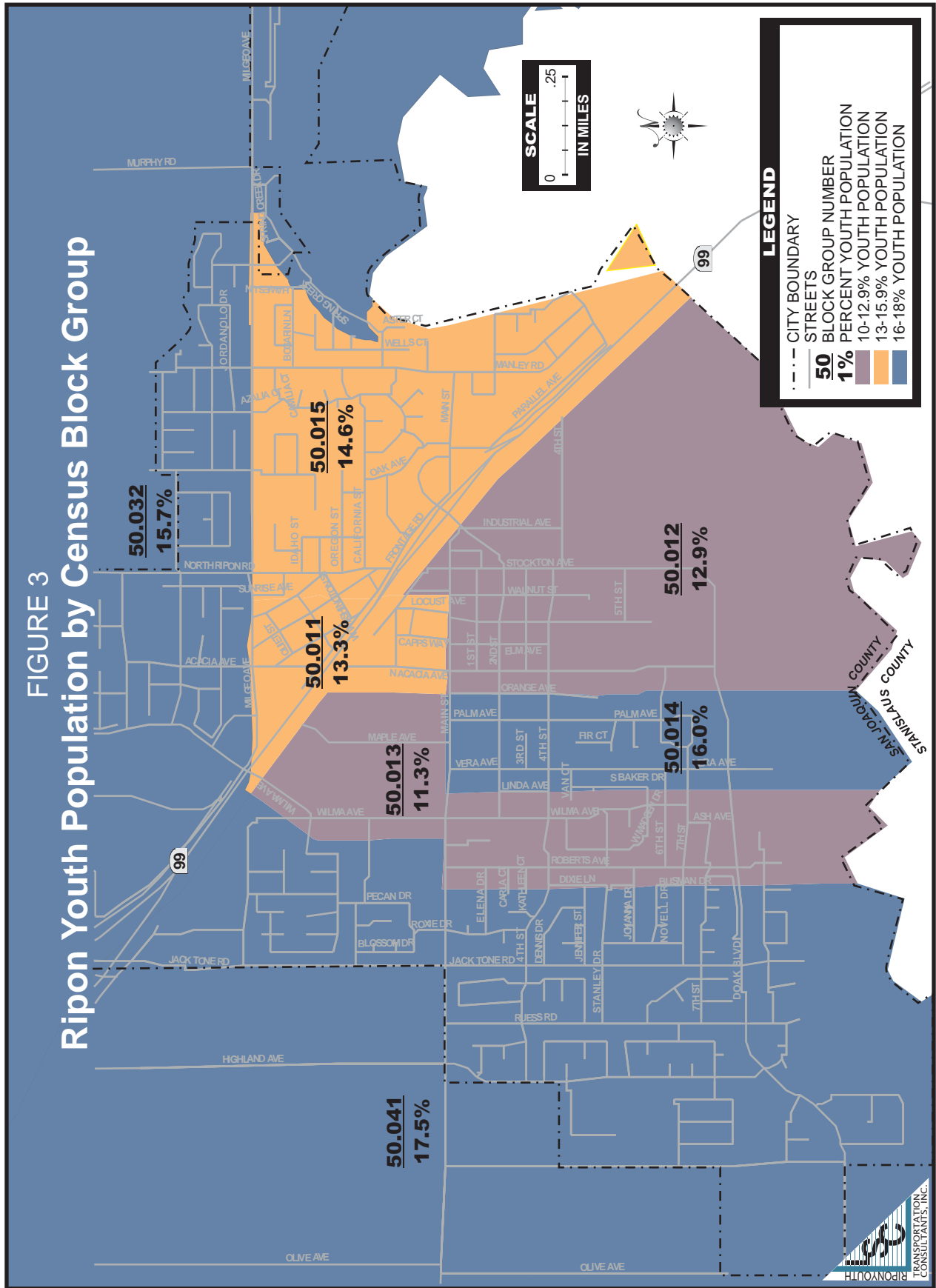
### Ripon Employment and Commuting

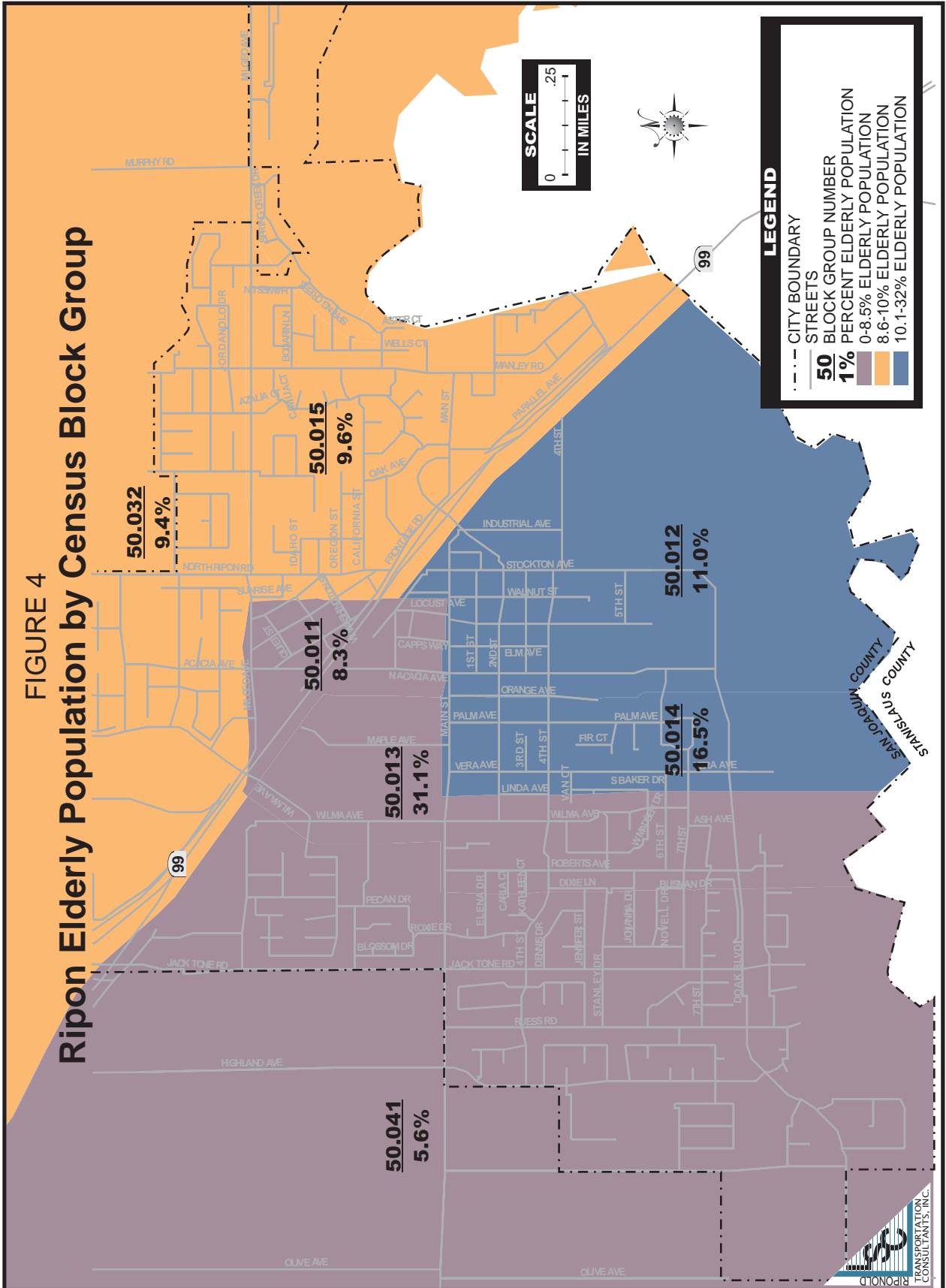
Table 3 shows the number of employees living and working in each CBG in Ripon in 2000. As shown, 4,436 employees resided in Ripon, while only 1,129 (about a quarter) worked in Ripon, indicating that Ripon is indeed a bedroom community. An estimated 3,307 employees commuted to work sites outside of Ripon. Not surprisingly, CBG 50.014, which includes the downtown area of Ripon, has the highest ratio of employees working and living in an area. Employees typically travel to Modesto, Manteca, Tracy, Livermore, and Stockton for work.

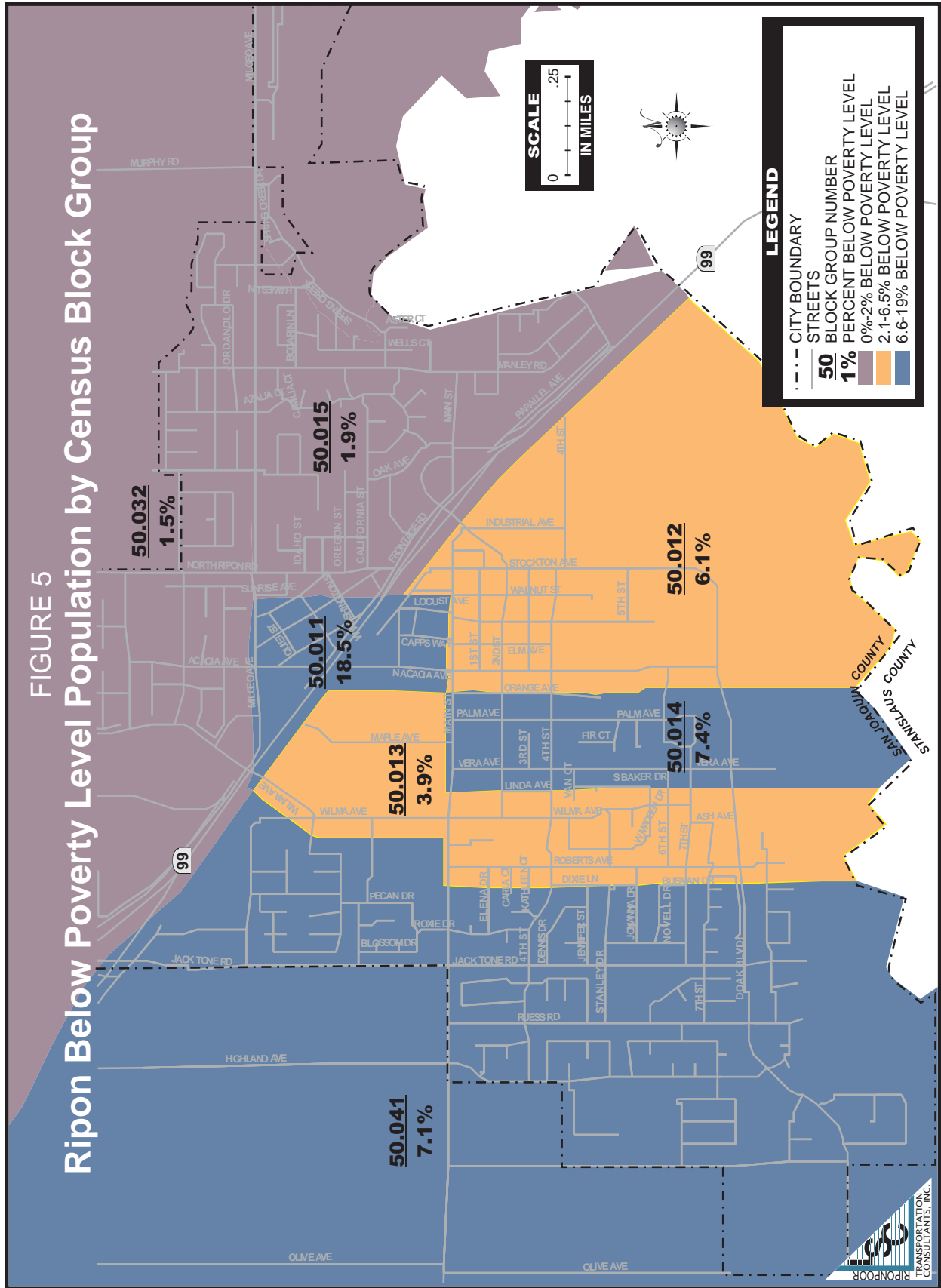
Table 4 shows the current labor force, including the number employed and unemployed, as well as the historical employment since 2000. Since 2000, Ripon has enjoyed strong employment as has much of California. However, in the current year, the unemployment rate has increased from an average of approximately 4.7 since 2000 to 6.0 as of August of this year.

The 2000 U.S. Census also provided information useful to this study effort regarding the means of transportation Ripon residents used to and from work, and work location outside of San Joaquin County. The mode of transportation residents took to work is presented in Table 3. As is usually the case in all but the largest cities, most employed residents (81.2 percent) drove

**FIGURE 3  
Ripon Youth Population by Census Block Group**







**TABLE 2: Ripon Household Data by Census Block Group - Estimate for 2008**

Census Block Tract Group	General Description (Main streets of boundaries)	Square Miles	Total Pop.	Mobility- Limited <sup>1</sup>		Housing Units <sup>2</sup>		Zero Vehicle Households <sup>3</sup>		
				#	%	Owner	Renter	#	%	
50.01	1 Migeo, Stockton, Acacia, Main	0.2	1,257	122	9.7%	0	0	0	2.5%	
	2 Acacia to Main to SR 99 to Stanislaus River	0.8	829	19	2.3%	0	0	0	3.7%	
	3 Robert, Wilma, SR 99, Acacia, Main, Vera	0.4	1,749	169	9.7%	0	0	0	13.4%	
	4 Vera to Acacia; Main to Stanislaus River	0.3	900	25	2.8%	0	0	0	0.0%	
5	Stockton to Migeo to Stanislaus River to SR 99	0.6	3,114	85	2.7%	0	0	0	1.0%	
50.03	Partial: SR 99, Mello, Carrollton, the Stanislaus River	1.9	1,723	60	3.5%	0	0	0	4.1%	
50.04	Partial: S. Austin, Frontage, Wilma, Robert, the Stanislaus River	1.4	4,935	138	2.8%	0	0	0	4.0%	
<b>City of Ripon City Boundaries</b>		5.5	14,915	619	4.1%	0	0	4,874	191	3.9%

Note 1: Based on percentages by Block Group in 2000. "Go outside home" disability, ages 5 to over 65

Note 2: CA Dept of Finance estimates 4,874 occupied housing units 1/1/08. Proportions of owner v.s. renter and block group from 2007 were applied to this number

Note 3: Assumes same proportion of zero vehicle households by block group as in 2000

Source: US Census and California Dept. of Finance.



**TABLE 3: Employees in the City of Ripon by Census Block Group**

Census Tract	Block Group	Total Workers			% Working Outside of Ripon
		Living in Ripon	Residents Working in Ripon	Working Outside of Ripon	
50.01	1	358	92	266	74%
	2	242	56	186	77%
	3	465	101	364	78%
	4	260	111	149	57%
	5	991	215	776	78%
50.03	2	474	131	343	72%
50.04	1	1,646	423	1,223	74%
<b>City of Ripon</b>		<b>4,436</b>	<b>1,129</b>	<b>3,307</b>	<b>75%</b>

Source: US Census 2000.

alone to and from work, while an additional 11.3 percent carpooled. Approximately 3.4 percent worked at home; 2.7 percent walked to work, and approximately 2 percent took public transportation, a taxi, bicycled or used another means to commute.

### Air Quality

The San Joaquin Valley has one of the most severe ozone air pollution problems in the state, and Particulate Matter (PM10) is also in nonattainment. PM10 has trended slightly downward over the years, but there were still 180 days in 2000 where the PM10 standard was exceeded. Being a non-attainment area for these pollutants, the City of Ripon continues to seek solutions to improve air quality. The City of Ripon was awarded a CMAQ grant to build a CNG fueling station and is in the process of converting its fleet to alternative fuels. A new CMAQ grant has been awarded for the City of Ripon to acquire two CNG trolley-type transit vehicles.

### Major Activity Centers and Social Service Programs

Activity centers in Ripon are shown in Figure 7, including schools, government offices, major shopping areas, and senior services. There are limited medical and dental services in Ripon, and many residents travel to Modesto for these services. Social services provided through the County are located in Stockton.

### Mail-In Survey

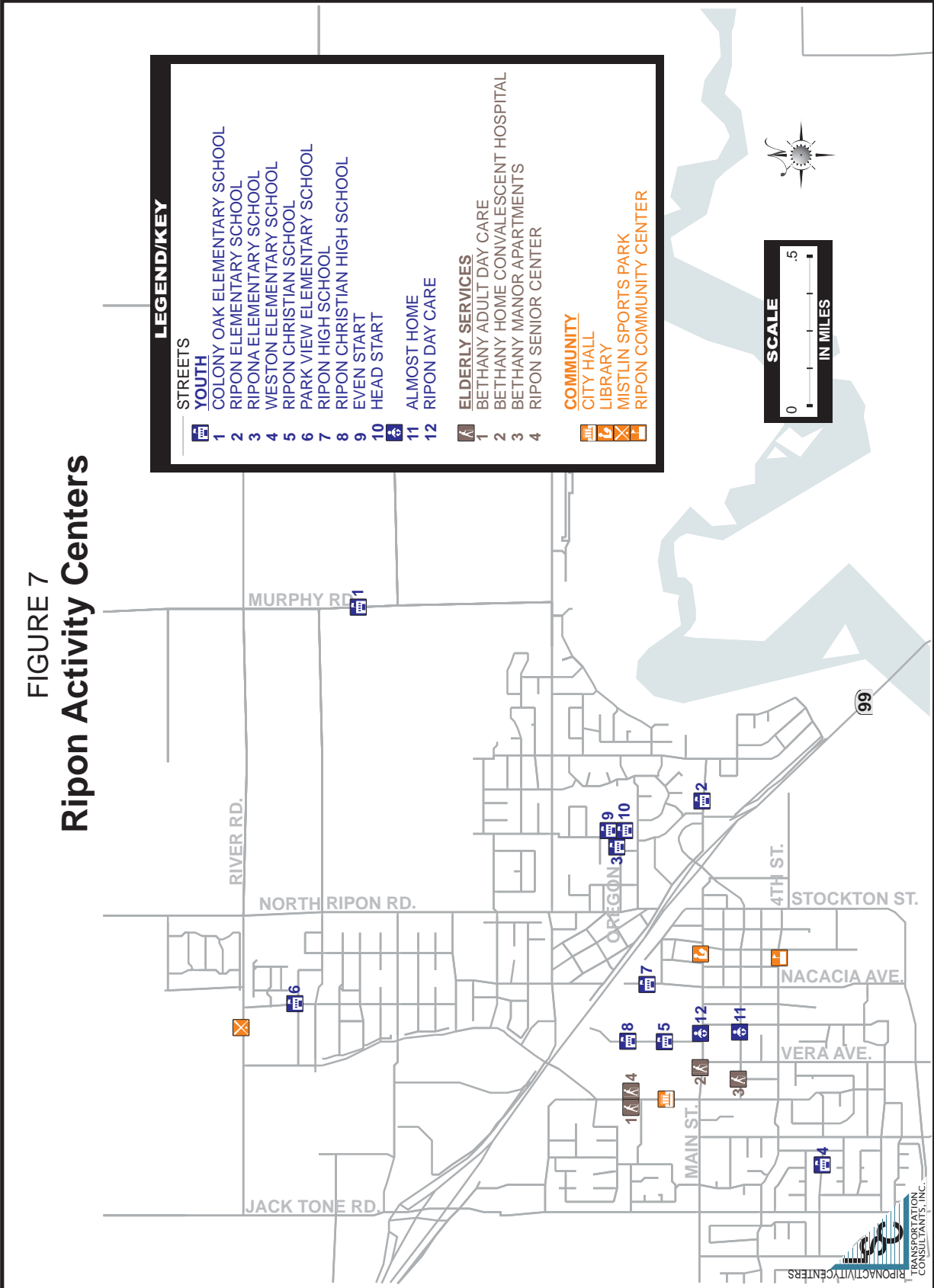
To gain further information on the demographics, transit needs, and opinions regarding transit, a mail-in-survey will soon be delivered to all addresses within the City. Results of the survey (...to be completed).

**TABLE 4: Ripon Current and Annual Employment**

<b>Month (2008)</b>	<b>Labor Force</b>	<b>Employment</b>	<b>Unemployment</b>	<b>Rate</b>
January	6,000	5,700	300	5.8
February	6,000	5,700	300	5.7
March	6,100	5,700	400	6.0
April	6,000	5,700	300	5.6
May	6,100	5,800	300	5.5
June	6,100	5,800	300	5.7
July	6,000	5,700	400	6.2
August	6,100	5,800	400	6.0
Sept.	6,100	5,700	400	6.0
<b>Year</b>	<b>Labor Force</b>	<b>Employment</b>	<b>Unemployment</b>	<b>Rate</b>
2007	5,300	5,100	200	4.0
2006	5,400	5,200	200	4.3
2005	5,600	5,300	300	5.1
2004	5,700	5,400	300	5.3
2003	5,700	5,400	300	5.1
2002	5,800	5,500	300	4.6
2001	5,900	5,600	300	4.3
2000	6,000	5,700	300	4.7

*Source: California Department of Finance*

**FIGURE 7**  
**Ripon Activity Centers**



## **Chapter 2**

# **Transit Service Providers**

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There are limited public and private transportation services operating in the City of Ripon, as discussed in this chapter.

### **SAN JOAQUIN REGIONAL TRANSIT DISTRICT (RTD)**

San Joaquin RTD is operated out of Stockton and provides regional transit services throughout the County. Three of its routes serve the City of Ripon, as described below.

#### **San Joaquin RTD Hopper Route 91**

RTD Hopper Route 91 provides service between Ripon, Manteca, and Stockton terminating at San Joaquin Delta College weekdays. Service departs San Joaquin Delta College southbound at 7:15 AM, 9:00 AM, 11:20 AM, 12:55 PM, 3:20 PM, and 4:35 PM, arriving in Ripon at Wilma and Canal approximately an hour and 45 minutes later. The northbound runs leave Ripon at 5:15 AM, 6:40 AM, 9:05 AM, 10:55 AM, 1:20 PM, 2:45 PM, and 5:30 PM. This schedule can accommodate students at Delta College, as well as employees at Stockton Metropolitan Airport or downtown Stockton. Within Stockton, numerous connections are available to the city routes. Connections are also available to Manteca Transit which has two routes circulating the city on hourly headways. Within Ripon, the bus circulates along North Jack Tone to Canal Street, south on North Wilma, east on Fourth Street, north on Second Street over the freeway, north on North Stockton and North Ripon, west on River Street (past the sports complex) and back to the freeway via North Jack Tone. This service was initiated in November 2002.

Cash fares on the Hopper Route are \$1.25 for adults, \$1.00 for students, and \$0.60 for seniors and disabled. Ten-ride passes are not discounted but are provided for convenience. Daily passes, good for unlimited rides for the day, are available for \$3.00 for adults, \$2.00 for students, and \$1.50 for elderly and disabled.

Ridership on this route averages approximately 1,700 monthly one-way passenger trips, or 78 per day. Approximately 34 percent of the ridership is general public adults, 31 percent are students, and 16 percent are elderly or disabled.

#### **San Joaquin RTD Intercity Route 26**

Intercity Route 26 provides service between Tracy and Manteca via Lathrop, Downtown Stockton, the Stockton Airport, and Main Street. Limited service to Ripon is available on the weekends and holidays. The bus runs every two hours departing from Ripon. The first bus leaves Tracy at 6:55 AM and arrives in downtown Stockton at 7:57 AM, and in Ripon at 9:17 AM. The next buses depart Tracy for Ripon at 9:15 AM, 10:35 AM, 12:35 PM, 2:45 PM, and 4:15 PM. In the counterclockwise direction, buses leave Ripon for Tracy (via Manteca and Stockton) at 7:32 AM, 9:32 AM, 11:46 AM, 1: 26 PM, and 3:18 PM. Fares on the Intercity Route are the same as the Hopper Routes, and the bus circulates through Ripon on the same route as the Hopper route. Connections are available on the Tracer transit service in Tracy, on Manteca Transit in Manteca, and on city routes in Stockton operated by RTD. This service was initiated on February 13, 2005.

Ridership on this route averages nearly 10,000 per month, though weekend service and service to Ripon account for a small percentage of this ridership.

**San Joaquin RTD Commuter Route 167: Subscription Service from Ripon to Lawrence Livermore Laboratory and Sandia Laboratories.**

Route 167 between Ripon/Manteca and Lawrence Livermore and Sandia National Laboratories in Livermore is offered on a subscription basis. The bus arrives at the laboratories at 6:45 AM and departs at 3:27 PM. Advanced reservations for monthly or daily passes are required. The monthly fare from Ripon is \$154, and the daily fare is \$14 one-way or round-trip, if seats are available. Average monthly ridership is 1,200 passenger trips, or approximately 56 passenger trips per day. It is unknown how many are from Manteca versus Ripon.

Route 167 connects to Wheels, which is a service of the Livermore Amador Valley Transit Authority (LAVTA) and provides public transportation for the Tri-Valley communities of Dublin, Livermore and Pleasanton, California. Wheels has connections to San Francisco via BART.

Ridership on all three services over the past three years is shown in Table 5. As indicated, ridership has been growing on Routes 26 and 91, while ridership on Route 167 declined in Fiscal Year 2008.

Fiscal Year	Route		
	26	91	167
2006	88,556	19,024	14,700
2007	100,923	22,342	15,276
2008	113,794	25,042	13,592

*Source: SJRTD, October 2008*

**CITY OF RIPON DIAL-A-RIDE**

The City of Ripon offers a very limited DAR service using volunteer drivers and a city-owned vehicle. The City Clerk receives requests and schedules service if volunteers are available. City employees from the Department of Public Works train volunteers and provide maintenance for the vehicle. Service is offered on Thursdays only and trips are primarily for medical appointments or shopping in Modesto. Most of the volunteers are recruited from the Bethany Senior apartment complex.

An evaluation of DAR log sheets in 2008 shows that an average of 20 passengers use the service monthly. From January to August 2008, a total of 45 round trips were provided on the DAR, serving a total of 158 passenger trips. Three quarters of these trips were to Modesto, and the remainder were to Escalon, Oakdale, Knights Ferry, Lodi, Manteca, Salida, and Ripon. Within Modesto, an estimated 73 percent of identified trips were for shopping, while 23 percent were for medical purposes.

The total donations received from January to early August 2008 was \$529.00, which averages \$3.51 per passenger trip, or \$11.76 per round trip. Total mileage for these trips was 1,869, with approximately 53 hours of driving time.

## **RIPON SCHOOL DISTRICT TRANSPORTATION**

The Ripon School District provides transportation to students free of charge. The school district currently operates six routes, serving approximately 600 students daily. Bus drivers frequently have multiple jobs, such as driving and janitorial work.

## Chapter 3

# Transit Demand Analysis

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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 shows potential transit demand by ridership in the following categories:

- ♦ Elderly and Disabled Transit Demand
- ♦ Mode Split Demand for General Public Transit
- ♦ Employee Transit Demand
- ♦ Peer-Based Total Transit Demand

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; as part of the Alternatives Analysis, additional analysis will be conducted for various service alternatives to determine the proportion of this total demand that can be realistically achieved.

As a first step, the demographic data available for the study area was reviewed. The data applicable to demand analysis is summarized in Tables 1 and 2 in Chapter 2. These data were then applied to a series of analytical techniques to provide estimates of the various types of transit demand. Finally, these estimates were considered as a whole to develop overall estimates of total transit demand.

### **ELDERLY AND DISABLED TRANSIT DEMAND**

The elderly population and population with disabilities represent a high transit demand segment of the populace. This demand can be estimated using a model developed by Peat, Marwick, Mitchell and Company as explained in *Description of the Transportation Handicapped Population*. The model applies specific trip rates to the elderly and to the disabled (identified by the U.S. Census as being limited in ability to “go outside the home”). The trip rates are applied to the population of each census block group in Ripon, as shown in Table 6. The result is an estimated demand for annual one-way passenger trips by transit. This represents an upper-bound demand. As shown in Table 6, the estimated elderly and disabled demand for Ripon is 37,210 trips annually.

### **GENERAL PUBLIC TRANSIT DEMAND**

One element of the total demand for transit services in the region is general public demand, which encompasses all passenger types. The general public demand is best estimated by evaluating the transit “mode split” (the proportion of total travel made by transit), based on national trends. In light of observed transit mode splits, a maximum feasible mode split of 0.5 percent of all local travel is appropriate. Typically, each person makes 3.5 trips approximately

**TABLE 6: Transit Demand Estimates for Elderly and Disabled Persons**

Census Tract	Block Group	Description	Elderly Persons (Aged 65 and Over)	Mobility Limited Persons <sup>(1)</sup>	Total Persons	One Way Transit Trip Demand <sup>(2)</sup>
50.01	1	Migeo, Stockton, Acacia, Main	104	122	226	3,750
50.01	2	Acacia to Main to SR 99 to Stanislaus River	91	19	110	1,830
50.01	3	Robert, Wilma, SR 99, Acacia, Main, Vera	544	169	713	11,820
50.01	4	Vera to Acacia; Main to Stanislaus River	148	25	173	2,880
50.01	5	Stockton to Migeo to Stanislaus River to SR 99	300	85	385	6,380
50.03	2	Partial: SR 99, Mello, Carrolton, Stanislaus River	162	60	221	3,670
50.04	1	Partial: S. Austin, Frontage, Wilma, Robert, Stanislaus River	277	138	415	6,880
<b>City of Ripon Total</b>			<b>1,627</b>	<b>618</b>	<b>2,245</b>	<b>37,210</b>

Note 1: Mobility Limited figures includes only those listed as employed.  
Note 2: Using elderly/disabled demand estimation techniques developed by Peat, Marwick, Mitchell & Company, as described in *Description of the Transportation Handicapped Population*.  
Sources: U.S. Census Bureau, Census 2000; LSC Transportation Consultants, Inc.

255 days per year; thus, the 14,915 residents would make a total of approximately 12,946,900 one-way trips per year. Applying the 0.5 percent mode split suggests a total demand for transit trips on the order of 64,730 one-way transit passenger-trips per year:

$$\begin{aligned} 14,506 \times 3.5 \times 255 &= 12,946,900 \text{ total annual one-way person trips} \\ 12,956,900 \times 0.5\% &= 64,700 \text{ annual one-way transit trips} \end{aligned}$$

Again, it should be emphasized that this represents an “upper bound” demand for transit. This information is presented by census block group in Table 7.

## EMPLOYEE TRANSIT DEMAND

A similar method can be used for the estimating employee transit demand. This element has become an important “market” for many transit systems. A quantitative source on which to base an analysis of commuter demand is provided by the 2000 Census Transportation Planning Package from the Bureau of Transportation Statistics, U.S. Department of Transportation. The total number of employed persons residing in Ripon in September 2008 was estimated by the California Department of Finance to be 5,700. Approximately a quarter of these residents worked within the city of Ripon, indicating that 1,450 are commuting locally.

A maximum feasible mode split of 1.5 percent of all commuter travel is appropriate. Typically, each employee makes two trips approximately 250 days per year; thus, the 1,450 commuters would make a total of approximately 2,850,000 commuter trips per year. Applying the 1.5 percent mode split suggests a total commuter demand for transit trips on the order of 42,750 one-way transit passenger-trips per year:

$$\begin{aligned} 1,450 \times 2 \times 250 &= 720,000 \text{ total annual one-way person trips} \\ 720,000 \times 1.5\% &= 10,800 \text{ annual one-way transit trips} \end{aligned}$$

**TABLE 7: Ripon Estimated Total Transit Demand by Mode Split**

Census Block Group / Description	Population	One-Way Transit Trip Demand			
		#	%		
50.01	1	Migeo, Stockton, Acacia, Main	1,257	5,610	9%
	2	Acacia to Main to SR 99 to Stanislaus River	829	3,700	6%
	3	Robert, Wilma, SR 99, Acacia, Main, Vera	1,749	7,810	12%
	4	Vera to Acacia; Main to Stanislaus River	900	4,010	6%
	5	Stockton to Migeo to Stanislaus River to SR 99	3,114	13,890	21%
50.03	2	Partial: SR 99, Mello, Carrolton, Stanislaus River	1,723	7,690	12%
50.04	1	Partial: S. Austin, Frontage, Wilma, Robert, Stanislaus River	4,935	22,020	34%
<b>City of Ripon Total</b>			<b>14,506</b>	<b>64,730</b>	<b>100%</b>

Note: It is estimated each person makes an average of 3.5 trips per year, 255 days per year. An estimated 0.5 percent of all trips total the potential number to be served by transit.

Source: California Dept. of Finance data; US Census 2000 data; compiled by LSC

This information is presented in Table 8. Note that Ripon residents also generate demand for employee transportation to work site in other communities. However, as this study is focused on local services, long-distance commute demand generated by Ripon residents is not considered further.

## PEER-BASED TRANSIT DEMAND

The above methods of demand estimation are based on national trends of transit ridership. It is helpful to compare the above numbers to actual ridership trends of similar sized cities which have established transit systems. Table 9 presents operating statistics for transit systems in similar sized cities throughout the Central Valley including the population of the city served. Data from 2005-06 was used, which represents the most recent data compiled by the California State Controllers Office.

As shown, the population of the cities included in the peer review ranges from 7,012 in Escalon to 38,887 in Riverbank/Oakdale (which provide a dual-city transit system). The Tracy service was included for its proximity to Ripon. Manteca was not included as it only operates a demand-response service for elderly and disabled.

**TABLE 8: Ripon Estimated Employee Demand by Mode Split**

Census Block Group / Description		Residents Commuting Locally	Annual Work Trips	Estimated Transit Mode Split	
50.01	1	Migeo, Stockton, Acacia, Main	120	60,000	900
	2	Acacia to Main to SR 99 to Stanislaus River	80	40,000	600
	3	Robert, Wilma, SR 99, Acacia, Main, Vera	150	75,000	1,125
	4	Vera to Acacia; Main to Stanislaus River	80	40,000	600
	5	Stockton to Migeo to Stanislaus River to SR 99	320	160,000	2,400
50.03	2	Partial: SR 99, Mello, Carrolton, Stanislaus River	150	75,000	1,125
50.04	1	Partial: S. Austin, Frontage, Wilma, Robert, Stanislaus River	540	270,000	4,050
<b>City of Ripon Total</b>		<b>1,450</b>	<b>720,000</b>	<b>10,800</b>	

Note: Number of employed residents as estimated by the California Dept. of Finance in Sept. 2008 is 5,700. US 2000 Census estimates 25% work in Ripon, 75% outside of Ripon. Employed residents are assumed to live in census block groups in the same proportion as the 2000 Census. Assumes employees make 250 work trips annually. Assumes 1.5 percent of trips by transit.

Source: California Dept. of Finance data; US Census 2000 data; compiled by LSC

The ridership provided by each system was divided by the population to determine the ridership per capita. This ranges from a low of 0.05 in Ripon (which only has the one day per week DAR service), to 0.84 in Escalon, to highs of 5.48 in Arvin and 6.90 in Taft. The average ridership per capita is 2.46.

Applying the average peer rates of transit service per capita against Ripon's current population of 14,915 indicates an annual ridership of 33,700 one-way passenger-trips per year. A reasonable maximum annual ridership can be calculated by applying the average rate plus one standard deviation (equal to 4.07 trips per capita per year). This results in an estimate of 60,700 trips per year, which is very close to the value based on the general public mode split, presented above. However, the number of transit dependent is not considered in this equation. Ripon has a slightly lower than average elderly population of 10 percent compared to the California statewide elderly population of 11 percent, and a relatively low 6.2 percent population below poverty compared to 14.2 percent statewide. These factors indicate Ripon would have a ridership per capita rate approximately 20 percent lower than otherwise estimated. Applying this factor, it is concluded that the annual potential ridership for local Ripon public transit services is approximately 50,000 one-way passenger-trips per year.

**TABLE 9: Ripon Transit Peer Ridership per Capita**

2005-06 Characteristics <sup>1</sup>

Area Served	2006 Population <sup>2</sup>	Ridership					Vehicle-Miles		
		Fixed Route	General Public Dial-A-Ride	Elderly / Disabled Dial-A- Ride	Total	Annual Transit Ridership Per Capita	Operating Budget	Fixed Route	DAR
Arvin	15,005	--	82,184	--	82,184	\$454,095	--	82,969	
California City	12,031	--	15,194	--	15,194	\$187,143	--	45,898	
Chowchilla	17,080	--	26,042	--	26,042	\$229,085	--	37,600	
Dinuba	19,460	10,936	25,033	--	35,969	\$202,982	--	--	
Dixon	17,454	--	57,607	--	57,607	\$555,018	--	92,102	
Escalon	7,012	--	5,865	--	5,865	\$64,624	--	22,998	
Exeter	10,567	--	17,806	--	17,806	\$103,530	--	15,801	
McFarland	12,519	--	21,230	--	21,230	\$107,443	--	24,514	
Riverbank/Oakdale	38,877	32,473	29,850	--	62,323	\$991,478	135,488	126,289	
Shafter	14,481	--	35,657	--	35,657	\$167,866	--	51,069	
Taft	9,138	--	63,089	--	63,089	\$442,964	--	80,930	
Telachapi	12,599	--	9,614	--	9,614	\$118,238	--	22,337	
Tracy Transit	78,133	67,452	--	29,039	96,491	\$1,162,454	145,898	86,030	
Wasco	24,260	--	26,112	--	26,112	\$417,234	--	32,575	
Average	20,615	36,954	31,945	29,039	39,656	\$371,725	140,693	55,470	
Ripon	13,844	--	746	--	746	\$860	--	2,345	

**Ripon: Average** 14,915 (2008 estimated pop.) 33,700

**Ripon: Reasonable Maximum** 14,915 (2008 estimated pop.) 60,700

Note 1: Data provided from the California State Controller's Office 2005-06 Transit Operators Annual Report.

Note 2: California Dept. of Finance Table E-4 Estimates for Cities, Counties, and State 2001-2008

## FUTURE TRENDS IN TRANSIT DEMAND

Future changes in actual transit demand will be influenced by a variety of factors, including:

- ♦ **Development in Ripon** – The City of Ripon is expanding both residentially and commercially. Residential growth is occurring in small subdivisions throughout the City, while commercial growth is expanding most rapidly around Jack Tone Road just north of SR 99.
- ♦ **Regional Development** – A new Kaiser Permanente Hospital was opened in October 2008 on Dale Road in Modesto which will serve residents of Ripon and potentially increase transit demand for medical trips.
- ♦ **Change in Total Population** – The City of Ripon has been growing rapidly, with a 35.8 percent estimated growth from 2000 to 2007. If this rate of growth continues, it will impact the need for transit services.
- ♦ **Economic Conditions** – California is facing a difficult and uncertain financial future. As the economy worsens and unemployment increases, the demand for transit is likely to increase as well. Unemployed individuals may desire transit service to cut travel costs, access increasingly needed social services, or reach new job sites. Employed individuals may desire public transit commute options in order to save money. There may be an increased demand for access to job training and educational opportunities as well.
- ♦ **Senior Population** – Ripon has an active senior community, and the concentration of senior housing in the center of town increases the viability of providing transit for seniors. As the population as a whole grows, the senior population will have an increased need for transportation.