

# Chapter 3 Affected Environment, Environmental Consequences, and Avoidance, Minimization, and/or Mitigation Measures

## 3.1 Traffic and Transportation/Pedestrian and Bicycle Facilities

### 3.1.1 Affected Environment

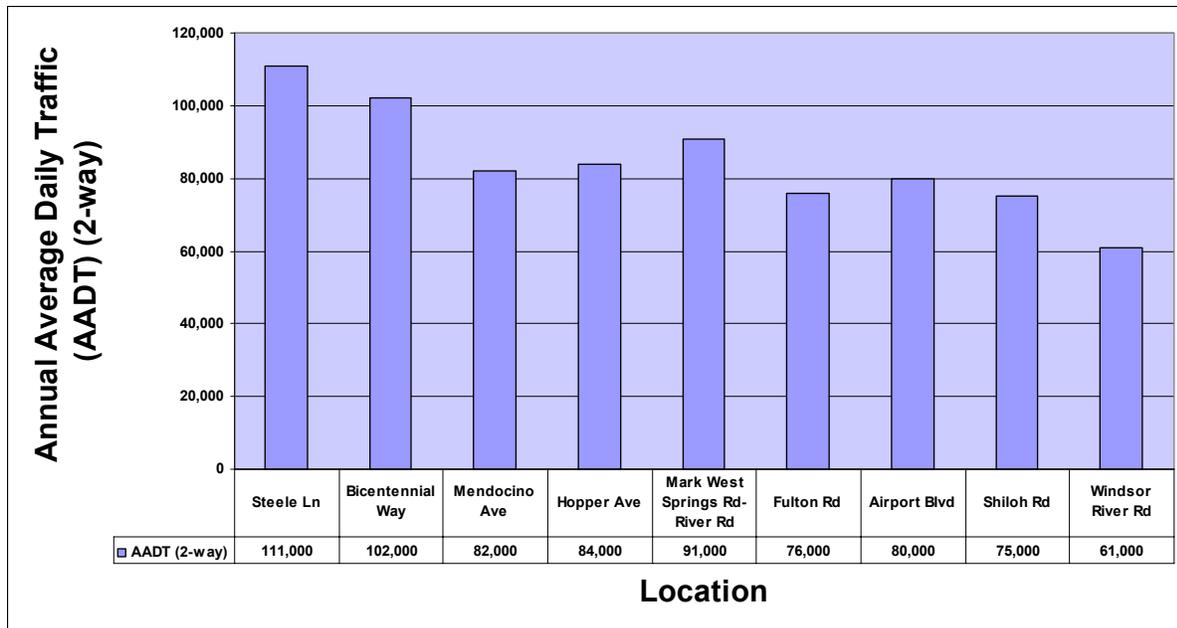
#### 3.1.1.1 EXISTING ROADWAY NETWORK

Highway 101, which is a major north-south route along the western coast of the United States, passes through five Bay Area counties—Sonoma, Marin, San Francisco, San Mateo, and Santa Clara counties. It is the most heavily traveled route in the North Bay Area. In Sonoma County, Highway 101 plays a vital role in intra-county connections and also connects the County with the greater Bay Area. According to Caltrans, the traffic along Highway 101 in the study corridor on an average day in 2003, represented by annual average daily traffic (AADT), ranged from 61,000 to 111,000 vehicles per day (both directions combined), as shown in Figure 3.1-1<sup>1</sup>. By 2030, annual average daily traffic in the corridor is estimated to range from 75,000 to about 133,000 vehicles per day.

The segment of Highway 101 within the project limits, which is illustrated in Figure 3.1-2, includes eight interchanges: Bicentennial Way, Mendocino Avenue, Hopper Avenue, Mark West Springs Road-River Road, Fulton Road, Airport Boulevard, Shiloh Road, and Windsor River Road-Old Redwood Highway. Local arterials and streets also serve the study area along Highway 101 from Steele Lane to Windsor River Road. The major streets within the study area and vicinity are described below.

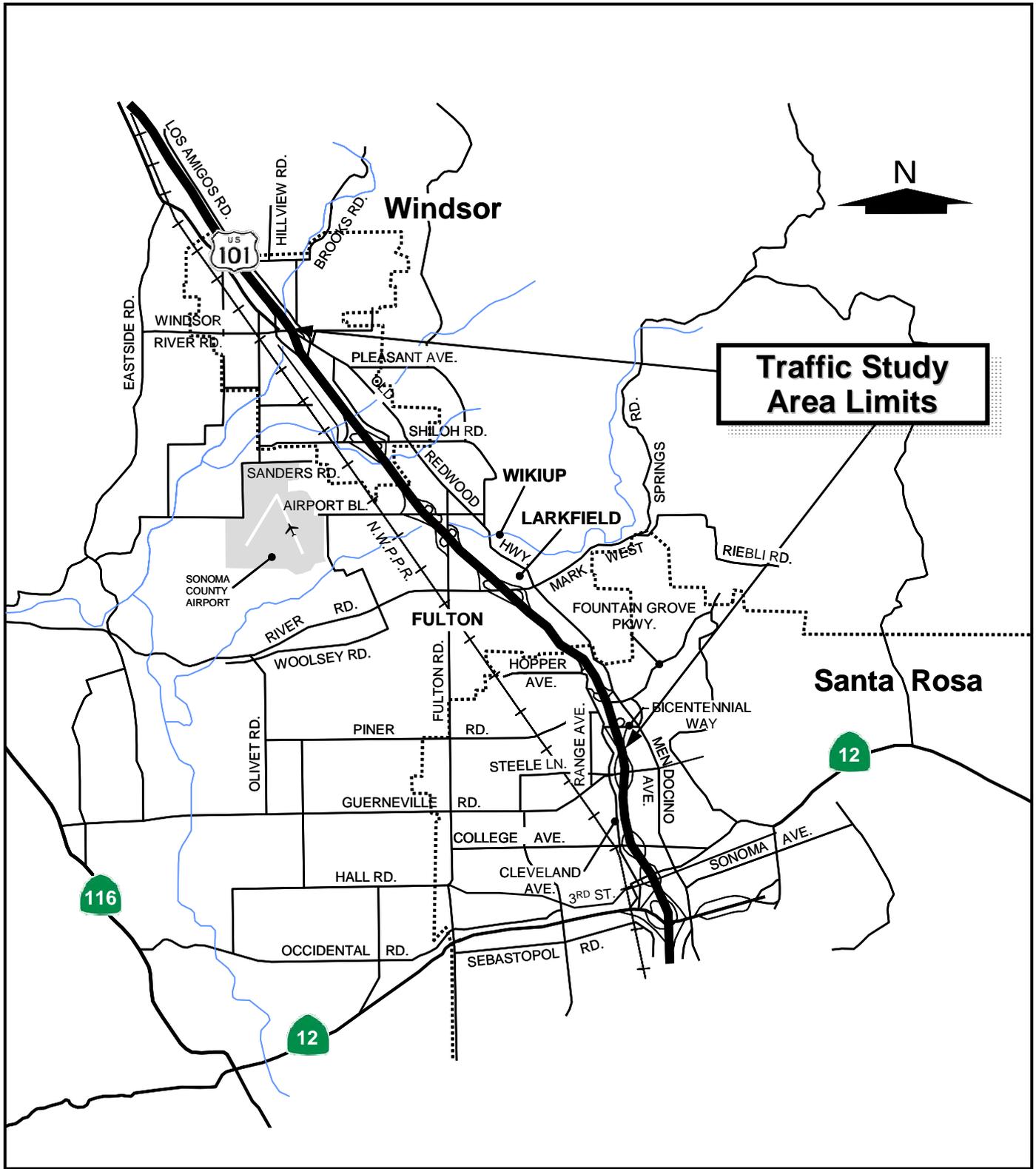
- **State Route 12 (SR 12)**, south of the project limits, travels in an east-west direction, extending west from Sebastopol, across the Central Valley, and to the Sierra foothills in the east. SR 12 is the principal route connecting the Santa Rosa area with Sebastopol to the west and Sonoma to the east. SR 12 is a four-lane divided freeway as it crosses Highway 101 and becomes a two-lane conventional highway east and west of Santa Rosa. SR 12 carries an estimated AADT of 69,000.
- **Third Street**, located south of the project limits, is an east-west arterial through downtown Santa Rosa that provides access from Highway 101 to the Santa Rosa Civic Center and city and county courthouses, and connects Fulton Road on the west to Mendocino Avenue on the east, both major north-south arterials through the Santa Rosa area. Third Street is a four-lane, two-directional arterial as it crosses Highway 101.

<sup>1</sup> <http://www.dot.ca.gov/hq/traffops/saferestr/trafdata/2003all.htm>



**Figure 3.1-1: Caltrans 2003 Annual Average Daily Traffic Volumes on Highway 101**

- **College Avenue**, south of the project limits, is an east-west arterial street through central Santa Rosa that also connects Fulton Road and Mendocino Avenue. College Avenue is a four-lane, two-directional arterial as it crosses Highway 101.
- **Steele Lane**, just south of the project limits, is an east-west arterial street through north central Santa Rosa providing access to the Sonoma County Administration Center and connecting to Mendocino Avenue. To the west of Highway 101, Steele Lane connects with Guerneville Road, which provides access between western Santa Rosa, Guerneville and downtown Santa Rosa. At Highway 101, Steele Lane is a five-lane, two-directional arterial with turn pockets carrying approximately 6,900 vehicles per hour (vph) during the peak hour. Three westbound through lanes and two eastbound through lanes are provided.
- **Bicentennial Way** is an east-west arterial street through north central Santa Rosa that provides access to the Sonoma County Administration Center and Kaiser Permanente Medical Center and connects to Mendocino Avenue. At Highway 101, Bicentennial Way is a four-lane, two-way roadway with turn pockets that carries approximately 4,550 vph in the peak hour.
- **Mendocino Avenue** travels in a north-south direction traveling through downtown Santa Rosa and parallels Highway 101 to the east. At the north end of Santa Rosa, Mendocino Avenue becomes Old Redwood Highway. Mendocino Avenue through downtown Santa Rosa is a four-lane, two-directional arterial roadway with turn pockets. At Highway 101, the AADT is approximately 4,600 vph in the peak hour.



**Legend:**

- ..... City Boundary
- + + + Railroad

Source: Parsons 2005



- **Old Redwood Highway** extends in a north-south direction along the east side of Highway 101 and connects Santa Rosa with the communities of Larkfield, Wikiup, and the Town of Windsor. In Windsor, Old Redwood Highway crosses under Highway 101 and continues north along the west side of Highway 101 to Healdsburg. Old Redwood Highway is a four-lane, two-directional arterial roadway with turn pockets that carries approximately 4,600 vph in the peak hour in Santa Rosa and approximately 3,400 vph in the peak hour in Windsor.
- **Cleveland Avenue** extends in a north-south direction along the west side of Highway 101 through Santa Rosa from Third Street (south of the project limit) north to Hopper Avenue. Cleveland Avenue is a four-lane, two-directional arterial roadway with turn pockets.
- **Mark West Springs Road - River Road** travels in an east-west direction across Highway 101. East of Highway 101 it is known as Mark West Springs Road and provides a connection from Highway 101 to Calistoga. West of Highway 101, it is known as River Road and provides a connection to Guerneville and other communities along the Russian River. At Highway 101, Mark West Springs Road—River Road is a two-lane, two-directional roadway carrying approximately 3,700 vph in the peak hour.
- **Fulton Road** travels in a north-south direction. It provides a connection from northern Sonoma County communities to the community of Fulton and serves as a major arterial along the west side of Santa Rosa, connecting SR 12 to the south to Old Redwood Highway on the east side of Highway 101. Fulton Road is a two-lane, two-directional arterial roadway with turn pockets in the vicinity of Highway 101 and widens out to four through lanes as it approaches Santa Rosa.
- **Airport Boulevard** extends in an east-west direction, providing access to the Sonoma County Airport and the surrounding industrial center, and connecting to Old Redwood Highway on the east side of Highway 101. At Highway 101, Airport Boulevard is currently a two-lane, two-directional arterial roadway carrying approximately 3,650 vph during the peak hour.
- **Shiloh Road** extends in an east-west direction and connects to Old Redwood Highway east of Highway 101. Shiloh Road is currently a two-lane, two-directional arterial roadway west of Highway 101, and with four lanes east of Highway 101. Shiloh Road serves as the primary east-west access route across the southern Windsor area. At Highway 101, Shiloh Road carries approximately 3,100 vph during the peak hour.
- **Windsor River Road** extends in an east-west direction and provides access through the central Windsor area west of Highway 101 to Eastside Road, which runs north-south parallel to and east of the Russian River (not shown on figure). At Highway 101, Windsor River Road connects to Old Redwood Highway. Windsor River Road is a four-lane, two-directional arterial roadway with turn pockets and carries approximately 4,000 vph in the peak hour.

### 3.1.1.2 EXISTING TRAFFIC CONDITIONS ON HIGHWAY 101

Current (year 2002) peak-hour traffic conditions on Highway 101 are discussed in this section. Although the project improvements focus on the 12.3-kilometer (km) or 7.6-mile (mi) stretch of Highway 101 from Steele Lane to Windsor River Road (the project area), the proposed traffic

improvements would affect traffic operations beyond these limits. Similarly, traffic conditions outside of the project limits could affect traffic operations within the immediate project area. For example, congestion on southbound Highway 101, south of the project area, could extend north into the project area. Such traffic conditions could induce long delays and disrupt the southbound traffic within the project area. Consequently, the traffic studies analyzed Highway 101 from Petaluma Boulevard South in Petaluma to north of Windsor River Road in Windsor. This environmental document reports only the traffic conditions on Highway 101 within the project limits, from Steele Lane to Windsor River Road.

Traffic counts for the entire corridor from Petaluma Boulevard South to Windsor River Road indicate that the morning peak hour for the northbound direction is typically between 7:00 and 8:00 a.m. and for the southbound direction is between 8:00 and 9:00 a.m. Along most northbound freeway segments, however, the volumes recorded in the two adjacent hours are within 70 percent of the peak hour volumes. Along most southbound freeway segments, the volumes recorded in the 7:00 to 8:00 a.m. period are within 90 percent of the peak hour volumes. However, at the Windsor River Road ramps, the southbound traffic volumes during the peak hour (8:00 to 9:00 a.m.) are more pronounced than the traffic volumes during the 7:00 to 8:00 a.m. period.

The evening peak hour typically takes place between 5:00 and 6:00 p.m. in the northbound direction, and between 3:00 and 4:00 p.m. in the southbound direction. The evening peak is as mildly pronounced as the morning peak, with northbound volumes only slightly differentiated between 4:00 and 6:00 p.m.

There is no substantial difference in directional flow by time of day, indicating that there is no strong commute pattern either northward or southward. Although one would expect southward commute patterns toward Santa Rosa and San Francisco in the morning and northward patterns in the evening, existing volumes show a more complex pattern. Apparently, work, goods movements, recreation, and other types of travel trips take place in both directions throughout the day among the cities and small towns along Highway 101, including Healdsburg, Windsor, and Santa Rosa and other locations north and south.

Santa Rosa is the main regional employment center in Sonoma County and the majority of Sonoma County commute trips are within the county. Employment in Sonoma County is projected to increase much more rapidly than population, with a 48 percent increase in jobs anticipated between 2000 and 2030. The City of Santa Rosa and other cities and towns in Sonoma County are expecting high job growth rates substantially greater than the expected growth in households. These projections emphasize continued demand for travel along Highway 101 as the primary north-south route to local and regional employment and commercial opportunities. See Sections 3.2, Land Use, Planning, and Growth, and 3.4, Community Impacts, for more information.

Current peak-hour travel times on Highway 101 through the project limits vary from 7.4 to 11.1 minutes, depending upon the direction and peak hour (morning or evening).

## Intersection Analysis

The intersections in the project area were categorized into two groups for the analysis: signalized (controlled by traffic signals) and unsignalized (controlled by stop signs). SYNCHRO software was used to analyze both kinds of intersections for this study. Based on the operational characteristics of each intersection—mainly the per vehicle delay at each intersection—the intersections were assigned a level of service ranking from LOS “A” to LOS “F”. Level of Service or LOS is a measure used to rate roadway facilities, based on their traffic conditions. The level of service criteria for intersection analysis are presented in Table 3.1-1.

Level of Service	General Description	Criteria for Intersections (control delay per vehicle, sec/veh)	
		Unsignalized	Signalized
A	Traffic flows with very little delay and speeds are optimal. Most vehicles do not stop.	0-10	< 10
B	Traffic flows with very little delay and speeds may be slightly reduced. Very infrequent and short waits at traffic signals. More vehicles stop at intersections than for LOS A.	> 10-15	> 10-20
C	Traffic speeds continue to slow. Some vehicles may stop at this level, although many vehicles still pass through the intersection without stopping.	> 15-25	> 20-35
D	Congestion becomes more noticeable. Many vehicles stop, and the proportion of vehicles not stopping declines.	> 25-35	> 35-55
E	Low speeds and traffic back ups at intersections. Often considered to be the limit of acceptable delay.	> 35-50	> 55-80
F	Very slow speeds and congestion. Long traffic backups. Very likely to wait for multiple greens to get through an intersection. This is considered to be unacceptable to most drivers.	> 50	> 80

Source: Highway Capacity Manual

The 12 intersections in the project area are listed below. All are Highway 101 ramp intersections with local streets; three of the 12 intersections are unsignalized intersections as noted below.

1. Guerneville Road/Steele Lane and Highway 101 northbound
2. Guerneville Road/Steele Lane and Highway 101 southbound
3. Bicentennial Way and Highway 101 southbound
4. Mendocino Avenue and Highway 101 northbound
5. Hopper Avenue and Highway 101 southbound
6. Mark West Springs Road and Highway 101 northbound
7. Mark West Springs Road and Highway 101 southbound (unsignalized – stop sign controlled on southbound approach)

8. Airport Boulevard and Highway 101 southbound (unsignalized – stop sign controlled on southbound approach)
9. Shiloh Road and Highway 101 northbound
10. Shiloh Road and Highway 101 southbound (unsignalized – stop sign controlled on southbound approach)
11. Windsor River Road and Highway 101 northbound
12. Windsor River Road and Highway 101 southbound

The results of the analysis show that of the 12 ramp intersections analyzed, eight currently operate at LOS D or better in the morning and evening peak hours. During the morning peak hour, all intersections operate at LOS D or better except the unsignalized intersections at the southbound ramp terminals at Airport Boulevard and Shiloh Road; these operate at LOS F. In the evening peak hour, the unsignalized intersection at the southbound ramp terminal at Mark West Springs Road-River Road operates at LOS F and the Windsor River Road northbound ramp terminal intersection operates at LOS E. All other intersections operate at LOS D or better. See Table H-3 in Appendix H for more details.

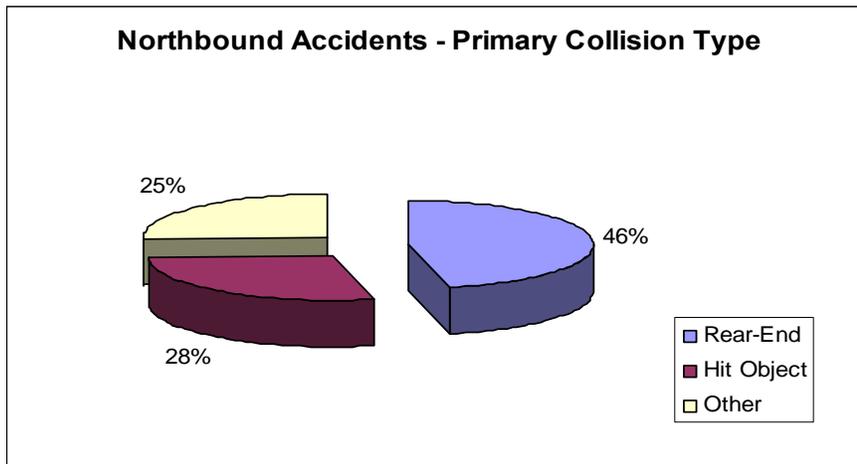
### **Safety**

Accident data were obtained for the three-year period from February 1, 1999 to January 31, 2002. The accident data were broken down by direction of travel and by either mainline freeway or ramp segments. The mainline accident data were further summarized for each section of highway between adjacent interchanges. Mainline and interchange accident data summaries are provided in Tables H-4 and H-5 of Appendix H.

### **Mainline Accident Data**

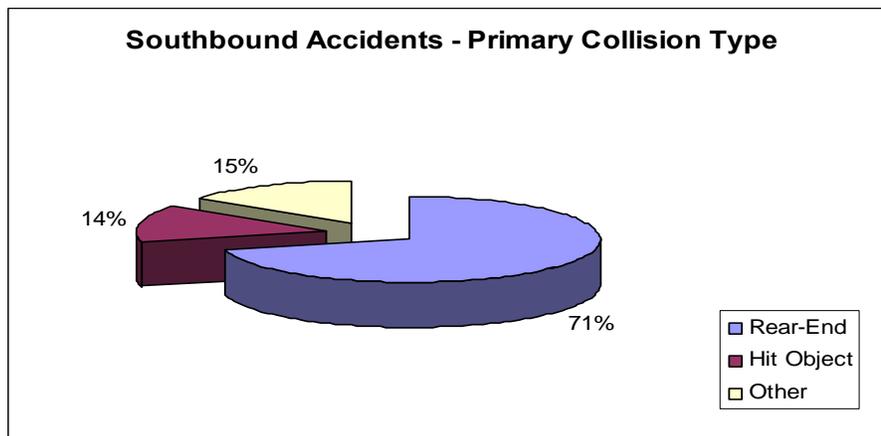
In the northbound direction, the overall accident rates for the project area are lower than reported statewide average rates for similar facilities. A few interchange-to-interchange sections have accident rates that exceed the reported statewide averages. Between Bicentennial Way and Mendocino Avenue, and between Fulton Road and Airport Boulevard, the accident rate for fatal and injury accidents is approximately 30 percent higher than the reported statewide average. In both segments, rear-end collisions, resulting from speeding and following too closely, were the primary type of accident. Neither environmental nor roadway conditions appear to have been a factor. See Figure 3.1-3.

One fatal accident was reported in the northbound direction, south of River Road. The accident was not related to highway conditions, but occurred when the driver fell asleep at the wheel and ran off the road.



**Figure 3.1-3: Percentages of Accidents in the Project Area (Northbound) by Primary Collision Type**

While there were no fatal accidents reported in the southbound direction, the overall total accident and injury accident rates southbound exceed the statewide reported average accident rates for similar facilities. Rear-end collisions were the primary collision type cited for southbound accidents at 71 percent, followed by hit objects at 14 percent. See Figure 3.1-4. Rear-end collisions are typically related to congested conditions.



**Figure 3.1-4: Percentages of Accidents in the Project Area (Southbound) by Primary Collision Type**

North of Airport Boulevard, interchange-to-interchange section accident rates are below the reported statewide average rates for similar facilities. However, south of Airport Boulevard, accident rates for all interchange-to-interchange sections exceeded the reported statewide averages. The highest mainline accident rate in the southbound direction occurred between Bicentennial Way and Steele Lane, a segment that is less than a mile in length. In this segment, 112 accidents, including 44 injury accidents, were reported in the three-year period studied. The injury accident and total accident rates were approximately three times higher than the statewide average rates.

A possible reason for these higher than average statewide rates could be that traffic flow on Highway 101 tends to slow south of Steele Lane as it encounters congestion in the downtown area of Santa Rosa. Therefore, free-flowing vehicles approaching the area north of Steele Lane encounter slower-moving or stopped vehicles. Eighty-six percent of the accidents (96 out of 112 accidents) occurring between Bicentennial Way and Steele Lane involved rear-end accidents caused by speeding or following too closely. In addition, most accidents occurred in clear weather and during daylight hours (mid-morning through evening), indicating that driving conditions were not a significant factor. Seventy-six percent of the accidents occurred on weekdays (Monday–Friday), and 55 percent were during the PM peak hours between 3:00 and 6:00 PM. Traffic operations south of Steele Lane are expected to improve over the existing conditions in the near term as a result of a related project, the Highway 101 HOV Widening Project from SR 12 to Steele Lane; however, by 2030, congestion in the vicinity of SR 12 will likely spill back north into the project area.

Another freeway segment with an accident rate above the statewide average occurs between Airport Boulevard and Fulton Road in the southbound direction. Of the 33 reported accidents in this section, 61 percent involved rear-end collisions resulting from speeding, following too closely or improper turn movements. This is indicative of problems associated with the short weaving length available between the on- and off-ramps.

### **Ramp Accident Data**

One fatal accident was reported at a ramp intersection—at the northbound off-ramp to eastbound Fulton Road. This occurred when a vehicle merging onto eastbound Fulton Road hit a bicyclist traveling in the wrong direction on Fulton Road at night and without lights.

The highest accident rate for the northern section ramps occurred at the northbound on-ramp from westbound Shiloh Road. It should be noted that this is a low volume on-ramp where only three accidents occurred in a three-year period. High accident rates, approximately three times average, were reported at the northbound off-ramp to eastbound Fulton Road and the southbound off-ramp to Airport Boulevard. Both freeway segments recorded eight accidents each within the three-year period, with a high percentage of rear-end collisions. Some accidents appear to have resulted from vehicles exiting too fast, in conjunction with less-than-standard deceleration lengths. Weather was not an apparent factor.

A review of accident data for the period January 1, 2001 to December 31, 2003 was conducted to see whether there were any substantial changes in accident rates or trends. Three fatal accidents occurred in the southbound direction, and one in the northbound direction. Although the total number of accidents increased, there were no changes of significance in either the fatal plus injury or total accident rates in either direction on Highway 101.

For the ramps, there were significant increases in accident rates at two locations. At the southbound off-ramp to River Road, the accident rates for fatal plus injury and total accidents increased four-fold to over four times the statewide averages. At the southbound on-ramp from eastbound Shiloh Road, the accident rate doubled to just over the statewide average.

### **3.1.1.3 EXISTING TRANSIT, BICYCLE/PEDESTRIAN, AND PARKING CONDITIONS**

#### **Transit Services**

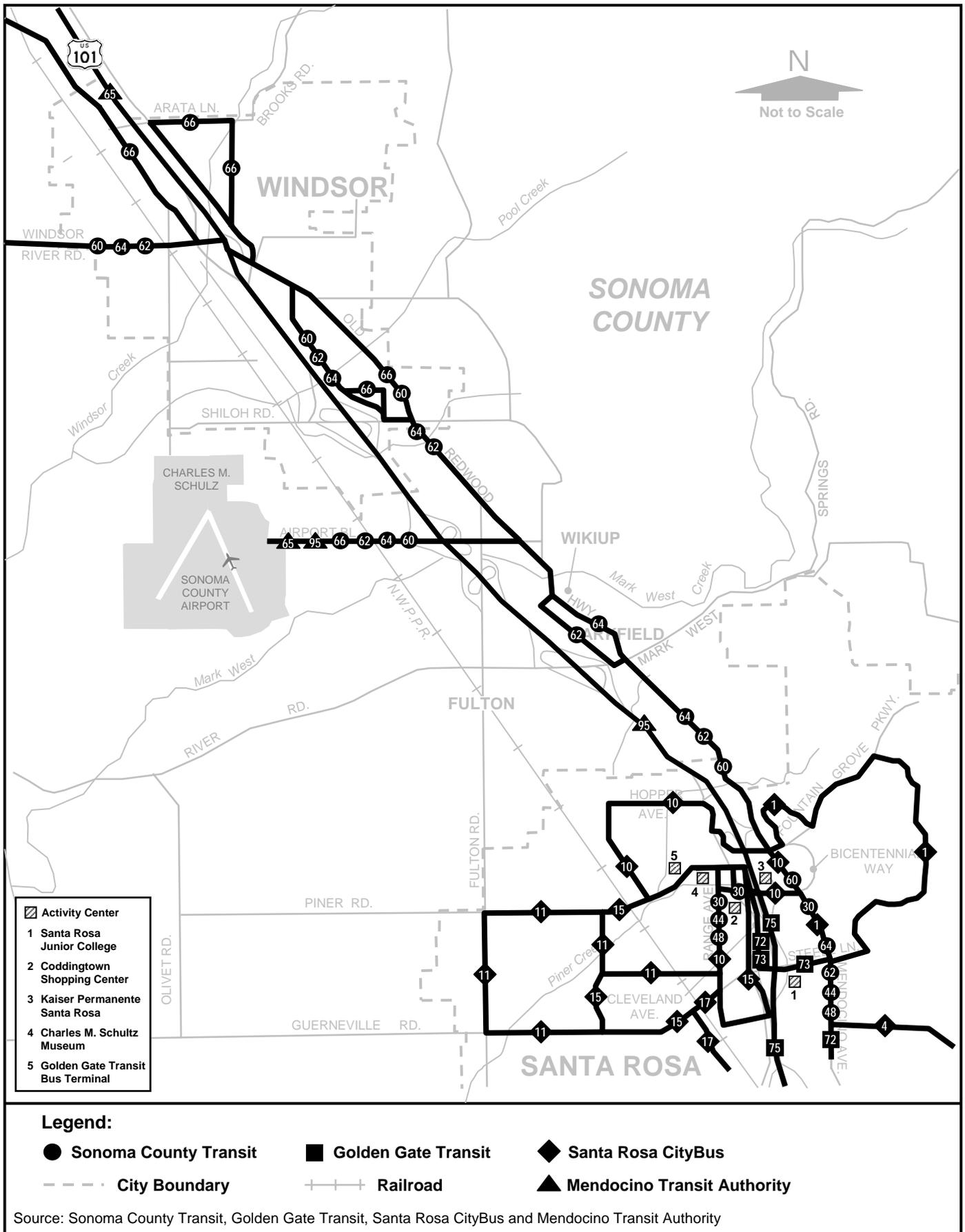
Transit services in the study area are provided by Sonoma County Transit, Golden Gate Transit, and Santa Rosa CityBus Service. The Mendocino Transit Authority operates two bus routes within the study area. Bus routes in the vicinity of the study area are shown in Figure 3.1-5.

**Sonoma County Transit.** Sonoma County Transit operates a total of 23 bus routes, including six local and two express routes, throughout Sonoma County. Coverage of the nine bus routes in the study area includes the Coddington Shopping Center, the Golden Gate Transit Bus Terminal, and the Charles M. Schulz-Sonoma County Airport.

**Golden Gate Transit.** Golden Gate Transit's 52 bus routes serve cities in Marin County and parts of Sonoma, San Francisco and Contra Costa counties, including the City of Santa Rosa. Four bus routes serve the northern portion of Santa Rosa, mostly along Highway 101 and culminating at the Golden Gate Transit Bus Terminal.

**Santa Rosa CityBus.** Santa Rosa CityBus provides 16 bus routes for the City of Santa Rosa. Coverage by the six bus routes within the study area includes Santa Rosa Junior College, Kaiser Permanente-Santa Rosa, the Charles M. Schulz Museum and the Golden Gate Transit Bus Terminal.

**Mendocino Transit Authority.** Mendocino Transit Authority operates 14 bus routes for Mendocino County. Two bus routes operate within the study area and connect with the Sonoma County Airport Express at the Charles M. Schulz-Sonoma County Airport.



## Pedestrian Facilities

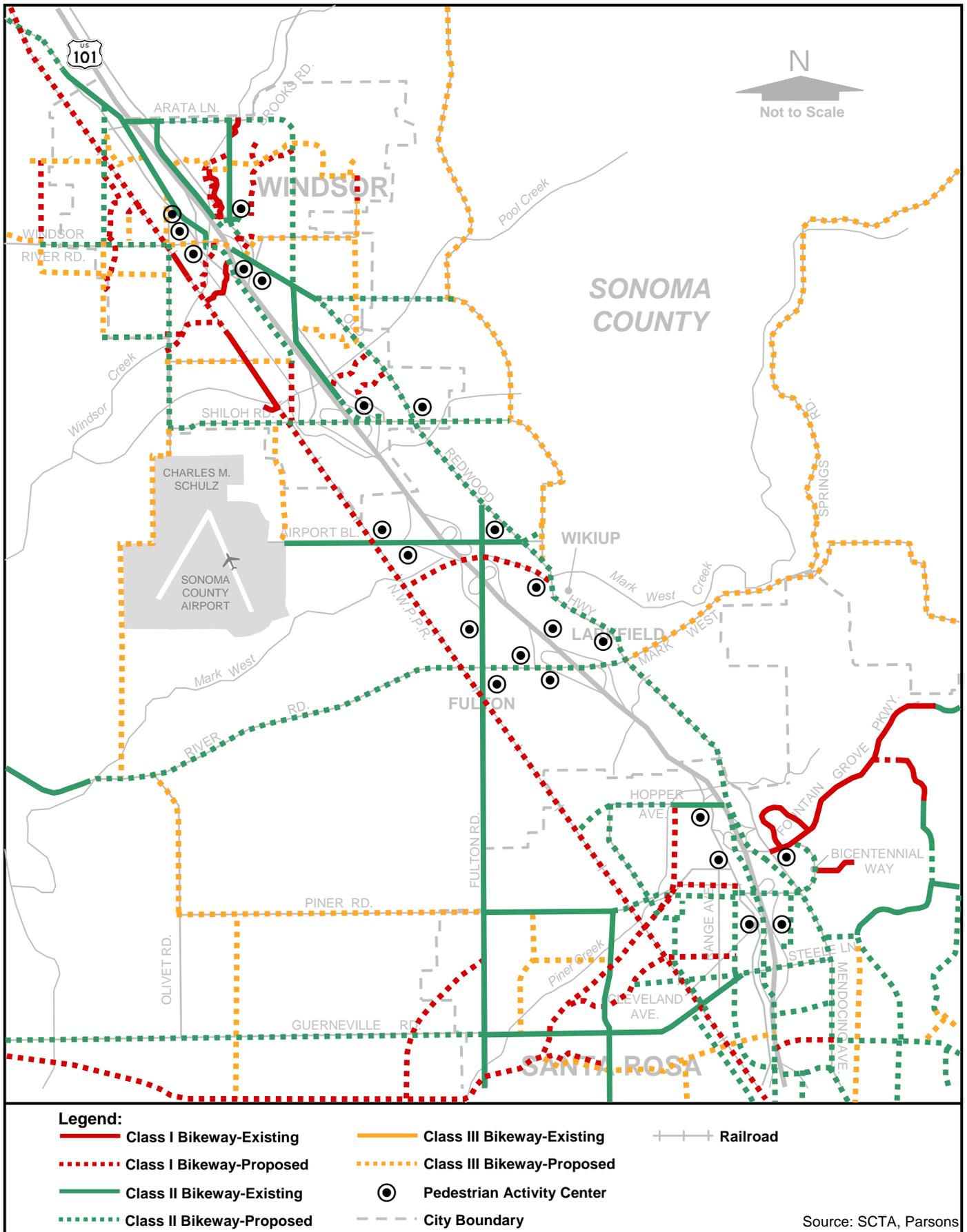
According to the Sonoma County Transportation and Land Use Coalition, the number of people who commute by walking in Sonoma County is low—only 3.1 percent in 2003. Major pedestrian activity centers within half a mile of the interchanges in the study area are shown in Figure 3.1-6. These activity centers include houses of worship, schools, colleges, governmental facilities, and shopping centers. Walkways and cross paths are provided on many streets near the interchanges, but these facilities, while continuous across Highway 101, are not continuous on all intersecting streets.

The highway has six roadway/pedestrian crossings and three bridges over waterways within the project limits. Most of these were built when the freeway was constructed, although the Bicentennial Way Overcrossing was added later, and the River Road, Fulton Road, and Airport Boulevard Overcrossing structures were retrofitted in 1996. These structures are summarized from south to north in Table 2.2-1. The Steele Lane and Windsor River Road–Old Redwood Highway roadway/pedestrian crossings are just beyond the project limits to the south and north, respectively.

## Bicycle Facilities

According to the Sonoma County Transportation and Land Use Coalition the number of people who commute by bicycling in Sonoma County is low. Bikes were used for only about 1.7 percent of commute trips in 2003. The *Sonoma County Transportation Authority (SCTA) Countywide Bicycle Plan Update* is the countywide planning document for bicycle facilities. The primary goal of the plan is to create a countywide non-motorized transportation system that provides safe and efficient opportunities for bicyclists to access school, work, shopping centers, professional services, and transportation to recreation areas. Bicycle facilities may also serve as recreational paths themselves. Currently there are over 53 km (33 mi) of off-road (Class I) bike paths and 103 km (64 mi) of on-street (Class II) bike lanes in Sonoma County. Bikeway classifications are defined in Table 3.1-2, below.

<b>Table 3.1-2: Bikeway Classifications</b>	
<b>Bikeway Class</b>	<b>Definition</b>
Class I Bikeway (Bike Path)	Provides a completely separated right of way for the exclusive use of bicycles and pedestrians with cross-flow minimized.
Class II Bikeway (Bike Lane)	Provides a striped land for one-way bike travel on a street or highway.
Class III Bikeway (Bike Route)	Provides for shared use with pedestrian or motor vehicle traffic.
Source: Caltrans Highway Design Manual, July 1995.	



Class I bike paths in the study area include Fountain Grove Parkway and a path along East Windsor Creek from Conde Lane to the Northwestern Pacific (NWP) Railroad right-of-way, which has additional short stretches. Class II bike lanes extend along Hopper Avenue, Fulton Road, Airport Boulevard, Hembree Lane, and Old Redwood Highway from Pleasant Avenue to Lakewood Drive.

Proposed bikeway facilities<sup>2</sup> in the study area include Class I facilities along Piner Creek, west of Highway 101; beneath Highway 101 along Mark West Creek; along Pool Creek, east of Highway 101; along Windsor Creek; Conde Lane, from Highway 101 to the NWP, and along the remaining stretches of the NWP right-of-way.

Class II bikeways are proposed on Bicentennial Way, Cleveland Avenue, Guerneville Road, Shiloh Road, Windsor River Road and the remaining portions of Old Redwood Highway; on Mark West Springs/River Road and Conde Lane for the portion parallel to Highway 101, north to Old Redwood Highway.

Class III bikeways are proposed along Mitchell Lane, off Conde Lane, and Windsor River Road through the Highway 101 interchange area.

### Parking

A total of approximately 4,000 parking spaces are available at locations adjacent to Highway 101 along the study corridor, including shopping centers, industrial complexes and commercial establishments. Table 3.1-3 summarizes current off-street parking in the project vicinity that has some potential to be affected by the proposed project.

**Table 3.1-3: Potentially Affected Parking in the Study Area**

Location	Total Parking Spaces <sup>1</sup>	Location	Total Parking Spaces <sup>1</sup>
Comfort Inn	125	Eye Care for Animals	10
Baclawski Chiropractic Office	10	Wells Fargo	40
Condiotti Enterprises	50	National Bank of the Redwoods	55
Sonoma County Administrative Center	110	Luther Burbank Center for the Arts	950
Vintner's Inn	100	Master Touch Corporation	15
Thousand Trails Campground	100	Windsor Courtyards	50
Sonoma County Water Agency	1,500	Motel 6	100
Walmart	800	TOTAL	4,015

<sup>1</sup> Estimate of existing parking based on a review of aerial mapping.  
Source: Parsons 2005.

<sup>2</sup> These proposed bicycle facilities are not part of the proposed project.

### 3.1.2 Environmental Consequences

The following sections report anticipated traffic and transportation effects of the No-Build and Build Alternatives. The Build Alternative is the proposed Highway 101 HOV Lane Widening Project. The No-Build Alternative includes all currently planned and/or programmed improvements except the proposed project. The No-Build Alternative therefore assumes that the Marin-Sonoma Narrows, Old Redwood Highway to Rohnert Park Expressway, Rohnert Park Expressway to Santa Rosa Avenue (including the Wilfred Avenue Interchange), and SR 12 to Steele Lane HOV Lane widening projects (depicted in Figure 1.1-3 and discussed in Section 1.4.3., Related Projects) would all be in place by 2030. The Build Alternative analysis evaluates the effects of the present project in addition to No-Build conditions.

#### 3.1.2.1 2030 PEAK HOUR TRAFFIC CONDITIONS UNDER THE NO-BUILD ALTERNATIVE

By 2030, without capacity and operational improvements on Highway 101, traffic conditions on the freeway and at the intersections near the freeway could deteriorate. The percentage of peak-hour travel demand that could be accommodated by the freeway through the study area would decrease, leading to lower travel speeds, greater travel times, and delays. Increased congestion would further disrupt traffic flows. See Tables H-6 and H-7 in Appendix H for detailed tabulations of the information presented in the following paragraphs.

#### Travel Time

Slower travel speeds mean increased travel times. Travel time is defined as the time taken to travel from one project limit to the other. As shown in Table 3.1-4, without capacity and operational improvements on Highway 101, travel times through the project limits in 2030 would vary from 7.2 to 23.3 minutes, based on direction and peak hour. Travel times would be greatest in the southbound direction, amounting to 20.8 and 23.3 minutes in the morning and evening peak hours, respectively, between the Windsor River Road on-ramp and the Steele Lane off-ramp. Travel times in the northbound direction would be better, about 7.2 and 12.6 minutes respectively, in the morning and evening peak hours between the Steele Lane on-ramp and the Windsor River Road off-ramp. Figure 1.2-2 shows the congested locations on Highway 101, within the project limits, in 2030.

#### Delay

Increasing traffic demand results in increased congestion and delays. Delays are defined as the travel time in excess of the free-flow travel time (travel time at a speed of 65 mph). As shown in Table 3.1-4, within the project limits, delays would be highest in the southbound direction, amounting to 13.8 and 16.7 minutes in the morning and evening peak hours, respectively. The delays in the northbound direction would be less, amounting to 0.6 and 5.9 minutes respectively, in the morning and evening peak hours. Figure 1.2-2 illustrates the delays on Highway 101 within the project limits in 2030 under the No-Build Alternative.

The freeway segment with the worst delays within the project limits in 2030 is projected to be in the evening peak-hour in the southbound direction from Airport Boulevard to north of the Windsor River Road Interchange, just beyond the northern project limit. The travel time through the section from the northern project limit to the Airport Boulevard on-ramp would be 19.2 minutes with 16.3 minutes

of delay. Under the Build Alternative (see Section 3.1.2.5, 2030 Peak Hour Traffic Conditions under the Build Alternative), the travel time and delays through this section would be greatly reduced.

The second worst freeway segment for delay is projected to be in the morning peak-hour in the southbound direction between the Hopper Avenue off-ramp and the Windsor River Road on-ramp. The travel time through this segment would be 19.4 minutes with 13.7 minutes of delays. Under the Build Alternative, the travel time and delays through this section would be reduced.

### **Intersection Analysis**

Intersection geometry within the project limits under the No-Build Alternative would remain the same as the existing intersection geometry. Details of the intersection analysis results are presented in Table H-8 in Appendix H. Under no-build conditions in 2030, all intersections analyzed would operate at LOS D or better except at the following locations:

- Bicentennial Way and 101 southbound – LOS F in evening peak hours;
- Mendocino Avenue and 101 northbound – LOS F in both morning and evening peak hours;
- Mark West Springs Road and 101 northbound – LOS E in morning peak hour;
- Mark West Springs Road and 101 southbound (unsignalized – stop sign controlled on southbound approach) – LOS F in both morning and evening peak hours;
- Airport Boulevard and 101 southbound (unsignalized – stop sign controlled on southbound approach) – LOS F in both morning and evening peak hours;
- Shiloh Road and 101 Northbound – LOS F in morning peak hour;
- Shiloh Road and 101 southbound (unsignalized – stop sign controlled on southbound approach) – LOS F in both morning and evening peak hours; and
- Windsor River Road and 101 northbound – LOS F in both morning and evening peak hours.

#### **3.1.2.2 2030 TRANSIT CONDITIONS UNDER THE NO-BUILD ALTERNATIVE**

Without the proposed HOV lane widening and related improvements, peak-period transit operations within the project limits would experience similar congestion and delay conditions as described for no-build traffic operations in 2030. Problem segments along the freeway mainline and at intersections would be as described in Section 3.1.2.1, 2030 Peak Hour Traffic Conditions under the No-Build Alternative.

#### **3.1.2.3 BICYCLE/PEDESTRIAN AND PARKING CONDITIONS UNDER THE NO-BUILD ALTERNATIVE**

No substantial adverse impacts to bicycle/pedestrian and parking conditions within the Highway 101 HOV Lane Widening Project area are anticipated as a result of the No-Build Alternative.

### 3.1.2.4 2030 PEAK HOUR TRAFFIC CONDITIONS UNDER THE BUILD ALTERNATIVE

The Build Alternative would widen Highway 101 into the median to provide HOV lanes and standard inside shoulders in each direction, and widen along the outside of the highway to provide standard outside shoulders and auxiliary lanes. The existing auxiliary lanes between Steele Lane and Bicentennial Way would be maintained and auxiliary lanes would be added southbound between the Mendocino Avenue on-ramp and the Hopper Avenue on-ramp and northbound between the loop on-ramp at Fulton Road and the loop off-ramp at Airport Boulevard under interchange Option A.

While these new facilities would substantially improve traffic operations on Highway 101, especially in the near term, the Build Alternative would not eliminate all of the operational problems that would occur in the study area by 2030. Some southbound mainline segments would be expected to deteriorate in level of service as a result of congestion in the vicinity of SR 12 south of the project area. The next subsection defines the Sonoma County standards that would apply to these impacts, while the following subsections describe anticipated conditions under the Build Alternative.

#### Applicable Traffic Impact Standards

The County's criteria for determining traffic impacts are as follows:

- Vehicle Queues: The 95<sup>th</sup> percentile queue length exceeds the turn lane storage capacity;
- Signal Warrants: Conditions change to cause an intersection to meet or exceed Caltrans signal warrant criteria;
- Turn Lanes: Traffic volumes increase to a level that meets or exceeds warrants for providing a turn lane on an intersection approach.
- Sight Distance: An intersection is created or traffic is added to an existing intersection approach that has inadequate sight distance based on Caltrans criteria;
- County Signalized Intersection: A signalized intersection is projected to operate at LOS E or F as a result of the project or an intersection that would otherwise operate at LOS E or F and the project results in increased delay of 7.5 seconds or more (LOS E) or 5.0 seconds or more (LOS F).
- County Unsignalized Intersections: An un-signalized or all-way stop controlled intersection as a result of the project or an intersection that would otherwise operate at LOS E or F is projected to operate at LOS E or F and the project results in increased delay of five seconds or more, except that this criterion does not apply to low volume roadways.

#### Traffic Operations under the Build Alternative

The Build Alternative would generally improve traffic operations on Highway 101 within the project limits. Although the Build Alternative would improve traffic operations for the mixed-flow and HOV lane traffic, operational improvements would be much greater for the HOV lane traffic, which would operate at or near free-flow speeds, even during peak hours. As shown in the following paragraphs, the proposed project would shorten travel times and reduce delays within the project limits. See Tables H-6 and H-7 in Appendix H for detailed tabulations of the information presented in the following paragraphs, which discuss the effects of the improvements for both the mixed-flow and HOV lane traffic.

## Travel Time

Table 3.1-4 shows the travel time through the project limits for both the Build and No-Build Alternatives. Under the Build Alternative, with improved travel speeds, the travel time using the HOV lanes through the project limits would shorten to between 7.0 and 7.4 minutes and that for mixed-flow lanes would vary between 7.1 and, 8.0 minutes, depending on the direction and peak hour. In comparison, travel times through the project limits under no-build conditions would vary from 7.2 to 23.3 minutes. This translates to a 2 to 70 percent reduction in travel times, or a savings from 0.2 to 16.3 minutes for the HOV lanes, and a 2 to 66 percent reduction in travel times or savings of 0.1 to 15.5 minutes for the mixed-flow lanes with the Build Alternative in place. The travel times, delay, speeds, and mainline level of service analysis results for the No-Build and Build alternatives are presented in Tables H-6 and H-7 in Appendix H.

As shown in Table 3.1-4, during the morning peak hour the travel time in the HOV lanes would be reduced 0.2 minutes in the northbound direction and 13.4 minutes in the southbound direction. The travel time in the mixed-flow lanes would be reduced 0.1 minutes in the northbound direction and 12.8 minutes in the southbound direction. During the evening peak hour, HOV lane travel time would be reduced 5.6 minutes and 16.3 minutes, respectively, in the northbound and southbound directions, while mixed-flow lane travel time would be reduced 5.4 minutes and 15.5 minutes, respectively, in the northbound and southbound directions. As shown in the table below, the proposed project would improve travel times considerably in the southbound direction.

Alternative	Southbound				Northbound			
	Morning		Evening		Morning		Evening	
	M-Flow	HOV	M-Flow	HOV	M-Flow	HOV	M-Flow	HOV
	<b>Travel Time</b>							
<b>No-Build</b>	20.8	20.8	23.3	23.3	7.2	7.2	12.6	12.6
<b>Build</b>	8.0	7.4	7.8	7.1	7.1	7.0	7.2	7.0
<b>Savings</b>	12.8	13.4	15.5	16.3	0.1	0.2	5.4	5.6
	<b>Delay</b>							
<b>No-Build</b>	13.8	13.8	16.7	16.7	0.6	0.6	5.9	5.9
<b>Build</b>	1.0	0.5	1.2	0.5	0.4	0.5*	0.5	0.5
<b>Savings</b>	12.8	13.4	15.5	16.3	0.2	0.1	5.4	5.5

Values rounded to the nearest decimal.  
 \* An increase in northbound HOV delay of 0.1 minute (7 seconds) when compared to mixed-flow delay is negligible.  
 The HOV lanes provide enough added southbound capacity to prevent congestion from developing.  
 Source: Parsons 2005

The apparently small difference in travel time savings for HOV lane users and mixed-flow lane users under the Build Alternative belie the real benefits of the HOV lane widening project. There are two primary reasons for the apparent contradiction. First, HOV lane users would realize a substantial travel time reduction, and because the HOV lanes would provide additional highway capacity, motorists in the mixed-flow lanes would also realize substantial travel time savings, compared with No-Build conditions. In sum, all motorists, whether in the HOV lane or the mixed-flow lanes, would benefit. Second, all of the results presented in this document section are for a one-hour traffic

analysis, which is the standard approach for comparing projects. Over a longer peak period the proposed project would encourage additional carpool use.<sup>3</sup>

Under the No-Build Alternative, the freeway segment projected to have the worst travel time in 2030 would be in the evening peak-hour in the southbound direction from Airport Boulevard to north of the Windsor River Road Interchange, just beyond the northern project limit. The travel time through this section from the northern project limit to Airport Boulevard would be 19.2 minutes with 16.3 minutes of delay. Under the Build Alternative, the travel time in the mixed-flow lanes would be 3.7 minutes with only 0.5 minutes of delay, while the travel time for HOV users would be 3.4 minutes with only 0.2 minutes of delay.

Under the No-Build Alternative, the freeway segments with the second worst travel times are projected to be in the morning peak-hour in the southbound direction between the Hopper Avenue off-ramp and the Windsor River Road on-ramp. The travel time through this segment would be 19.4 minutes with 13.7 minutes of delay. Under the Build Alternative, the travel time in the mixed-flow lanes would be 6.3 minutes with only 0.6 minutes of delay, while the travel time for HOV users would be 6.0 minutes with only 0.4 minutes of delay.

## Delay

Delay is defined as the travel time in excess of the free-flow travel time (travel time at a speed of 65 mph). As shown in Table 3.1-4, the Build Alternative would reduce delay for HOV lane users within the project limits by 0.1 to 16.3 minutes, a 14 to 97 percent reduction in delay, depending on the peak hour and direction. In the morning peak hour delay in the HOV lanes would be reduced 0.1 minutes in the northbound direction and 13.4 minutes in the southbound direction. In the evening peak hour, delay would be reduced 5.5 minutes and 16.3 minutes, respectively, in the northbound and southbound directions. There would also be reductions in delay for motorists in the mixed-flow lanes compared to the No-Build Alternative. In the morning peak hour the delay in the mixed-flow lanes would be reduced 0.2 minutes in the northbound direction and 12.8 minutes in the southbound direction. In the evening peak hour, delay would be reduced 5.4 minutes and 15.5 minutes, respectively, in the northbound and southbound directions. Figure 1.2-2 and Figure 1.2-3 illustrate the delay under 2030 No-Build and Build conditions.

As noted previously, the difference in delay savings for HOV lane users versus mixed-flow lane users appears small in comparison to the substantial travel time savings and delay reduction benefits that would be experienced by all motorists from the additional Highway 101 capacity provided by the proposed HOV lane project.

## Intersection Analysis

Under the No-Build Alternative, where intersection geometry within the project limits would be the same in 2030 as the existing intersection geometry, three intersections would operate at LOS D or better in the morning peak hour, and four would operate at LOS D or better in the evening peak hour, while most intersections would operate at LOS F.

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<sup>3</sup> For example, when a two-hour period was analyzed for the 2030 morning peak period under the Build Alternative, the time savings to be gained from using the HOV lane instead of the mixed flow lanes was 41 minutes instead of the 0.6 minutes shown in Table 3.1-5.

Several intersection improvements are proposed under the Build Alternative. The most extensive intersection improvements are associated with the Airport Boulevard-Fulton Road Interchange complex. The improvements proposed at the intersections of Airport Road and Fulton Road with the Highway 101 ramps include signalizing the intersections and adding left-turn lanes or turn lane pocket modifications at selected intersections. See the *Revised Draft Traffic Operational Analysis Report, June 2005*, for more details on proposed intersection improvements.

Under the Build Alternative in 2030, all intersections within the project limits would operate at LOS C or better with the proposed improvements except for three intersections in the morning peak hour and three intersections in the evening peak hour that would operate at LOS D or E. None of the intersections operating at LOS D, E, or F under No-Build Alternative would be made worse under the Build Alternative. At each intersection location operating below LOS C under the Build Alternative, the intersection would operate at an acceptable LOS or at an improved LOS compared to No-Build conditions and therefore would not constitute an adverse impact. See Table H-9 in Appendix H for detailed intersection analysis results.

### **Traffic on Local Streets, VHT, and VMT**

Traffic diversions to local streets to avoid freeway congestion are common and can cause considerable delay. By 2030, as congestion on the freeway increases, traffic diversion to local streets, such as Old Redwood Highway, Mendocino Avenue, and Fulton Road, would also increase. This increase in “cut-through” traffic would deteriorate conditions on local streets, increasing delay and energy consumption. The Build Alternative would substantially reduce congestion within the project limits that would occur under the No-Build Alternative and would provide incentive for commuter and through traffic to remain on the freeway, freeing arterials and other local streets to serve local traffic.

When there is congestion, vehicles spend more time on a roadway and the vehicle hours of travel (VHT) increase compared to less congested conditions. When vehicles attempt to circumvent freeway congestion by using local roads, the vehicle miles of travel (VMT) increases. Under the Build Alternative, annual countywide VMT would decrease by 4.42 million kilometers (2.75 million miles) and annual countywide VHT would decrease by 925,000 hours compared to the No-Build Alternative. These improvements reflect improved travel conditions and a reduction in freeway traffic diversion onto local streets in the study area with the Build Alternative. Reduced VHT and VMT also translate into reductions in energy consumption. See Section 3.14, Energy.

#### **3.1.2.5 2030 TRANSIT, BICYCLE/PEDESTRIAN, AND PARKING CONDITIONS UNDER THE BUILD ALTERNATIVE**

### **Transit and Carpooling Conditions**

The HOV lanes provided under the Build Alternative would offer dedicated peak hour roadway capacity and a high level of traffic service to transit and carpool vehicles. This would substantially improve travel times for intercity buses and carpools, which would operate at speeds of approximately 97 km/h (60 mph) in the new HOV lanes. This compares to speeds as low as 11 km/h (7 mph) on congested mixed-flow lanes under the No-Build Alternative and 48 km/h (30 mph) on mixed-flow lanes under the Build Alternative. Not only would transit travel time be reduced but

transit schedule reliability would be improved. Carpools and vanpools also would have improved speeds and reduced travel times. The improved speeds and schedule reliability would work as incentives for commuters and other travelers to carpool and/or take advantage of local and express buses that would move freely along the HOV lanes. HOV lanes would support an increase in express bus service from Sonoma County to San Francisco offering faster and more frequent peak-hour transit service for commuters between Sonoma County and downtown San Francisco.

### **Pedestrian Facilities**

It is expected that the safety and accessibility of the Highway 101 corridor and adjacent roadway network for both pedestrians and bicyclists would generally be facilitated by the improvements proposed under the Build Alternative, although few pedestrian facilities would actually be modified with the project. Existing pedestrian activity centers and pedestrian facilities near study area interchanges are described in Section 3.1.1.3, Pedestrian Facilities. The proposed project would not directly improve existing pedestrian facilities, except at Airport Boulevard where the existing sidewalk would be relocated and constructed to be Americans with Disabilities Act (ADA) compliant.

At all the other interchanges, the Build Alternative would maintain the existing pedestrian facilities. If the project would affect existing pedestrian facilities, the pedestrian facilities would be replaced and the new facilities made ADA compliant. Similarly, if any changes were needed to the local streets that would affect walkways or crosswalks, these facilities would be replaced.

### **Bicycle Facilities**

The Highway 101 HOV Lane Widening Project would not affect bicycle facilities within the project area.

### **Parking**

The Highway 101 HOV Lane Widening Project would not affect any parking in the project area. Temporary construction impacts to parking are discussed in Section 3.16.2.

#### **3.1.2.6 2010 PEAK HOUR TRAFFIC CONDITIONS UNDER THE BUILD AND NO-BUILD ALTERNATIVES**

Substantial population growth within the Highway 101 corridor is expected to occur by 2010. ABAG's *Projections 2005* forecast growth rates between 2000 and 2010 of 10.7 percent for Sonoma County, 22.2 percent for Windsor, and 12.8 percent for Santa Rosa. Traffic volumes within the project limits are projected to increase between 18 and 230 percent depending upon direction and peak hour. Given such an increase in travel demand, 2010 traffic operations were analyzed to show how the project would operate in the opening year. The Build Alternative is anticipated to operate at acceptable levels of service in 2010 and would in most cases operate better than the No-Build Alternative<sup>4</sup>. The Build Alternative would also improve traffic operations at all the intersections that under the No-Build Alternative would operate at or below LOS E.

Table 3.1-5 shows peak hour travel time and delay in 2010 under the Build Alternative. The Build Alternative would eliminate or reduce congestion within the project limits, compared to no-build

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<sup>4</sup> The 2010 operational analysis is a quantitative analysis for the Build Alternative and a qualitative analysis for the No-Build Alternative.

conditions in 2010. Benefits would be realized in both the northbound and southbound directions in both the morning and evening peak hours. This is because HOV lane users would be able to bypass congestion in the mixed-flow lanes resulting from a bottleneck in the vicinity of the SR 12 interchange south of the project limits.

<b>Table 3.1-5: Year 2010–Travel Time and Delay in Peak Hour under the Build Alternative–Steele Lane to Windsor River Road</b>				
<b>Travel Time–Peak Hour (Minutes)</b>				
	<b>Southbound</b>		<b>Northbound</b>	
	<b>AM</b>	<b>PM</b>	<b>AM</b>	<b>PM</b>
Mixed-Flow Lanes	7.1	7.9	7.0	7.1
HOV Lane	7.0	7.0	6.9	7.0
Time Savings for HOV compared to Mixed-Flow Users	0.1	0.9	0.1	0.1
<b>Delay–Peak Hour (Minutes)</b>				
	<b>Southbound</b>		<b>Northbound</b>	
	<b>AM</b>	<b>PM</b>	<b>AM</b>	<b>PM</b>
Mixed-Flow Lanes	0.5	1.3	0.3	0.4
HOV Lane	0.3	0.4	0.2	0.3
Source: Parsons / Dowling Associates, 2005				

One of the greatest benefits of the southbound HOV Lanes would be the time savings accumulated over the extended hours of the traffic peak. A primary benefit of the HOV lanes is their value as part of the integrated HOV network along the Highway 101 corridor and their ability to provide travel time savings for longer distance travel. By 2010, in both the north and southbound directions, the HOV lane eligible vehicles would be able to bypass any congestion in the mixed-flow lanes and experience almost no delay between Windsor and the Marin-Sonoma Narrows.

With the improvements proposed by the present and related projects in place, all intersections within the project limits would operate at LOS D or better during the morning and evening peak hours except the Windsor River Road/northbound off-ramp-Lakewood Drive intersection. This intersection would operate at LOS E in the morning peak hour; however, operations would be better with the HOV lanes in place than under no-build conditions.

### **3.1.3 Avoidance, Minimization, and/or Mitigation Measures**

Impacts on traffic under the Build Alternative would be generally beneficial. Traffic operations would be improved in comparison with no-build conditions, and therefore no additional project modifications are needed. The proposed project would not have impacts on pedestrian or bicycle facilities. If pedestrian or bicycle facilities would be displaced or interrupted by project construction, they would be replaced.

## 3.2 Land Use, Planning, and Growth

### 3.2.1 Existing and Future Land Use

The project setting or “affected environment” is defined as including the immediate project area and the surrounding vicinity. The terms “project area” or “project corridor” refer to the existing Highway 101 corridor as shown in Figure 1.1-1. The regional study area includes portions of Sonoma County, the City of Santa Rosa and the Town of Windsor.

#### 3.2.1.1 AFFECTED ENVIRONMENT

Existing land uses in the vicinity of the Highway 101 Widening Project include agricultural, single- and multi-family residential, industrial, commercial and institutional as described from south to north below and shown in Figure 3.2-1.

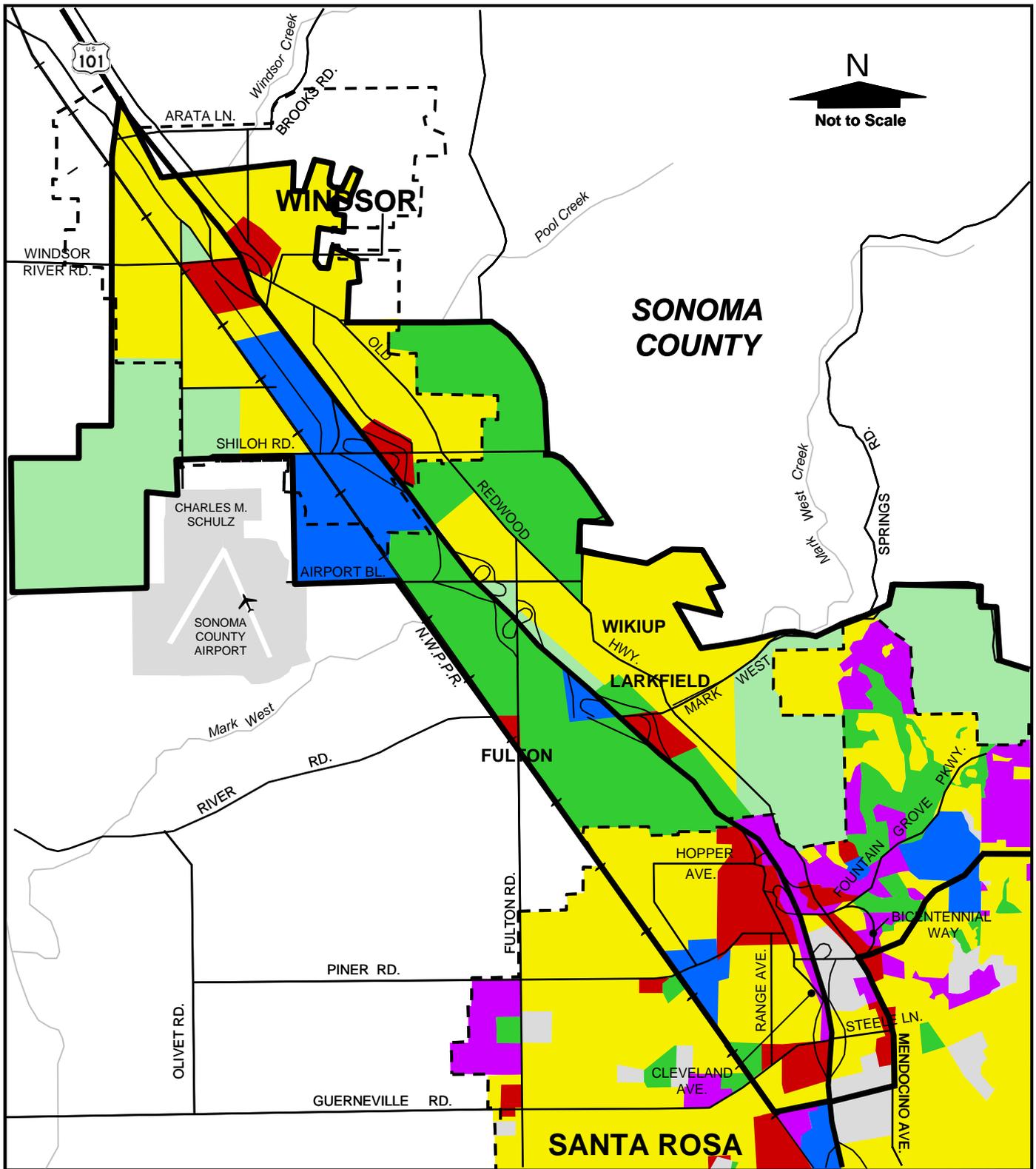
In the southern segment of the Highway 101 corridor, from the southern project limit south of the Highway 101/Steele Lane Interchange to the Highway 101/Fountain Grove Parkway Interchange in Santa Rosa, existing land use is mostly commercial with some residential uses to the west and institutional uses to the east. North of the Highway 101/Bicentennial Way Interchange, land uses are mostly residential to the east and commercial to the west. The Sonoma County Administration Center, Main Adult Detention Center and Hall of Justice are located southeast of the Highway 101/Bicentennial Way Interchange.

Agricultural land uses predominate between the Highway 101/Fountain Grove Parkway Interchange in Santa Rosa and the Highway 101/Mark West Springs Road–River Road Interchange in Larkfield. Industrial uses are located to the west of Highway 101, just north of Fountain Grove Parkway. The Luther Burbank Center for the Arts is located southeast of the Highway 101/Mark West Springs Road Interchange.

Agricultural land uses are located along both sides of Highway 101 between the Mark West Springs Road–River Road and Airport Boulevard interchanges. A Pacific Gas and Electric (PG&E) substation is located northwest of the Highway 101/Mark West Springs Road–River Road Interchange. The Maddux Ranch Regional Park is located east of Highway 101, just south of Fulton Road. Single-family residential uses are located east of the park.

Land uses between the Highway 101/Airport Boulevard and Highway 101/Shiloh Road Interchanges are predominantly agricultural, with industrial uses located to the northwest. Single-family residences are located northeast of the Airport Boulevard Interchange. Standard Structures Inc., a large industrial firm, is located just southwest of the Shiloh Road Interchange.

East of the highway, between Shiloh Road and the northern project limit, land uses are predominantly single-family residential. West of the highway, just south of the Highway 101/Windsor River Road Interchange, uses are mostly industrial with some commercial and residential.



Legend:

- |             |               |                   |
|-------------|---------------|-------------------|
| Residential | Industrial    | Parks/Open Spaces |
| Commercial  | Institutional | Railroad          |
| Mixed Use   | Agriculture   | City Boundary     |

Source: Parsons, 2005

### **3.2.1.2 DEVELOPABLE LAND AND DEVELOPMENT TRENDS**

Based on the Association of Bay Area Government's (ABAG) *Projections 2005*, Sonoma County is expected to gain over 40,000 households between 2000 and 2030. The City of Santa Rosa is projected to add 20,634 households during this period. The Town of Windsor is expected to have the second highest growth rate in Sonoma County, adding approximately 3,291 households between 2000 and 2030.

Development trends and growth projections consistent with the *Santa Rosa 2020: General Plan* would result in approximately 88,300 total housing units within the city limits, with an estimated population of 210,100. Buildout of all commercial and industrial sites with the City of Santa Rosa would result in approximately 5.5 million square meters (m<sup>2</sup>) [59.7 million square feet (ft<sup>2</sup>)] of commercial space and 789,000 m<sup>2</sup> (8.5 million ft<sup>2</sup>) of industrial space.

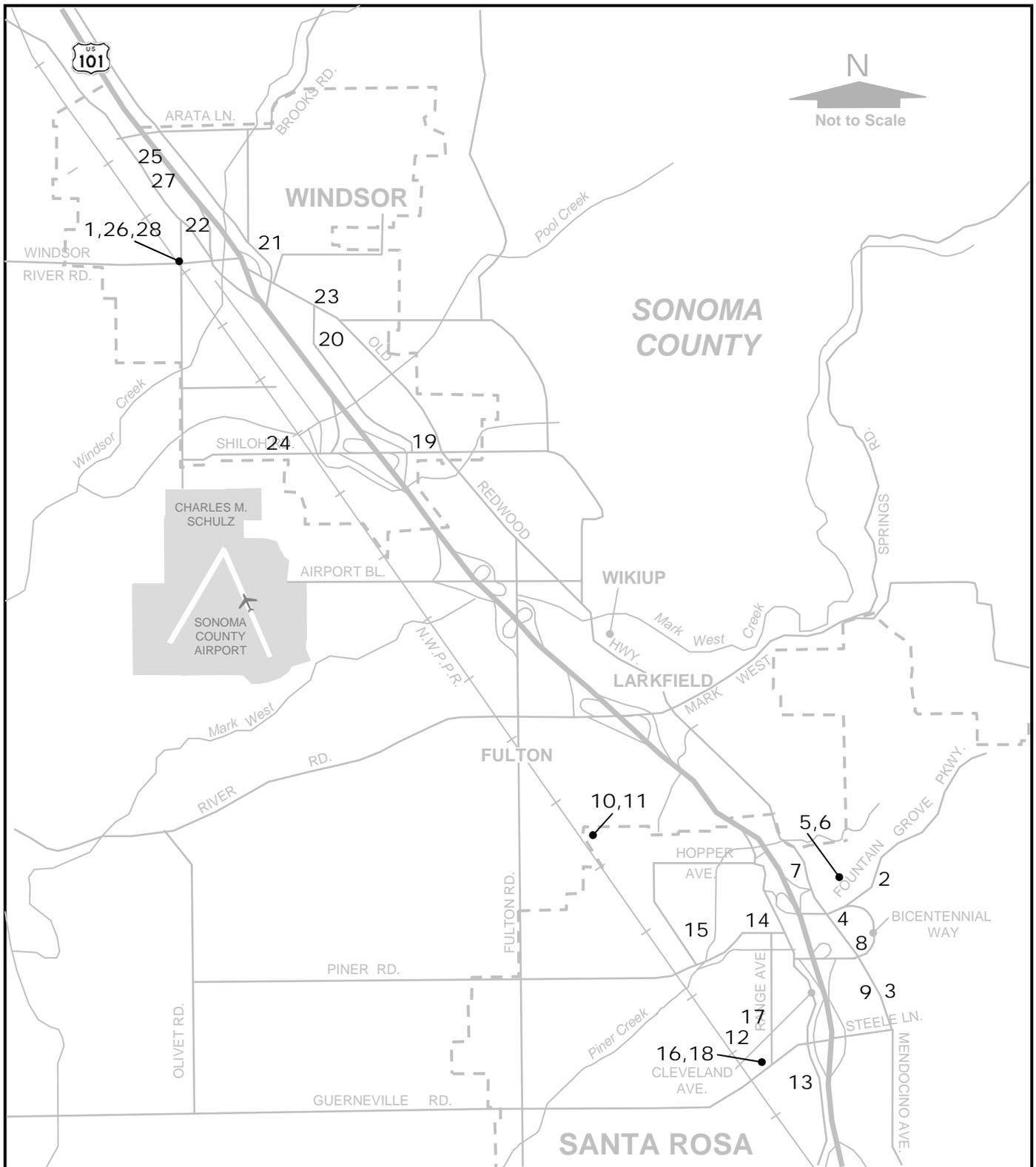
*The Town of Windsor General Plan* projects approximately 3,021 new housing units within the town limits, both in single- and multi-family developments, for a total of about 10,610 housing units. The *Town of Windsor General Plan* indicates that buildout of industrial and commercial sites within the town would result in approximately 1.9 million m<sup>2</sup> (20 million ft<sup>2</sup>) of industrial uses and 1.2 million m<sup>2</sup> (13 million ft<sup>2</sup>) of commercial uses. Total residential buildout in the Town of Windsor would be nearly 11,000 housing units.

### **3.2.1.3 MAJOR APPROVED AND ACTIVE PROJECTS**

Major approved and active projects in the City of Santa Rosa and the Town of Windsor are listed in Table 3.2-1 and shown in Figure 3.2-2. Approximately 28 projects, including residential, commercial, office, and industrial are under construction, approved or pending approval. The majority of these projects are located in the City of Santa Rosa.

**Table 3.2-1: Major Approved and Active Projects in the Study Area**

No.	Project Name	Address	Approved hectares/acres	Approved Use	Project Status
<b>Sonoma County (February 2005)</b>					
1	Windsor Intermodal Facility	Near Windsor Road, North of Windsor River Road	N/A	Transportation	Bids Due July 2004
<b>City of Santa Rosa (February 2005)</b>					
2	Alturia Condominiums	601 Alturia Drive	4.86 / 12.00	Residential	Proposed
3	Chanate Village	2350 Chanate Road	0.74 / 1.83	Residential	Approved
4	Extended Stay Suites	3586 Mendocino Avenue	1.48 / 3.65	Hotel	Proposed
5	Fountaingrove Executive Center	3558 Round Barn Boulevard	1.85 / 4.58	Office	Approved
6	Fountaingrove Meadow	3589 Round Barn Boulevard	1.67 / 4.13	Residential	Proposed
7	Kaiser Medical Office Building	3975 Old Redwood Highway	2.72 / 6.72	Office	Proposed
8	Kaiser Santa Rosa Medical Center	401 Bicentennial Way	9.09 / 22.45	Office	Proposed
9	Mendocino Crossroads	2500 Mendocino Avenue	0.25 / 0.63	Retail	Approved
10	Barnes Road Subdivision	Barnes Road	0.20 / 0.50	Mixed-Use	Proposed
11	Dennis & Barnes	3714 Barnes Road	2.40 / 5.94	Residential	Approved
12	Donaldson Commercial Building	3015 Coffey Lane	0.43 / 1.07	Retail	Approved
13	Jennings Avenue Subdivision	905 Jennings Avenue	0.39 / 0.97	Residential	Proposed
14	Kohl's Department Store	3746 Airway Drive	3.34 / 8.25	Retail	Proposed
15	Lands of Furia	3364 Coffey Lane	0.40 / 1.00	Residential	Proposed
16	Meadowbrook Court Condominiums	2163 Meadowbrook Court	0.09 / 0.22	Residential	Approved
17	Redlefsen Subdivision	Terry Road	0.36 / 0.88	Residential	Approved
18	Sikh Temple	3282 Coffey Lane	0.81 / 2.00	Institutional	Approved
<b>Town of Windsor (May 2004)</b>					
19	Weiss Incubators	295 Shiloh Road	0.59 / 1.47	Industrial	N/A
20	Shiloh Center Lot 6	6560 Hembree Lane	0.37 / 0.92	Retail	N/A
21	Homewood Suites	9150 Brooks Road South	0.13 / 0.33	Hotel / Retail	N/A
22	BMW	800 American Way	0.05 / 0.12	Retail	N/A
23	Robinson	8260 Old Redwood Highway	0.07 / 0.18	Office	N/A
24	Airport Business Center	1360 19 <sup>th</sup> Hole Drive	0.20 / 0.49	Office	N/A
25	Kadello/Larsen	9988 Old Redwood Highway	0.04 / 0.09	Office / Retail	N/A
26	Intermodal Station	9001 Windsor Road	0.02 / 0.04	Office / Retail	N/A
27	Hofer	9656 Old Redwood Highway	0.08 / 0.19	Office / Retail	N/A
28	Paul Larsen	180 Windsor River Road	0.03 / 0.08	Mixed Use	N/A
Sources: City of Santa Rosa Community Development Department, February 2005 Town of Windsor Planning Department, May 2004 Sonoma County Transportation and Public Works Department, January 2005					



**Legend:**

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- City Boundary
- Railroad
- 5 Projects Listed in Table 3.2-1

Source: Santa Rosa Department of Community Development and Town of Windsor Planning Department

### 3.2.1.4 ENVIRONMENTAL CONSEQUENCES

The No-Build Alternative would have no long-term substantial effect on land uses in the project area that would be inconsistent with or in addition to planned growth. The location and basic characteristics of transportation facilities would not change.

These conditions would be generally true as well under the Build Alternative, although there would be land use changes associated with the acquisition of property for modifications to existing transportation facilities and construction of new facilities. The proposed project would convert approximately 1.11 ha (2.74 ac) to 2.46 ha (6.08 ac) of land to transportation use. A summary of anticipated land use changes is provided in Table 3.2-2.

**Table 3.2-2: Estimated Land Use Changes Anticipated as a Result of the Build Alternative**

Land Use Converted	Total Area Converted (Hectares/Acres)			
	Build Alternative (Including Options at Fulton Road/ Airport Boulevard Interchange Complex <sup>1</sup> )			
	NB-A / SB-A	NB-A / SB-B	NB-B / SB-A	NB-B / SB-B
Agricultural to Transportation	1.11 / 2.74	1.30 / 3.21	1.11 / 2.74	1.30 / 3.21
Vacant or Other to Transportation	0.00 / 0.00	0.00 / 0.00	1.16 / 2.87	1.16 / 2.87
<b>Total</b>	<b>1.11 / 2.74</b>	<b>1.30 / 3.21</b>	<b>2.27 / 5.61</b>	<b>2.46 / 6.08</b>

<sup>1</sup> NB-A = Northbound Option A; NB-B = Northbound Option B; SB-A = Southbound Option A; SB-B = Southbound Option B  
Source: Parsons 2005

### 3.2.1.5 AVOIDANCE, MINIMIZATION AND/OR MITIGATION MEASURES

Given the small amounts of land that would be converted to transportation use, no compensation measures are proposed. Discussion focused on agricultural land is in Section 3.3.

## 3.2.2 Consistency with State, Regional, and Local Plans

Planning goals and policies for the study area are guided by the *Sonoma County General Plan (1989)*, the *Sonoma County Comprehensive Transportation Plan for 2004*, the *City of Santa Rosa General Plan*, and the *Town of Windsor General Plan*.

### 3.2.2.1 AFFECTED ENVIRONMENT

*Sonoma County General Plan (1989)*. Primary goals of the Land Use Element of the *Sonoma County General Plan (1989)* are to coordinate land use with growth projections, the phasing of rural and urban growth with availability of adequate services, open space separation between cities/communities, opportunities for diverse rural and urban residential environments, the protection

of agricultural lands and the preservation of scenic features and biotic resource areas. *The Sonoma County General Plan (2020)*, currently in process, will also contain the policies identified above.

***Sonoma County Comprehensive Transportation Plan for 2004.*** The primary goal of the *Sonoma County Comprehensive Transportation Plan for 2004* is to provide a well-integrated circulation system that supports “smart” growth principles and a city-centered growth philosophy, through a collaborative effort of all the cities and the County. Primary objectives to obtain this goal include:

- Focusing commute and through traffic onto Highway 101 and designate major arterial routes to serve primarily as connectors between urban areas, and
- Providing east/west connectivity within each community, including interchange improvements and to improve access to Highway 101.

***Sonoma County Airport Industrial Area Specific Plan.*** Planning goals as set forth by the Specific Plan include:

- Accommodating industrial and other land uses permitted in the planning area with an integrated transportation system incorporating vehicular, rail, pedestrian, and bicycle facilities;
- Treating the Highway 101/Airport Boulevard Interchange as the primary regional access point to the planning area and deferring major improvements to the interchange until warranted by increased traffic volumes; and
- Providing improved future north-south links between Airport Boulevard and River Road to the south and Shiloh Road to the north by providing secondary freeway access to the planning area via the Highway 101/River Road and Highway 101/Shiloh Road interchanges;

***City of Santa Rosa General Plan.*** General land use goals for the City of Santa Rosa as set forth by the General Plan include:

- Fostering a compact, rather than a scattered development pattern, fostering close land use/transportation relationships to promote use of alternative transportation modes;
- Maintaining downtown as the major regional office, financial, civic, and cultural center in the North Bay, and a vital mixed-use center;
- Promoting livable neighborhoods. Ensuring that everyday shopping, park and recreation facilities, and schools are within easy walking distance of most residents;
- Maintaining a diversity of neighborhoods and varied housing stock to satisfy a wide range of needs;
- Maintaining vibrant, convenient, and attractive commercial centers;
- Maintaining the economic vitality of business parks and offices, and Santa Rosa’s role as a regional employment center; and
- Protecting industrial land supply and ensuring compatibility between industrial development and surrounding neighborhoods.

***Town of Windsor General Plan.*** Adopted in March 1996, the Town of Windsor General Plan is oriented toward physical development of land uses. Individual land use goals for the Town of Windsor include:

- Making Windsor's unique natural setting central to its identity;
- Encouraging neighborhoods and districts that foster and promoting a friendly, family-oriented community, and support an active, diverse and involved citizenry; and
- Preserving the Town's aesthetic quality and small town atmosphere and improving its overall physical image.

### **3.2.2.2 ENVIRONMENTAL CONSEQUENCES**

Plans, goals and policies of Sonoma County, the City of Santa Rosa and the Town of Windsor that are relevant to the proposed project are summarized in Section 3.2.2.1 of this report. The Highway 101 HOV Lane Widening Project is consistent with local planning goals and policies that have been identified in local regional plans and studies. The Build Alternative would be consistent with the stated objectives of these jurisdictions to improve the existing Highway 101 corridor. The No-Build Alternative would not support achievement of these goals.

## **3.2.3 Growth Inducement**

### **3.2.3.1 AFFECTED ENVIRONMENT**

The California Environmental Quality Act (CEQA) specifically requires that an analysis and discussion of the growth inducement impacts of a project be included as part of an Environmental Impact Report. The growth inducement assessment examines the relationship of the project to economic and population growth or to the construction of additional housing in the project area. It focuses on the potential for a project to facilitate or accelerate growth beyond planned developments, or induce growth to shift from elsewhere in the region. The project's influence on area growth is considered within the context of other relevant factors such as relative cost and availability of housing, availability of amenities, local and regional growth policies, and development constraints. The information presented in this section is taken from the technical report, *Growth Inducement Study for Highway 101 HOV Lane Widening and Improvements Project: Steele Lane, Santa Rosa to Windsor River Road, Windsor* (Parsons 2005).

Santa Rosa is the main regional employment center in Sonoma County. While there are many more jobs in Marin County, San Francisco, and rest of the Bay Area, these employment locations are far enough from Sonoma County residential areas that Santa Rosa dominates the county's employment market. Thus, the majority of Sonoma County commute trips are within the county. Many residents also commute to jobs in Marin and other Bay Area locations. Commuter traffic contributes to vehicle volumes exceeding capacity, resulting in severe congestion and increased travel times along Highway 101 through the project area, mostly during peak hours. The heavy traffic and delays on Highway 101 also lead to traffic spill-over onto local streets, which affects the quality of life in communities along the highway. These traffic issues tend to constrain development and growth, particularly for the more remote areas in the northern portion of the county.

Because the Highway 101 HOV Lane Widening Project would improve traffic conditions and travel times through the project area and vicinity, it would potentially remove this constraint on future growth. The growth inducement analysis evaluated whether the proposed project, individually or when combined with the other HOV lane widening projects in the Highway 101 corridor, would support or lead to unplanned growth. The growth inducing effect of the project on development in these locations was estimated by quantifying project-induced reductions in travel time (enhanced accessibility) to these locations. The enhanced accessibility was then evaluated in context of other factors influencing growth pressures in the areas.

### 3.2.3.2 ENVIRONMENTAL CONSEQUENCES

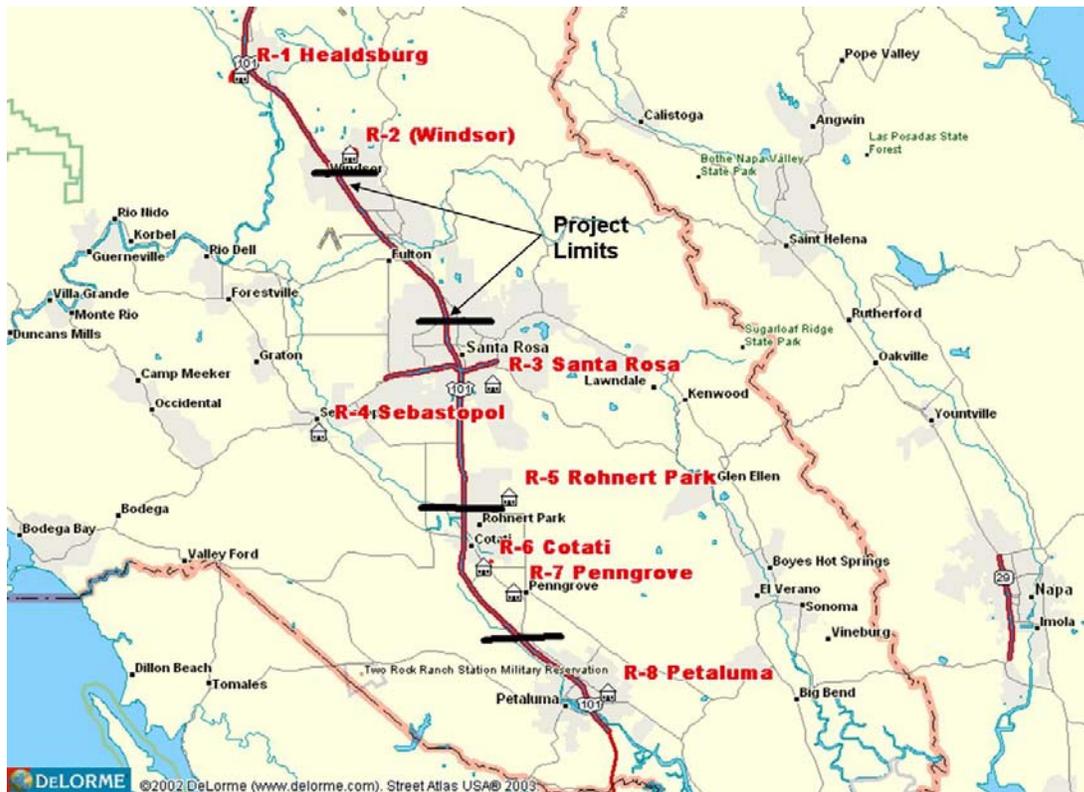
Eight residential locations as shown in Figure 3.2-3 were selected for testing the growth inducement effects of the project. These residential locations included the communities of Healdsburg, Windsor, Santa Rosa, Sebastopol, Rohnert Park, Cotati, Penngrove and Petaluma. All of the Highway 101 corridor communities included in the growth inducement study are planning for about a 28 percent growth in population by 2030.<sup>5</sup>

The travel time savings for commuters from Windsor and Healdsburg that would be obtained by virtue of the HOV lane project would be about nine minutes, which is the weighted average of the mixed flow and HOV southbound morning and northbound evening savings in peak-hour commute times (12.9 and 5.4 minutes, respectively) based on data presented in Subsection 3.1.2.5, 2030 Peak Hour Traffic Conditions under the Build Alternative. Travel time savings for commuters from both these communities to jobs south of Santa Rosa would be slightly greater due to additional positive travel time effects that the Build Alternative would have at the edges of the project area. Since the project's northern terminus is in Windsor, the accessibility to jobs from Windsor is improved moderately, while a less positive effect is felt in Healdsburg. Thus purely in terms of travel time savings, there would be a slight increase in growth pressure in Windsor and to a lesser extent in Healdsburg. Because these increases in growth pressures would be very small, they would be unlikely to cause unplanned growth. Also working against unplanned growth are a variety of other factors, which are discussed following the next paragraph. There would be no travel time savings for commuters from the remaining six residential zones, and therefore, there would be no increase in growth pressures in the other communities.

It should be noted that providing HOV lanes would not solve all of Highway 101's congestion problems. Some highway congestion would remain and would gradually build over time. Therefore, the project would have very limited capacity to support growth beyond what is planned in the affected residential areas.

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<sup>5</sup> The growth inducement study was performed in May 2004, prior to the release of *ABAG Projections 2005*. In comparing the 2030 population and employment projections of *ABAG Projections 2005* with *ABAG Projections 2003*, the most substantial change is a 14 percent decrease in projected 2030 Sonoma County population between the 2003 and 2005 projections. There was a slight two percent increase in the projected Sonoma County employment. Because sensitivity tests on the growth inducement results showed no difference in conclusions with *Projections 2005* compared with *Projections 2003*, the study was not redone with *Projections 2005*.



**Figure 3.2-3: Residential Areas Studied for Growth Inducement Effects of the Project**

Other factors in addition to traffic conditions influence the climate for growth. For example, some corridor communities, such as Windsor, have established Urban Growth Boundaries to define the limits of urbanization for future years. Windsor also plans to manage the amount, type, location, rate, and quality of new development within the town limits (Town of Windsor General Plan, 1995). These types of actions would ensure that the Highway 101 HOV Lane Widening Project would not stimulate unplanned growth.

Other primary factors affecting population growth pressures in outlying residential communities such as Healdsburg or Windsor include the cost of housing and amenities available in the area. Lower housing vacancy rates (see Table 3.4-1) and higher housing costs tend to act as growth deterrents that would outweigh travel time savings.

In summary, growth management policies, as well as moderately high housing prices and low vacancy rates in those areas where commuters would realize the greatest potential travel time savings, when compared to conditions prevailing in other study areas and the rest of Sonoma County, would tend to discourage accelerated residential growth, even with the improved travel times. The growth inducement study concluded that the Highway 101 HOV Lane Widening Project would support planned growth, but not induce unplanned growth in the area.

## 3.3 Farmlands/Agricultural Lands

### 3.3.1 Regulatory Setting

#### 3.3.1.1 FARMLAND PROTECTION POLICY ACT

The Farmland Protection Policy Act (7 Code of Federal Regulation (CFR) Ch. VI Part 658) requires federal agencies to take into account the adverse effects of their projects on farmlands, in part, by requiring an inventory, description, and classification of affected farmlands as well as early consultation with the Natural Resources Conservation Service (NRCS) and processing of Form NRCS-CPA-106 (Farmland Conversion Impact Rating Form).

Farmland means prime or unique farmlands as defined in Section 1540(c)(1) of the Act or farmland that is determined by the appropriate state or unit of local government agency or agencies with concurrence of the U.S. Secretary of Agriculture to be farmland of statewide or local importance.

#### 3.3.1.2 WILLIAMSON ACT

Known formally as the California Land Conservation Act of 1965, the Williamson Act (California Government Code Section 51291) was designed as an incentive to retain prime agricultural land and open space in agricultural use, thereby slowing its conversion to urban and suburban development. The program entails a 10-year contract between the city and an owner of land whereby land kept in agricultural use is taxed on the basis of its agricultural use rather than its market value. Notification provisions of the Act require an agency to notify the Director of the California Department of Conservation of the possible acquisition of Williamson Act contracted land for a public improvement. The local governing body responsible for the administration of the agricultural preserve must also be notified.

#### 3.3.1.3 SONOMA COUNTY GENERAL PLAN (1989)

The main agricultural goal for Sonoma County is to promote a healthy and competitive agricultural industry whose products are recognized as being produced in Sonoma County. Agricultural lands are predominantly in the unincorporated areas of the county. Within the project area, agricultural resources are primarily located from just north of Santa Rosa to south of Windsor.

#### 3.3.1.4 CITY OF SANTA ROSA GENERAL PLAN

Agricultural goals and policies as stated in the *City of Santa Rosa General Plan* aim to conserve agricultural soils by supporting efforts of the Sonoma County Agricultural Preservation and Open Space District to protect and/or acquire prime agricultural land outside of the city's urban growth boundary.

#### 3.3.1.5 TOWN OF WINDSOR GENERAL PLAN

The Town of Windsor's primary agricultural goals are to encourage existing cultivated areas in the County to remain in agricultural production and to protect the rights of existing farms to continue their agricultural operations.

### 3.3.2 Affected Environment

Existing land uses along the Highway 101 corridor are predominately rural, as described in Section 3.2, Land Use. Agricultural resources in the project area are primarily located along both sides of Highway 101 between just north of Santa Rosa and south of Windsor.

### 3.3.3 Environmental Consequences

**No-Build Alternative.** Under the No-Build Alternative, no right-of-way would be acquired for transportation facilities within the study area; therefore, no farmland would be affected.

**Build Alternative.** The Build Alternative would require approximately 1.11 hectares (ha) (2.74 acres [ac]) to 1.30 ha (3.21 ac) of farmland depending on the option selected at the Fulton Road/Airport Boulevard Interchange Complex. Affected farmland would account for approximately 0.002 percent of the total farmland in the county, depending on the option selected. The locations, Williamson Act status, and size of the affected parcels are summarized in Table 3.3-1.

**Table 3.3-1: Farmland Impacts with the Build Alternative**

APN#	Location (kilopost/ post mile)	Williamson Act Contract	Farmland Impact (Hectares/Acres)			
			Build Alternative (Including Options at Fulton Road/ Airport Boulevard Interchange Complex <sup>1</sup> )			
			NB-A / SB-A	NB-A / SB-B	NB-B / SB-A	NB-B / SB-B
059-170-037	41.8 / 26.0	No	0.35 / 0.87	0.44 / 1.09	0.35 / 0.87	0.44 / 1.09
059-230-077	42.1 / 26.2	Yes	0.01 / 0.03	0.02 / 0.04	0.01 / 0.03	0.02 / 0.04
059-230-078	42.3 / 26.3	Yes	0.74 / 1.84	0.84 / 2.08	0.74 / 1.84	0.84 / 2.08
<b>TOTALS</b>			<b>1.11 / 2.74</b>	<b>1.30 / 3.21</b>	<b>1.11 / 2.74</b>	<b>1.30 / 3.21</b>

<sup>1</sup> NB-A = Northbound Option A; NB-B = Northbound Option B; SB-A = Southbound Option A; SB-B = Southbound Option B  
Source: Parsons 2005

In compliance with the Farmland Protection Policy Act, Parts I and III of Form NRCS-CPA-106 and maps for the proposed project were submitted to the NRCS for its determination of whether any part of the agricultural property that would be acquired for the project site is farmland subject to the Act. The NRCS review and completion on August 17, 2005 of Parts II, IV, and V of the form, indicates that the proposed project would acquire approximately 1.11 to 1.30 ha (2.74 to 3.21 ac) of prime and unique farmland. This represents approximately .0005 percent of the total farmland subject to the Act in Sonoma County.

The total assessment criteria score for the farmland sites is 177. Based on federal regulation 7 CFR 658.4, sites receiving a total score of less than 160 points shall be given a minimal level of consideration for protection and no additional sites need to be evaluated. Sites receiving a total score of 160 or greater, however, shall be given stronger consideration for protection including the evaluation of alternative sites, locations, and/or designs.

The project has been designed to minimize impacts to farmlands within the project corridor. As described in Section 2.3.3, Variations on the Build Alternative, several interchange alternatives were considered to address operational deficiencies at the Fulton Road / Airport Boulevard Interchange Complex. These preliminary design concepts determined that widening primarily on the west side of the highway at the proposed Fulton Road / Airport Boulevard Interchange Complex would result in fewer overall environmental effects and would require considerably less right-of-way. There would be no effect on farmlands under the No-Build Alternative, however, the No-Build Alternative would not provide HOV lanes, reduce traffic congestion or address facility and operational deficiencies on the existing roadway. Based on the considerations reported above, it is determined that there is no practicable alternative to the proposed new construction in farmlands at the Fulton Road / Airport Boulevard Interchange Complex. To meet reporting requirements and for data collection purposes, Form CPA-1006 was resubmitted to the NRCS on February 20, 2006. The Farmland Conversion Impact Rating Form along with the Site Assessment Criteria and Point Rating are included in Appendix F.

The Sonoma County Tax Assessor's Office was contacted in March 2005 and confirmed that the Build Alternative would acquire a portion of two parcels of land currently under a Williamson Act contract. The total proposed acquisition of Williamson Act contracted land is approximately 0.75 ha (1.87 ac) to 0.86 ha (2.12 ac), depending on the option selected at the Fulton Road/Airport Boulevard Interchange Complex. The Williamson Act generally requires that a project proponent demonstrate that there is no other land on which it is reasonably feasible to locate a public improvement before converting land under Williamson Act contract. In accordance with Government Code Section 51291(b), the Director of the California Department of Conservation and the Sonoma County Planning Department would be notified prior to acquisition of any farmland under a Williamson Act contract.

### **3.3.4 Avoidance, Minimization and/or Mitigation Measures**

Since adverse impacts to farmlands from the Build Alternative would be minor, no mitigation is proposed.

## **3.4 Community Impacts**

This section identifies and analyzes existing and projected study area social conditions in terms of population characteristics, including household size and composition, ethnicity and income, and employment and labor force; community/neighborhood characteristics including public services and facilities; and circulation and access for groups and populations.

### 3.4.1 Community Character

#### 3.4.1.1 AFFECTED ENVIRONMENT (DEMOGRAPHIC/HOUSEHOLD/NEIGHBORHOOD CHARACTERISTICS)

Demographic characteristics of the affected environment are derived from 2000 U.S. Census Data and *ABAG Projections 2005: Forecasts for the San Francisco Bay Area to the Year 2030*. The study area is defined by census tract block groups adjacent to and within one-half mile of the proposed project alignment, as shown in Figure 3.4-1.

#### Population, Housing and Employment Growth

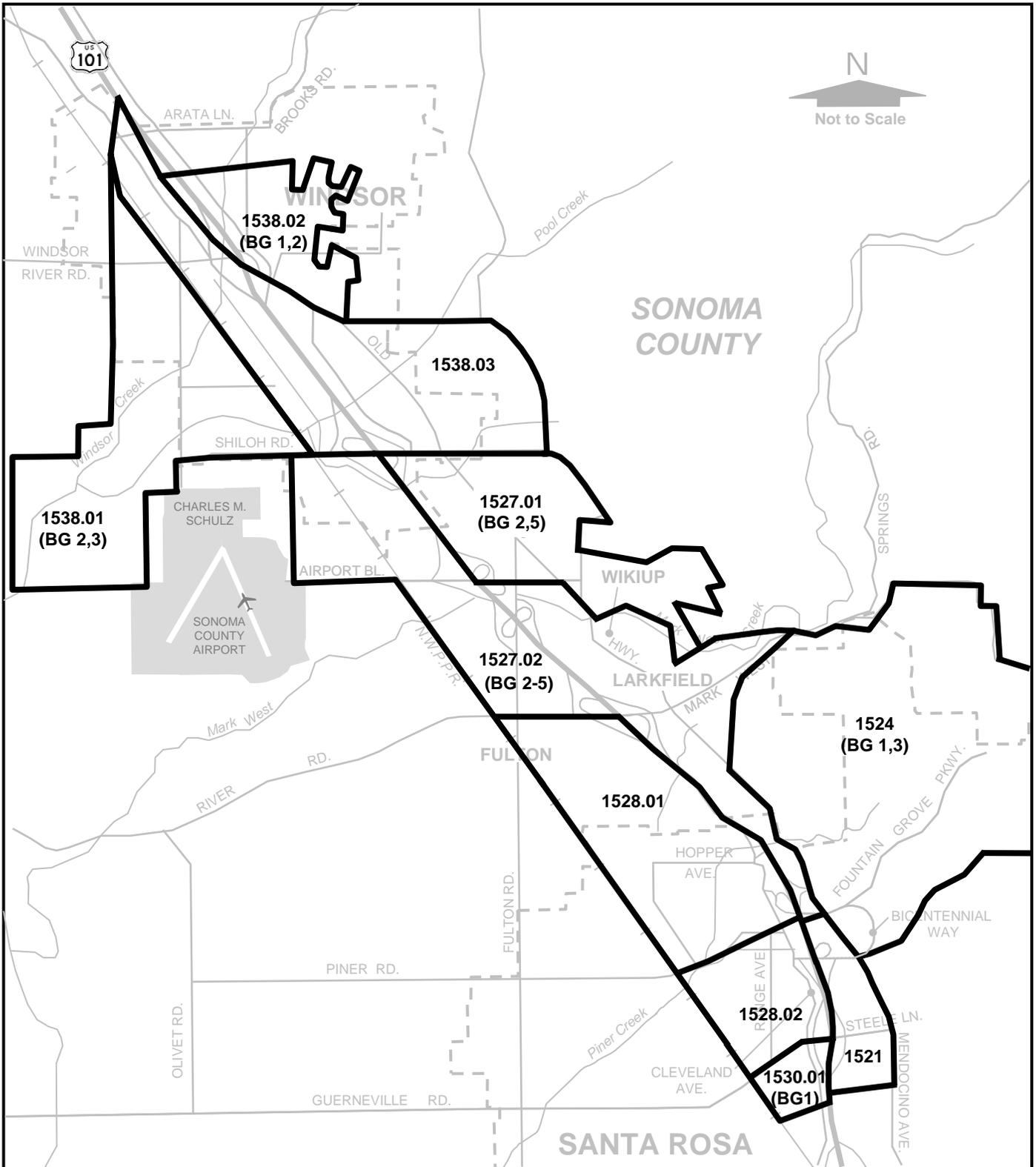
Existing and projected population, housing and employment for Sonoma County, the City of Santa Rosa and the Town of Windsor are shown in Table 3.4-1.

Geographic Area	Population			Households			Employment (Jobs)		
	2000	2030	% Change	2000	2030	% Change	2000	2030	% Change
<b>Sonoma County</b>	458,614	558,400	22%	172,403	213,840	24%	221,490	328,310	48%
<b>City of Santa Rosa</b>	165,849	216,800	31%	62,076	82,710	33%	94,590	152,590	61%
<b>Town of Windsor</b>	22,744	31,700	39%	7,589	10,880	43%	5,960	12,010	102%

Source: *ABAG Projections 2005*

**Population and Housing.** According to ABAG projections, total population in Sonoma County is expected to grow from 458,614 to 558,400 persons, an increase of 22 percent, between 2000 and 2030. The anticipated growth rates for the City of Santa Rosa and the Town of Windsor would be 31 and 39 percent, respectively. Households are projected to increase commensurately between 2000 and 2030, with a 24 percent increase in Sonoma County, a 33 percent rise in Santa Rosa, and a 43 percent increase in the Town of Windsor.

**Employment.** Employment in Sonoma County is projected to increase much more rapidly than population, with a 48 percent increase in jobs anticipated between 2000 and 2030. The City of Santa Rosa is expecting a 61 percent increase in employment over the same period. The Town of Windsor expects a 102 percent increase in jobs, which is substantially greater than the expected growth in households. All these projections emphasize continued demand for travel along Highway 101 as the primary north-south route to local and regional employment and commercial opportunities.



**Legend:**

- Census Tract Boundary      1530.01 Census Tract Number      (BG 1) Block Group Number
- - -** City Boundary      + + + Railroad

Source: U.S. Census Bureau



## Ethnic Mix

An ethnic profile of the existing population is derived from U.S. Census Bureau 2000 data. The ethnic categories used are White, Black or African American, Hispanic, Asian, American Indian and Alaska Native, Native Hawaiian or Other Pacific Islander, Some Other Race and Two or More Races.

As shown in Table 3.4-2 below, ethnic composition within the study area (as identified in Figure 3.4-1) is comparable to that of Sonoma County, City of Santa Rosa and the Town of Windsor, with approximately 25 to 30 percent of residents being part of an ethnic minority group. Persons of Hispanic origin represent the greatest percentage of ethnic minority populations in each respective area.

<b>Geographic Area</b>	<b>Total Persons</b>	<b>White</b>	<b>%</b>	<b>Black or African American</b>	<b>%</b>	<b>Hispanic</b>	<b>%</b>	
<b>Study Area</b>	48,921	35,995	74%	668	1%	8,721	18%	
<b>Sonoma County</b>	458,614	341,686	75%	6,116	1%	79,511	17%	
<b>City of Santa Rosa</b>	147,595	104,581	71%	3,023	2%	28,318	19%	
<b>Town of Windsor</b>	22,744	15,989	70%	150	1%	5,364	24%	
<b>Geographic Area</b>	<b>Asian</b>	<b>%</b>	<b>American Indian/ Alaska Native</b>	<b>%</b>	<b>Native Hawaiian/ Other Pacific Islander</b>	<b>%</b>	<b>Some Other Race/Two or More</b>	<b>%</b>
<b>Study Area</b>	1,693	3%	442	0.9%	83	0.2%	1,319	3%
<b>Sonoma County</b>	13,786	3%	3,477	0.8%	828	0.2%	13,210	3%
<b>City of Santa Rosa</b>	5,542	4%	1406	1.0%	333	0.2%	4,392	3%
<b>Town of Windsor</b>	503	2%	175	0.8%	30	0.1%	533	2%

Source: 2000 U.S. Census Data

## Income

Table 3.4-3 provides information on household income and low-income populations for the study area, Sonoma County, the City of Santa Rosa and the Town of Windsor. The 2000 median household income in these jurisdictions was \$53,076 (Sonoma County), \$50,931 (Santa Rosa), and \$63,252 (Windsor). The median household income for the study area census tracts was \$52,660. Low-income populations represent approximately six percent of the study area, lower than the low-income population levels for Sonoma County and the City of Santa Rosa and slightly higher than that of the Town of Windsor.

**Table 3.4-3: Household Income and Percent of Low-Income Populations<sup>6</sup>**

Geographic Area	Median Household Income	% Low-Income Populations
Study Area	\$52,660	6.2%
Sonoma County	\$53,076	7.9%
City of Santa Rosa	\$50,931	8.4%
Town of Windsor	\$63,252	5.2%

Source: 2000 U.S. Census Data; U.S. Department of Health and Human Services, 1999.

### Community/Neighborhood Characteristics

The proposed project would pass through portions of neighborhoods in the planning subareas of Sonoma County, the City of Santa Rosa and the Town of Windsor. Planning areas and neighborhoods in the project vicinity are described below.

#### Sonoma County Planning Areas

**Santa Rosa Planning Area.** The Santa Rosa Planning area includes the City of Santa Rosa and adjacent valleys surrounded by rolling hills and the more mountainous areas of the Sonoma and Mayacamas Mountain ranges. This area of Sonoma County is expected to have absorbed approximately 38 percent of the County's growth through 2005.

**Healdsburg Planning Area.** The Healdsburg Planning Area is located in north central Sonoma County with the Town of Windsor and the City of Healdsburg being the two urban centers located along the Highway 101 corridor within the planning area. Areas outside the valley floors and lower foothills are relatively inaccessible and sparsely populated. Most employment in the Healdsburg Planning Area is in the agricultural, manufacturing and service industries.

***Sonoma County Airport Industrial Area Specific Plan.*** The Airport Industrial Specific Plan covers the area between the Charles M. Schulz-Sonoma County Airport and Highway 101. Its north and south boundaries are the southwestern border of the Town of Windsor and Mark West Creek, respectively. According to the *Sonoma County Airport Industrial Area Specific Plan*, the plan area will accommodate industrial, commercial and agricultural land uses.

#### City of Santa Rosa Planning Areas

**West Junior College Neighborhood.** The West Junior College Neighborhood is located in the southeast portion of the study area in the City of Santa Rosa between Highway 101 to the west, Mendocino Avenue to the east, Steele Lane to the north and College Avenue to the south. Central to the neighborhood is Santa Rosa Junior College. Other facilities in the area include the California National Guard Armory, the California Department of Forestry and Fire Protection Regional Headquarters, the Ridgway Swim Center and Ridgway Continuation High School.

<sup>6</sup> Low-income populations are defined by the 1999 U.S. Department of Health and Human Services guidelines. The poverty threshold established in 1999 was \$16,700 for a family of four.

### **City of Santa Rosa Neighborhood Associations**

**Journey's End Mobile Home Owner's Association.** The Journey's End Mobile Home Owner's Association represents the interests of tenants residing in the mobile homes located at 3575 Mendocino Avenue, east of Highway 101 and just north of Kaiser Permanente in Santa Rosa.

### **Town of Windsor Planning Areas**

**Special Area A.** Special Area A in the Town of Windsor is the area bound by Highway 101, Shiloh Road, Windsor Golf Course and Wilson Lane. According to the *Town of Windsor General Plan*, future development in this area would maximize the full potential of its existing highway access and its future transit access.

**Special Area D.** Special Area D includes the incorporated and unincorporated areas north and west of Jensen Lane, the unincorporated area south of Pleasant Avenue and the incorporated and unincorporated areas between Jensen Lane and Pleasant Avenue. The *Town of Windsor General Plan* encourages compatibility with active vineyards immediately to the east with most of the area to be developed as residential.

**Special Area F (Standard Structures site).** Special Area F in the Town of Windsor is the site of Standard Structures Inc., an industrial firm located adjacent to Highway 101 just south of Shiloh Road near the Windsor Golf Course. The *Town of Windsor General Plan* permits outdoor storage for heavy industrial uses for a ten-year period from the adoption of the *General Plan* for this planning area.

**Special Area G (North of Shiloh Center site).** Special Area G is a 17-acre site located just north of Shiloh Center and the Home Depot off of Shiloh Road. The entire area was initially high-density residential, but since the adoption of the *Town of Windsor General Plan*, a quarter of Special Area G has been reallocated as medium-density residential.

**Special Area H.** Special Area H is located east of Old Redwood Highway, just north of Esposti Park, near Windsor's eastern border. This area is designated commercial with a low-medium density residential overlay to allow for a mixture of uses.

**Special Area I.** Special Area I is located in the Old Town Area at the southern end of Bell Road between the Northwestern Pacific Railroad (NWPR) and Windsor Creek. This area provides for a mix of housing and local neighborhood-serving commercial uses.

#### **3.4.1.2 ENVIRONMENTAL CONSEQUENCES**

Community cohesion is defined as the degree to which residents have a sense of belonging to their neighborhood or experience attachment to community groups and institutions, as a result of continued association over time. The proposed HOV lanes and related Highway 101 improvements would not constitute any new physical or psychological barriers that would divide, disrupt, or isolate neighborhoods, individuals, or community focal points in the corridor. Because the proposed HOV Lane project would widen Highway 101 primarily within its median, the communities and neighborhoods adjacent to Highway 101 would not experience a disruption in cohesion.

### **3.4.1.3 AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES**

As there would be no impacts to neighborhoods or community cohesion, mitigation is not warranted. Measures to mitigate impacts to neighborhoods and businesses as a result of noise and vibration and visual changes are described in their respective sections.

## **3.4.2 Community Facilities and Public Services**

### **3.4.2.1 AFFECTED ENVIRONMENT**

Public services and facilities located in the study area, including police, fire, medical, educational and cultural are described below.

**Police Services.** Police protection and traffic enforcement in the study area are provided by the Sonoma County Sheriff's Department, California Highway Patrol, and the police departments of the City of Santa Rosa and the Town of Windsor. Precinct stations for the Town of Windsor Police Department and Sonoma County Sheriff are located in the study area at 9291 Old Redwood Highway and 2796 Ventura Avenue, respectively. The Sonoma County Sheriff Helicopter Unit and the North County Detention Facility are also within the study area.

**Fire Protection Services.** The Sonoma County Department of Emergency Services, the Santa Rosa Fire Department and the Town of Windsor Fire Protection District provide fire protection services and emergency medical rescue services for the study area. Three fire stations and the California Department of Forestry-Sonoma Air Attack Base are located in the study area.

**Hospital and Medical Facilities.** Two medical facilities in the City of Santa Rosa are located within the study area: Kaiser Permanente-Santa Rosa and Sutter Medical Center.

**Schools.** Nineteen public and eight private schools are located in the study area, including two adult education centers and Santa Rosa Junior College. Public schools in the study area are within the jurisdiction of the Santa Rosa City, Piner-Olivet Union, Mark West Union or Windsor Unified School District.

**Other Cultural Facilities.** There are a number of other cultural facilities within the study area, including the Charles M. Schulz Museum, Luther Burbank Center for the Arts, Pacific Coast Air Museum and the Windsor Town Hall. Five community centers are in the study area: Steele Lane Community Center, Angela Center, Windsor Senior Center, Windsor Boys and Girls Club, and the Windsor Community Center. Three libraries in Santa Rosa and one in Windsor are located in the study area.

**Other Public Facilities.** Other public facilities in the study area include three post offices and three transportation facilities, including the Charles M. Schulz – Sonoma County Airport. A California National Guard Armory station is located at 1500 Armory Drive in the study area.

**Houses of Worship and Cemeteries.** There are 42 houses of worship of various denominations and two cemeteries located in the study area.

**Recreational Facilities.** As listed in Table 3.4-4 and shown in Figure 3.4-2, there are 26 park and recreational facilities within the study area. Numbers on the table are keyed to locations shown in the figure. With the exception of the privately owned and operated Wikiup and Windsor Golf Courses, these facilities are operated by Sonoma County's, the City of Santa Rosa's and the Town of Windsor's parks and recreation departments.

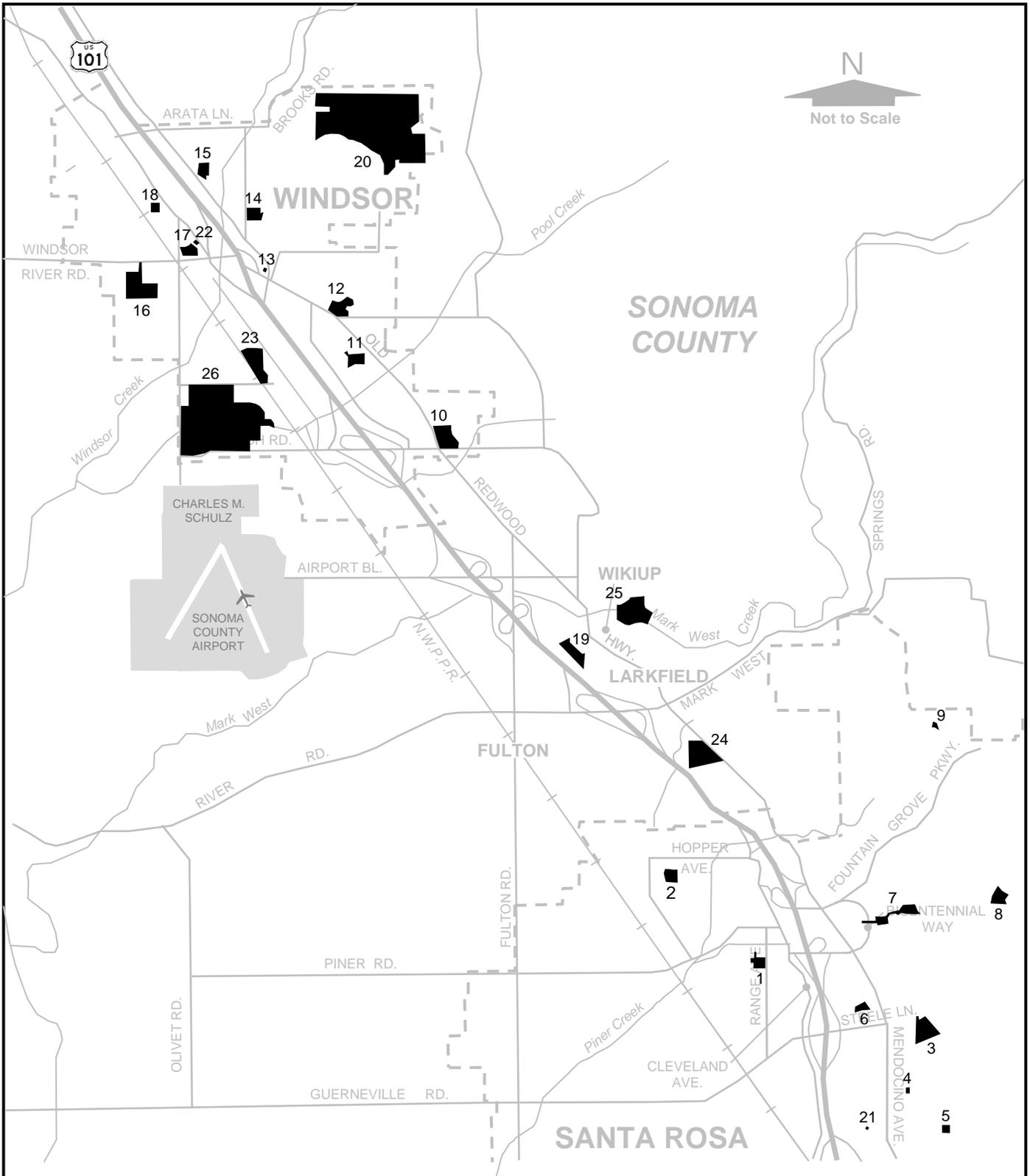
**Public Utilities.** Water service is provided by the City of Santa Rosa and Town of Windsor. The city and town also provide wastewater collection and treatment within the study area. However, there are no wastewater facilities within the project limits.

### 3.4.2.2 ENVIRONMENTAL CONSEQUENCES

The long-term effect of the proposed project would be to reduce congestion and diversion of freeway traffic to local streets. Thereby, it would enhance accessibility within the greater Highway 101 project area, which would benefit the community facilities identified in Section 3.4.2.1. None of these facilities would be affected by the proposed project. Impacts during the construction phase are described in Section 3.16.4, Community Impacts.

Domestic water services, wastewater facilities and solid waste disposal would not be affected by the proposed project, which would not induce unplanned growth or substantially increase stormwater run-off.

<b>Table 3.4-4: Existing Park and Recreational Facilities in the Study Area</b>					
<b>No.</b>	<b>Name</b>	<b>Address/Location</b>	<b>No.</b>	<b>Name</b>	<b>Address/Location</b>
<b>City Parks – Santa Rosa</b>					
1	Bicentennial Park	974 Russell Avenue	6	Steele Lane Park	130 Schurman Drive
2	Coffey Park	1524 Amanda Lane	7	Nielsen Ranch Park	3450 Lake Park Drive
3	Franklin Park	2095 Franklin Avenue	8	Hidden Valley Park	3455 Bonita Vista Drive
4	Humbolt Park	1172 Humbolt Street	9	Fir Ridge Park	3672 Fir Ridge Drive
5	North Park	921 North Street			
<b>City Parks – Windsor</b>					
10	Esposti Park	6000 Old Redwood Highway	15	Michael A. Hall Park	431 Jane Drive
11	Robbins Park	100 Billington Lane	16	Keiser Community Park	700 Windsor River Road
12	Pleasant Oak Park	302 Sugar Maple Lane	17	Windsor Town Green	9455 Bell Road
13	Pueblo Viejo Park	45 Third Street	18	Los Robles Park	10860 Rio Ruso Drive
14	Lakewood Meadows Park	9150 Brooks Road South			
<b>Regional Parks – Sonoma County</b>					
19	Maddux Ranch Regional Park	4655 Lavelle Road	20	Foothill Regional Park	1351 Arata Lane
<b>Athletic Facilities</b>					
21	Ridgway Swimming Center	455 Ridgway Avenue, Santa Rosa	23	Wilson Ranch Soccer Park	7955 Cameron Drive, Windsor
22	Huerta Gym	9291 Old Redwood Highway, Windsor	24	Tom Schopflin Fields	4351 Old Redwood Highway, Sonoma County
<b>Golf Courses</b>					
25	Wikiup Golf Course	5001 Carriage Lane	26	Windsor Golf Course	1590 Wilson Lane
Source: Parsons 2004					



**Legend:**

- Parks
- City Boundary
- Railroad

Source: Parsons 2005

### **3.4.2.3 AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES**

As there would be no adverse effects on community facilities, no mitigation measures are proposed. Avoidance and minimization measures to be implemented during the construction phase are described in Section 3.16.4.

### **3.4.3 Relocations**

There would be no residential or business relocation as a result of the proposed project.

### **3.4.4 Environmental Justice**

#### **3.4.4.1 REGULATORY SETTING**

Executive Order (EO) 12898 (Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations), dated February 11, 1994, calls on federal agencies to identify and address the disproportionately high and adverse human health or environmental effects of federal programs, policies, and activities on minority populations and low-income populations. The U.S. Department of Transportation (DOT) has published a Final DOT Order to establish procedures for use in complying with EO 12898 for its operating administrations, including FHWA. If disproportionately high and adverse impacts would result from the proposed action, mitigation measures or alternatives must be developed to avoid or reduce the impacts, unless the agency finds that such measures are not practicable.

Impacts and benefits of transportation projects result from the physical placement of such facilities, and also from their ability to improve or impede access to and from neighborhoods and other portions of the region. The environmental justice analysis examines whether ethnic minority and/or low-income populations in the project area would experience disproportionately adverse accessibility or other impacts, and if the impacts experienced by such populations would be inconsistent with the benefits created.

#### **3.4.4.2 AFFECTED ENVIRONMENT**

The project study area includes a variety of neighborhoods and a multi-ethnic population. The ethnic composition for the study area, as described in Section 3.4.1, Community Character, is comparable to that of Sonoma County as a whole. The City of Santa Rosa and the Town of Windsor are both slightly more diverse than the study area and County. As shown in Table 3.4-5, approximately 26 percent of all study area residents are members of minority groups. This compares to a 25 percent minority population in Sonoma County. In the City of Santa Rosa and the Town of Windsor, 29 and 30 percent of the population, respectively, are represented by minorities. Table 3.4-5 also shows that the percentage of low-income populations is lower in the study area (approximately six percent) than in Sonoma County or the City of Santa Rosa, with approximately eight percent. The Town of Windsor has the lowest percentage of low-income population with five percent.

**Table 3.4-5: Minority and Low-Income Populations in the Study Area**

	Study Area	Sonoma County	City of Santa Rosa	Town of Windsor
% Minority	26%	25%	29%	30%
% Low-Income	6%	8%	8%	5%

Source: 2000 U.S. Census Data: U.S. Department of Health and Human Services, 1999.

For the purposes of this analysis, the potential for environmental justice impacts was identified when the population in any census tract block group met or exceeded either of the following criteria:

1. The census tract block group contained 50 percent or more minority or low-income populations; or
2. The percentage of minority or low-income populations in any census tract block group was more than 10 percentage points greater than the average in the city and/or county in which the census tract block group is located.

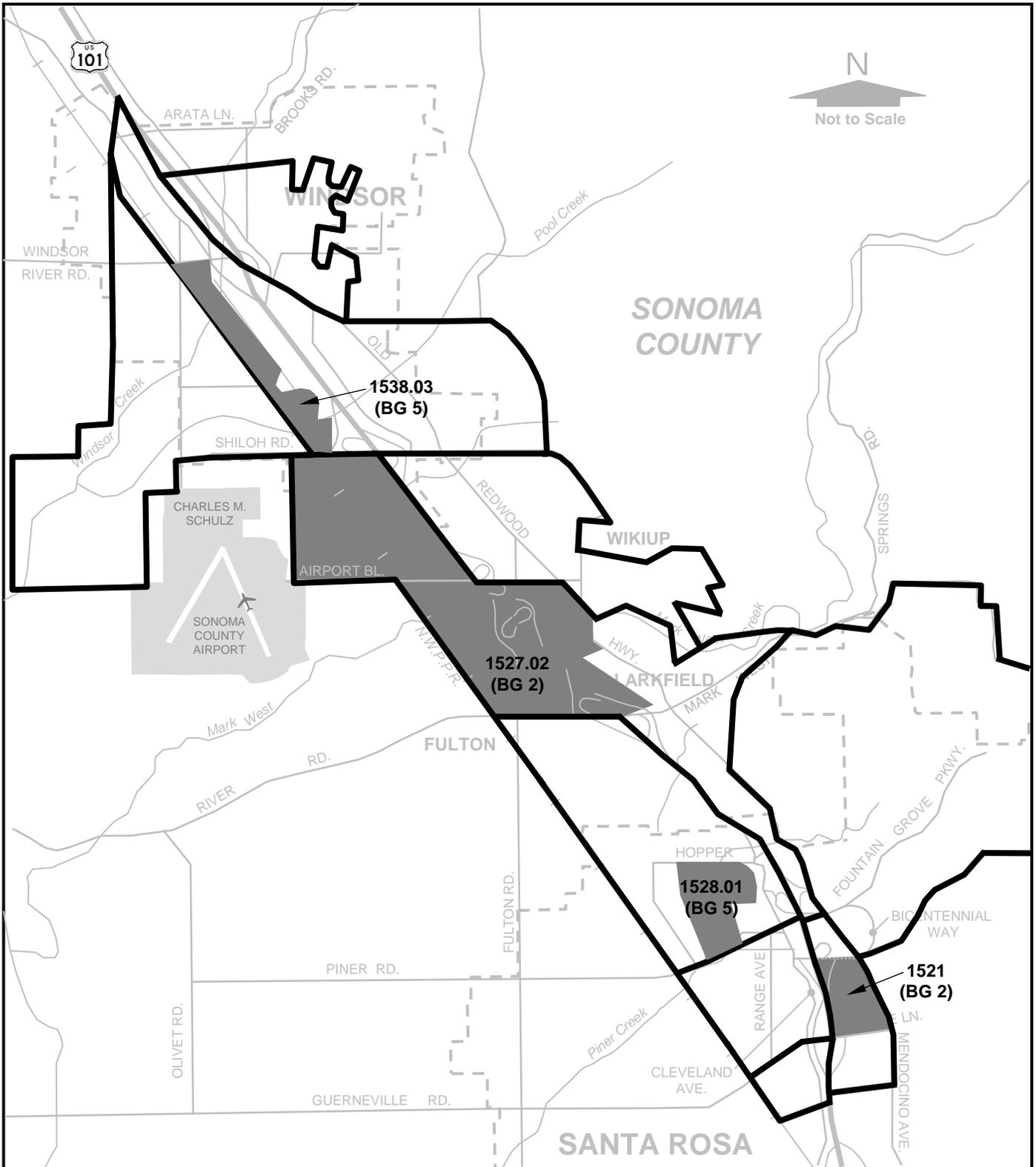
Based on 2000 U.S. Census Data for the study area, populations in six out of 20 census block groups located adjacent to Highway 101 qualify as environmental justice communities based on ethnicity or income level. Low income populations are defined as having a median household income at or below Department of Health and Human Service poverty guidelines. Environmental justice communities are shown in Figure 3.4-3 and described below.

- **Census Tract 1521; Block Group 2** – Located northeast and bordering the Highway 101/Steele Lane Interchange, with a low-income population rate of nearly 18 percent.
- **Census Tract 1527.02; Block Group 2** – Northwest of the Highway 101/River Road – Mark West Road Interchange, with the highest concentration of low-income households (over 24 percent) of the block groups adjacent to Highway 101.
- **Census Tract 1528.01; Block Group 5** – Northwest of the Highway 101/Fountain Grove Parkway-Piner Road Interchange, with the highest percentage (50.4 percent) of ethnic minority populations of all the block groups in the study area.
- **Census Tract 1538.03; Block Group 5** – Located west of Highway 101 between Shiloh Road and Windsor River Road, with a low-income population rate of nearly 15 percent.

Given that environmental justice communities were identified within the project study area, efforts were made to ensure that these communities were notified of all public informational meetings and the public hearing for this environmental document; see Section 6.1.4, Newspaper Notices and Flyers.

### 3.4.4.3 ENVIRONMENTAL CONSEQUENCES

The primary purpose of the proposed action is to complete the Highway 101 HOV system described by the Metropolitan Transportation Commission in the *2002 HOV Lane Master Plan Update*. The Highway 101 HOV lane widening would encourage carpooling by providing HOV lanes along the length of the project corridor and reduce energy consumption by reducing single occupancy vehicle use and idling.



**Legend:**

- Census Tract Boundary
- City Boundary
- Railroad
- Environmental Justice Community

1530.01 Census Tract Number (BG 1) Block Group Number

Source: Parsons 2005

As discussed in Section 3.4.4.2, low-income and minority populations are found in the project area. Because the proposed project would alter an already existing freeway, it would not divide an established community. Potential impacts to neighboring populations include added noise impacts. These are impacts typically assessed to determine if there would be disproportionate impacts on low-income or minority populations.

Environmental impacts would be distributed evenly throughout the project area and would not be concentrated in neighborhoods with minority or low-income residents. Noise abatement measures are recommended wherever noise abatement criteria are met and would be expected to prevent disproportionate impacts to any particular area. It is not anticipated that any business or residential displacements would occur.

Based on the foregoing discussion, the proposed project would not cause disproportionately high and adverse effects on any minority or low-income populations as discussed in EO 12898 regarding environmental justice. SCTA has conducted public outreach to communicate with these communities throughout the environmental review process. Community members have provided substantive input into the current project design and construction approach, as discussed more fully in Section 6, Summary of Public and Agency Involvement and Tribal Coordination.

#### **3.4.4.4 AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES**

Caltrans would abate the long-term noise effects of the project with soundwalls consistent with FHWA noise abatement criteria. Construction phase impacts would be minimized with Best Management Practices (BMPs) to control noise and fugitive dust. Detour routes would be planned in coordination with Caltrans, Sonoma County, and the traffic departments of Sonoma County, City of Santa Rosa, and Town of Windsor and would be noticed to emergency service providers, transit operators, and Highway 101 users in advance. These measures would serve to ensure that there would be no disproportionate adverse effects on minority and low-income residents.

### **3.5 Utilities/Service Systems**

#### **3.5.1 Affected Environment**

Utilities within the Highway 101 HOV Lane Widening Project area include:

- overhead electrical transmission, fiber optics, and telephone lines; and
- underground electrical, gas, water, sewer, fiber optics, and telephone

Pacific Gas & Electric Company (PG&E) provides gas and electricity service in the study area. AT&T (formerly SBC) maintains the local telephone service and Comcast maintains fiber optic facilities.

#### **3.5.2 Impacts**

The majority of the utilities within the project area are transverse crossings that do not present conflicts to the proposed project Build Alternative. Proposed embankment widening may require

extension of existing protective casings for two PG&E gas lines and a water and sewer line owned by the City of Santa Rosa.

In addition, a joint-use pole carrying a PG&E 12 kV overhead electric line and an AT&T telephone line will require relocation to accommodate the proposed highway improvements at the intersection of Airport Boulevard and the northbound ramps, under both interchange options.

There are a total of nineteen existing longitudinal utility encroachments within the corridor. A 375 mm City of Santa Rosa sewer line runs parallel to Highway 101 on the east side, crossing the Mendocino Avenue northbound ramps, the latter portion of which is abandoned. Seven overhead electric lines and a joint-use overhead electric/SBC telephone line cross the highway at a skew greater than permissible angle for a transverse crossing and are therefore considered longitudinal encroachments. Similarly, crossings of an underground telephone, two Comcast fiber optic cables and a 75 mm PG&E gas line exceed the permissible skew angle. Other longitudinal encroachments include a 400 mm City of Santa Rosa water line that runs parallel to the mainline at the Bicentennial Way northbound exit loop ramp; a PG&E gas line that runs within the right-of-way of the River Road southbound exit ramp and a second gas line that runs within the ramp terminal area of the Windsor River Road southbound on-ramp; a 530 mm City of Santa Rosa sewer line that runs parallel to the Airport Boulevard southbound exit ramp, within the right-of-way; and a 530 mm City of Santa Rosa sewer that runs within the right-of-way, parallel to the Airport Boulevard northbound on-ramp. Three of the utilities previously mentioned as exceeding the permissible crossing angle—the PG&E gas line, a Comcast fiberoptics line and a 12 kV PG&E overhead electrical—also run within the right-of-way, parallel to the Airport Boulevard southbound off-ramp. No changes are proposed to any of these utilities; therefore, an exception to longitudinal encroachment will be required from Caltrans for each incidence.

There will be no long-term disruptions in service as a result of utilities being relocated or receiving additional protection.

Construction phase impacts are discussed in Section 3.16.5, Utilities/Service Systems.

### **3.5.3 Avoidance, Minimization, and/or Mitigation Measures**

Design, construction, and inspection of utilities that would need to be relocated for the project would be done in accordance with Caltrans requirements. Where feasible, relocations would be undertaken in advance of project construction. Caltrans would coordinate with the affected service provider in each instance to ensure that work is in accordance with the appropriate requirements and criteria.

In addition, coordination with the utility providers would be initiated during the preliminary engineering phase of the project and would continue through final design and construction. Coordination efforts would plan utility re-routes, identify potential conflicts, ensure that construction of the proposed project minimizes disruption to utility operations, and formulate strategies for overcoming problems that may arise.

Measures to avoid or minimize disruptions to the emergency services and utilities during construction of the project are discussed in Section 3.16.5, Utilities/Service Systems.