

## **4.2 TRANSPORTATION**

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### ***Transportation – Environmental Setting***

Sonoma County has a variety of transportation systems, including roads, public transit, a railroad, bicycle and pedestrian facilities. These are described below, including existing travel characteristics, in the following sections.

#### ***HIGHWAY AND ROADWAY SYSTEM***

The County owns and maintains 1,388 centerline<sup>1</sup> miles of roadways. This number has decreased slightly since the existing *General Plan* was prepared in the late 1980s, primarily due to annexations (e.g., Windsor), and in lesser part due to road abandonment or relinquishment. The reconstruction value of this infrastructure was estimated at \$1.4 billion in 2001.<sup>2</sup> The California State Department of Transportation (Caltrans) owns and maintains more than 237 centerline miles of highway, with more than three-quarters of it in the rural portions of the county. The State highways are among the most heavily traveled routes (e.g., US 101), and because of this, carry half or more of the daily vehicle miles traveled (VMT) in Sonoma County.

#### ***Freeways***

Freeways are primarily through highways for carrying large volumes of interurban, regional and interstate traffic, although they may carry considerable local traffic in large urbanized areas. Freeways are designed to separate two or more travel lanes with a median, to prohibit access from abutting property and to limit access from cross streets by providing grade separations. Access to a restricted number of cross streets may be provided at grade-separated interchanges. Acceleration and deceleration lanes are provided at interchanges. The desired minimum spacing between interchanges is one mile in urban areas, and two miles in rural areas. Auxiliary lanes may be provided from one interchange to the next in densely developed urban areas with closely spaced interchanges, or where a considerable amount of traffic travels only between two interchanges.

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<sup>1</sup> Centerline miles are the number of unduplicated route miles of street or highway, ignoring the number of lanes.

<sup>2</sup> Sonoma County Transportation Authority (SCTA), 2001 Countywide Transportation Plan for Sonoma County, Adopted September 10, 2001, page 23. Estimate is based on data from the County of Sonoma.

### **Primary Arterials**

Arterials are major through highways that carry large volumes of traffic over long distances. Although they are principally intended to serve intercity travel, they may also provide routes of regional significance in less heavily traveled corridors and some local traffic in larger urban areas. Arterials are intended to serve a through-traffic function and not to provide access to property. The number of lanes of traffic may vary from two to four or more. Continuous or intersection-turn lanes may be provided. Right-of-way widths<sup>3</sup> may vary from 56 to 84 feet.

### **Secondary Arterials**

Secondary arterials in general serve the same function as primary arterials but either carry a lesser volume of traffic or carry a higher proportion of local traffic over shorter distances. Within urban areas, these arterials may connect locations with large-scale traffic generators. Although access to abutting land is permitted, it is secondary to the traffic function of the arterial.

### **Major Collectors**

This class of highways primarily serves internal traffic within a sub-county local area and carries this traffic to the arterial system. Major collector highways do not ordinarily carry a high proportion of long through trips and are not, of necessity, continuous for great lengths. In urban areas, collectors may carry traffic volumes in excess of 10,000 vehicles per day, although in rural areas volumes are considerably less.

### **Minor Collectors**

This class of highways serves the same function as major collectors, but occurs primarily in rural areas where traffic volumes are lower but the length of trips and the roadway are usually longer.

### **Local Roads**

The sole function of these roadways is primarily to provide access to adjacent land. These highways make up a large percentage of the County's roadway network but carry a small proportion of the total vehicle miles of travel.

## **CONDITION OF ROADS**

Physically, the county road system suffers from a number of problems:

- Restricted maintenance budgets over the past 25 years have resulted in poor pavement conditions. Sonoma County's roads average a Pavement Condition Index (PCI) of 46, whereas a PCI of 80 is considered optimum.<sup>4</sup> This is the lowest of any county in the Bay Area, and the county has one of the largest deferred maintenance backlogs in the Bay Area.

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<sup>3</sup> Right of way is the publicly owned land for a street or highway, including parking lanes, bike lanes, sidewalks, drainage features (e.g., curb and gutter), lighting, landscaping, and safety area (e.g., guardrail).

<sup>4</sup> Metropolitan Transportation Commission. *Bay Area Transportation: State of the System 2002*, page 67.

- Many county roads lack standard shoulders or pedestrian walking areas to enhance the safety and pleasure of walking and cycling.
- Roads (including state highways and freeways) were subject to serious flooding problems in the 1990s.
- Portions of some county roads do not meet current safe sight stopping distance standards.

### **EXISTING TRAVEL CHARACTERISTICS**

This section describes existing travel and transportation characteristics in Sonoma County, based on several sources of information. Trips are normally categorized into several purposes for analytical reasons. Vehicle occupancies are important, because they relate to how many vehicles are needed to move a given number of people around. In order to evaluate ridesharing and transit, trips are usually first calculated in terms of person-trips; i.e. two people driving together to work would be one vehicle trip, but two person trips.

#### **Bay Area Travel Survey 2000**

The Bay Area Travel Survey (BATS) 2000 included approximately 1,000 Sonoma County households and was conducted by the Metropolitan Transportation Commission (MTC), which is the regional transportation planning agency for the nine-county Bay Area. Among the key findings were:

- Approximately 16.8 percent of daily commute (to work) trips are made in the AM peak hour (7:30 – 8:30 AM), and 14.4 percent in the PM peak hour (4:30 – 5:30 PM). This represents a “flattening” of the peak hour; this percentage has dropped since the last survey was conducted in 1990 as more trips spread to the “shoulders” of the peak hours;
- Of non-work trips, 2.6 percent of non-work trips between home and “attraction” were by transit, but between two non-home locations was only 0.9 percent;
- Use of alternative travel modes (i.e., those other than driving alone) for inter-county commute trips tends to be higher than for within-county trips. Approximately 8.2 percent of inter-county trips are by transit; 10.1 percent are by carpool;
- Approximately 1 in every 8 trips (considering all purposes) involves a vehicle trip to another county on a weekday; and
- Travel times and average vehicle occupancy for trips varies by purpose, as shown in **Exhibit 4.2-1**.

**Exhibit 4.2-1**  
**Travel Times and Vehicle Occupancy**

<i>Trip Purpose (between)</i>	<i>Mean Travel Time minutes</i>	<i>Median Travel Time Minutes</i>	<i>Average Vehicle Occupancy (AVO) persons/vehicle</i>
Home - Work	24.2	17.1	1.09
Home - Other (non-work)	16.8	12.2	1.39
Other - Other	15.6	10.6	1.18

Source: Bay Area Travel Survey, 2000. Vehicles are private vehicles (i.e., excluding buses).

The mean is the arithmetic average; the median represents the point where half of the respondents indicate a shorter time, and half indicated a longer time. Because of a small number of people who make very long trips, the mean is usually greater than the median. Vehicle occupancy rates have declined somewhat since the existing *General Plan* for all three trip purposes.

**Census 2000**

The federal Census 2000 included a detailed long form sample of approximately one in every six Sonoma County households. The Census asks questions about home-to-work trips only, and found that 74.7 percent of workers drove alone for their commute; 12.6 percent carpooled; 2.4 percent used public transit; 3.9 percent bicycled or walked; and 5.4 percent worked at home. These *mode shares* are fairly stable since 1990, although the bicycle / walk mode has dropped slightly, and the work-at-home share has increased slightly.

- The mean (average) travel time to work is less than 27 minutes, with only 18 percent reporting a commute of 45 minutes or more.
- The mean (average) number of vehicles available per household was 1.9, the same as in 1990, with fewer than six percent of households reporting no vehicle available to them.
- Fewer than 20 percent (19.6 percent) of Sonoma County workers commute to jobs outside the county, a small decrease since 1980. However, of these *out commuters*, 47 percent work in Marin County and 21 percent in San Francisco, both of which are served by the highly congested US 101 corridor. The actual number, as well as the percentage, of trips to San Francisco has dropped since the 1990 Census. The number of residents commuting to Marin has increased by more than 19 percent since 1990.
- The number of “in-commuters” (who work in Sonoma County but live in other counties) has risen 50 percent between the 1990 and 2000 censuses, from 9,326 to 14,000 workers.<sup>5</sup> Marin supplies more workers than any other county (nearly 3,500), although there was little increase in this figure since 1990. The greatest increase was found in the east-west oriented commute from Solano County, where the in-commuters grew by 111 percent (a numerical increase of more than

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<sup>5</sup> Totals exclude workers report from a commute that would not be possible on a daily basis using ground modes, e.g., someone reporting a home location as Los Angeles or Hawaii.

1,200 workers). Other counties which, in 2000, supplied more than a thousand workers include: Contra Costa (1,037); Lake (1,415); Mendocino (1,023); and Napa (2,146).

### **SONOMA COUNTY TRAVEL MODEL**

Sonoma County travel demand has been estimated for 2000 using the TRANPLAN travel model, measured by the number of person-trips made on an average weekday and during the weekday peak period.<sup>6</sup> Demand estimates are further stratified by trip purpose and by mode, as shown in **Exhibit 4.2-2**. Modeling encompassed 372 traffic analysis zones within Sonoma County and 18 external zones, including seven in Marin, two in San Francisco and the Peninsula, six in the East Bay, and three in areas north of Sonoma County, for a total of 400 zones. Model validation was based on an extensive set of traffic counts available from the Sonoma County Public Works Department, Caltrans, and the cities within Sonoma County.

The model considers both travel supply and demand. Land use data from the General Plan update and ABAG *Projections 2002* data are used to determine the travel demand in a given year. For each traffic analysis zone, information is provided on the number of residential units (single family, multi-family, senior, and mobile home). Non-residential data include square footage of office, industrial, institutional, and retail uses. It also includes hotel/motel rooms, schools, and parks. The supply of transportation services is input in the form of a *network*, which includes the capacity of each available highway segment, the number of lanes, average speed, and capacity of each segment.

The model then connects homes with activities (or *attractors*) using the widely used gravity trip distribution method. The gravity model considers not only how attractive a zone is as a potential destination, but also how long it takes to get to the destination under congested travel conditions. Households are presumed to prefer destinations that are closer to them rather than farther away, all other things being equal. The model next considers the choice of travel mode (auto versus transit), and then the auto trips are assigned to the quickest (shortest time path) in the network, considering congestion.

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<sup>6</sup> Travel demand estimates were prepared for roadway segments rather than intersections due to the large land area covered by the modeling exercise.

**Exhibit 4.2-2**  
**2000 Estimated Person Trips, by Purpose**

<b>Trip Purpose</b>	<b>Number of Person Trips</b>	<b>Percent of Total</b>
Home-based work (commute)	430,000	23.3
Home-based non-work	1,098,000	59.5
Non-home based	318,000	17.2
<b>Total</b>	<b>1,846,000</b>	<b>100.0</b>

Source: Dowling Associates, Sonoma County Travel Model 2002; values are rounded.

Less than one-quarter of all weekday trips are for commute purposes (shown as home-based work trips above). Although modest in number, commute trips have a disproportionate impact on the transportation system's performance for several reasons. They tend to be longer trips than the others; they tend to be concentrated in a few hours of the day (7-9 AM and 4-6 PM); and they tend to result in more vehicle trips per person than other trip types. For these reasons, commute trips are generally emphasized in transportation planning studies.

As of December 31, 2001, there were more than 410,000 autos, trucks, vans, pickups, and RVs registered in Sonoma County. Motor vehicle ownership in the county tends to be somewhat higher than the Bay Area average. The Sonoma County average number of vehicles per household is 2.38, while the Bay Area average is 2.28. The average number of persons per vehicle is lower in Sonoma County at 1.14, compared to the Bay Area average of 1.28.<sup>7</sup> The higher auto ownership rates reflect the county's heavy dependency on personal vehicles for transportation as a result of dispersed land uses, an extensive road network, and the rural nature of much of the county. There are also more persons per household in Sonoma County relative to the other Bay Area counties, also contributing to more vehicles per household.

**EXISTING TRAFFIC VOLUMES**

**Exhibit 4.2-3** shows the average daily traffic (ADT) on county roadways, i.e., the total number of vehicles on a roadway during a 24-hour period on an average weekday during the year. **Exhibits 4.2-4** and **4.2-5** show the AM and PM peak hour traffic volumes on a typical weekday in 2001-2003. Peak hour volumes are typically between eight and 12 percent of the daily volume, although may be more (or less) depending on the type of trips served, whether they act as congestion relievers on other routes, and other factors.

A description of traffic congestion conditions is provided below, in the section titled, *Existing Congestion Locations*.

<sup>7</sup> Metropolitan Transportation Commission "data mart" website, [www.mtc.ca.gov](http://www.mtc.ca.gov), derived from various sources. Date of information late 2001/early 2002. Data includes vans, RVs, and trucks, but excludes trailers.

### **LEVEL OF SERVICE CONCEPT**

The concept of levels of service uses qualitative measures that characterize operational conditions within a traffic stream and their perception by motorists and passengers. The descriptions of individual levels of service characterize these conditions in terms of such factors as travel speed (and thus travel time), freedom to maneuver, traffic interruptions, and comfort and convenience. Six levels of service are defined for each type of facility for which analysis procedures are available. The analysis is usually done for peak period driving conditions. "A" represents the best possible service; "F" represents the worst. The characteristics of traffic flow for these various levels of service are summarized in **Exhibit 4.2-6**. Level of service "D" is defined as the stage approaching unstable traffic flow, where speeds and maneuverability are restricted. Although there is more than one way to calculate level of service on highways, the one used here focuses on travel speed as the primary measure of effectiveness in determining the level of service for drivers and their passengers.

**Exhibit 4.2-6  
 Level of Service Thresholds**

<b>Level of Service</b>	<b>Freeway</b>	<b>Arterial Class I</b>	<b>Arterial Class II</b>	<b>Arterial Class III</b>	<b>Rural-Suburban</b>	<b>Rural Arterial Class A</b>	<b>Rural Arterial Class B</b>	<b>Rural Arterial Class C</b>	<b>Rural Arterial Class D</b>
Range of Free Flow Speed (mph)	---	45 to 35	35 to 30	35 to 25	30 to 45	55 to 45	45 to 35	35 to 30	35 to 25
Typical Free Flow Speed (mph)	65 <sup>a</sup>	40	33	27	Varies	50	40	33	27
A	-	≥ 35	≥ 30	≥ 25	≥ 47	≥ 47	≥ 38	≥ 31	≥ 26
B	≥ 50	≥ 28	≥ 24	≥ 19	≥ 43	≥ 43	≥ 34	≥ 28	≥ 23
C	≥ 47	≥ 22	≥ 18	≥ 13	≥ 35	≥ 35	≥ 28	≥ 23	≥ 19
D	≥ 42	≥ 17	≥ 14	≥ 9	≥ 31	≥ 31	≥ 23	≥ 20	≥ 16
E	≥ 30	≥ 13	≥ 10	≥ 7	≥ 23	≥ 23	≥ 18	≥ 15	≥ 12
F	< 30	< 13	< 10	< 7	< 23	< 23	< 18	< 15	< 12

<sup>a</sup> Freeway design speed

Source: Dowling Associates and Sonoma County Transportation Authority, "Congestion Management Program 1995 Update," December 18, 1995; and input from David Wallace, senior engineer, Sonoma County Transportation and Public Works Department

**Exhibits 4.2-7** and **4.2-8** show estimated existing traffic congestion at selected points on major roadway segments where the level of service is likely to be at a D, E, or F level of service for the morning and evening peak hour of travel on an average weekday. On average weekdays, the morning peak hour generally occurs between 7 and 9 AM, and the PM peak hour between 4 and 6 PM; most commonly these two peak hours are 7:30-8:30 AM and 4:30-5:30 PM, although there are exceptions (e.g., roads serving schools may experience peak traffic between 3 and 4 PM). Incidents (collisions, stalls, special events) and recreational traffic on weekends are exceptions to this, but do not recur as often or with as great regularity.

## **EXISTING CONGESTION LOCATIONS**

US 101 is the county's principal freeway and the primary north-south trunk highway linking the county to Marin and San Francisco to the south and Mendocino County to the north. US 101 is a typical rural freeway constructed to comparatively low standards in the 1950s (compared to existing practice) in order to reduce costs. Much of the freeway is at-grade, with two lane overpasses that use hook<sup>8</sup> on and off-ramps. The median width permits future expansion of the freeway to six lanes, as was completed in southern Santa Rosa between Wilfred Avenue and State Highway 12 in November 2002. Because the model was validated to year 2000 traffic conditions, this improvement was not included in the base year (2000) model, but is included in the 2020 model runs. The highway is currently four lanes for most of its length and does not meet freeway standards at the southern border of the county (frequently known as the Marin-Sonoma Narrows).<sup>9</sup>

### **Freeways**

Caltrans freeway congestion monitoring data for 2000 indicates that the following sections of US 101 experience recurring congestion on weekdays, as shown in **Exhibit 4.2-9**. State Highway 12, the only other freeway in Sonoma County, experiences recurring congestion mainly near US 101 and its two end points in Santa Rosa (Fulton Road and Farmers Lane); for that reason, it is not regularly monitored by Caltrans. Due to budget constraints, Caltrans does not currently monitor freeway-to-freeway travel times (speeds).

Overall, Caltrans estimated that in the year 2000, there were 4,300 vehicle-hours of delay each weekday on Sonoma County freeways,<sup>10</sup> with 23 directional miles of congestion. This is up from an estimated 500 vehicle-hours in 1993. At a value of time of \$12/vehicle-hour, this represents approximately \$13 million dollars per year of delay-related costs for weekday freeway congestion alone.

Weekend/holiday traffic congestion problems in Cloverdale have largely been eliminated by the Cloverdale Bypass, which opened in the early 1990s. Weekend congestion used to affect US 101 between Rohnert Park and Santa Rosa, but has largely been eliminated by the widening project that opened late in 2002. Weekend congestion has begun to occur between Rohnert Park and Petaluma, however, in peak summer months.

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<sup>8</sup> 'Hook ramps' are ramps that exit (or enter) the freeway from a paralleling street, using a ramp curved at (approximately) a 90-degree angle. Because hook ramps are often forced into tight situations, they frequently have less than desirable geometrics. The radius of curved approaching the intersection should exceed 30 mph and a tangent of at least 150 feet should be provided between the last curve on the ramp and the ramp terminal.

<sup>9</sup> This section, from north of Atherton Avenue in Novato to south of the Petaluma Boulevard south ramps, is classified as an expressway. It lacks access control, i.e., intersections and private property driveways access directly onto 101 at several locations.

<sup>10</sup> The exhibit totals up to more than this, because it includes some congestion in Marin County north of Novato.

**Exhibit 4.2-9**  
**Year 2000 Weekday Congestion Locations on US 101 Ranked by Delay**

<b>Rank in County</b>	<b>US 101 Segment</b>	<b>Direction</b>	<b>Time Period</b>	<b>Delay (vehicle-hours)</b>
1	Old Redwood Highway to Kastania Rd	Southbound	5:30-7:40 AM	1,110/day
2	Hopper Ave to Highway 12	Southbound	2:35-5:55 PM	950/day
3	South Santa Rosa Ave to Highway 12 <sup>a</sup>	Northbound	3:00-6:35 PM	790/day
4	DeLong Ave (Novato) to San Antonio Rd (Marin County)	Northbound	3:25-6:00 PM	540/day
5 (tie)	College Ave to Hearn Ave	Northbound	7:10-9:15 AM	410/day
5 (tie)	South Santa Rosa Ave -Third St (Santa Rosa) <sup>a</sup>	Northbound	7:10-9:15 AM	410/day
7	Shiloh Rd to River Rd	Southbound	7:20-8:55 AM	330/day
8	Cotati Grade	Northbound	4:10-5:55 PM	130/day
9	Highway 12 to Steele Ln	Northbound	4:55-6:15 PM	100/day
10	Near Pepper Rd on-ramp	Southbound	7:40-8:55 AM	50/day

<sup>a</sup> Measurements taken prior to widening, which opened November 2002.

Source: Caltrans, District 4 Office of Highway Operations. *Information Memorandum, Year 2000 Bay Area Freeway Congestion Data*, Tables 4A and 4B, June 28, 2001. Congestion is defined as areas where speeds drop below 35 mph for at least 15 minutes on a typical weekday.

State Highway 12 links Sebastopol, Santa Rosa, the Sonoma Valley, and Napa County. It also provides an important connection to the Interstate 80 corridor, including for interstate trucks. Within Santa Rosa, between Fulton Road on the west to Farmers Lane on the east, State Highway 12 is developed to freeway standards. Since 1989, a freeway interchange was added at Stony Point Road, and new viaducts built from E Street easterly to Farmers Lane. A partial freeway interchange (i.e., for westbound traffic) at Farmers Lane was recently completed.

The two lane sections in Sebastopol and in the Sonoma Valley are severely congested on both weekdays and weekends. The congestion is particularly bad during summer months, because of a variety of uses (e.g., wineries, special events, the Infineon Raceway, etc.) that tend to attract large numbers of day and overnight visitors. Although Arnold Drive provides an alternative route for much of the Sonoma Valley, most visitor traffic tends to stay on the state highway. State Highway 12 is also congested at its western terminus in Sebastopol, where it joins State Highway 116.

Main Street (Penngrove) suffers considerable peak period weekday traffic congestion due to drivers avoiding congestion on US 101, and new development in northeast Petaluma and east Rohnert Park. Arnold Drive, River Road, Old Redwood Highway, Bodega Highway, Lakeville Highway, and Petaluma Hill Road have heavy weekday traffic. Todd Road, Llano Road, Crane Canyon Road have congested conditions on weekdays and many roads within incorporated cities have severe congestion.

While some other local roads may need safety or physical improvements, they have adequate levels of service.

Petrified Forest Road suffers from some weekend delays, because it is two lanes with few passing opportunities, and there are a moderate number of heavy vehicles that slow other vehicles on the mountainous grades. This route is a popular connection between northern Napa County and Sonoma County.

The roadways shown in **Exhibit 4.2-10** were performing at Level of Service D or worse during peak hours, indicating congestion at certain peak times of the day.

Weekend congestion affects State Highway 116 which connects the coastal city of Jenner (at Highway 1), Forestville, Sebastopol, Petaluma, and the Sonoma Valley. Highway 116 is a two-lane road with varying widths. Congestion is most severe on weekends due to recreational traffic, particularly in Guerneville and Sebastopol. Since the adoption of the existing *General Plan*, Caltrans has added passing lanes in some areas between Sebastopol and US 101 in Cotati, and also split the highway along two one-way “couplets” south of downtown Sebastopol.

Other State highways with substantial weekend traffic are State Highway 121 (between Highway 37 and the Napa County line), Highway 37, and Highway 1. There are relatively few quantitative measures available for measuring the extent of weekend traffic congestion.

Highway 1 north of Jenner experiences heavy weekend traffic as a result of steep, winding grades; the presence of heavy vehicles (including RVs); presence of coastal development (e.g., Sea Ranch, Gualala) and tourist attractions (e.g., beaches). There are many “sightseeing” trips using this scenic road. River Road, Alexander Valley Road, Dutcher Creek Road, Bohemian Highway, Westside Road, Fort Ross Road, and Lakeville Road also experience weekend congestion from visitor traffic.

**Exhibit 4.2-10**  
**Existing Recurring Weekday Congestion Areas on the County Road System**

<b>Roadway Segment</b>	<b>Peak Hour Level of Service</b>	
	<b>AM</b>	<b>PM</b>
Arnold Dr north of Highway 121	---	F (SB)*
Adobe Rd east of Corona Rd	---	E (WB)*
Airport Blvd east of Regional Parkway	D-F (WB)* E (EB)*	F (EB & WB)*
Fulton Rd <i>south of River Rd</i> <i>north of River Rd</i>	D (NB)* E (NB) & F (SB)	F (NB)* & D ( SB) F (SB)*
Lakeville Highway north of Highway 37	---	D (SB)
Main St (Penngrove) south of Adobe Rd	D (SB)	F (NB)
Mark West Springs Rd east of US 101 to Old Redwood Highway	F (EB & WB)	E (EB & WB)
Old Redwood Highway <i>north of Ely Rd</i> <i>south of Mark West Springs Rd</i> <i>Adobe Rd to Main St (Penngrove)</i>	E (SB) E (SB)	F (NB) E (NB)
Petaluma Hill Rd – Adobe Rd. to north of Roberts Rd	---	E (NB)
Rohnert Park Expwy east of Stony Point Rd	---	D (WB)
Santa Rosa Ave north of Mountain View Ave	---	F (NB)
Stony Point Rd north of Scenic Ave	---	D (NB)

Traffic directions indicated in parentheses, e.g., NB is northbound. Blank entry means road operates at a LOS C or better. \* Indicates poor level of service due to backups from a single intersection, e.g., all-way stop-controlled intersection.

Source: Dowling Associates, based on traffic counts taken between 2001 and 2003.

**TRANSIT SERVICES**

Sonoma County is served by a variety of transit operators; they can be conveniently grouped into municipal services, countywide service, and regional transit. Sonoma County Transit and Golden Gate Transit are the two major transit systems serving the county.

Municipal transit services are provided by the cities of Petaluma, Sonoma (Care-A-Van), Santa Rosa, Sebastopol, Healdsburg, and Cloverdale (jitney). The City of Rohnert Park also contracts with Sonoma County transit for local bus service in its city. Most of these systems, with the significant exception of Santa Rosa, operate a few small vehicles over a very limited route system, providing

service mostly to the transit dependent (i.e. those without access to a car). Several new transit services have been instituted since the existing *General Plan*:

- Two new Sonoma-Marin services, the Routes 71 and 75 between the Piner Road Transit Terminal in Santa Rosa, and San Rafael
- New Sonoma-San Francisco route, the Route 90, between the Sonoma Valley and the San Francisco Financial District.
- New and expanded park-and-ride lots. A list of the existing park and ride lots is shown in **Exhibit 4.2-11**.

Current weekday daily transit ridership on Sonoma County Transit (SCT) is approximately 6,000 boarding passengers per day.<sup>11</sup> Weekday ridership in fall 1984 was 3,500 passengers, representing a 71 percent increase in 16 years. Sonoma County Transit ridership has been increasing steadily since service began in July of 1980. Its routes and frequency of service during peak hours on weekdays are shown in **Exhibit 4.2-12**. SCT passenger demand tends to be spread throughout the day, without the heavy commuter component that GGT serves. Therefore, its peak hour service is not as frequent. Most SCT riders do not have a car available for their trip, and a 1987 passenger profile survey indicated that half of riders were 24 years old or younger, and 13 percent were 60 years old or over.

In FY 2000 / 2001, Golden Gate Transit (GGT) carried approximately 3,600 to 3,700 boarding riders to, from, and within Sonoma County on an average weekday. This represents a 12 percent decline in ridership since 1984.<sup>12</sup> Of this total, approximately 25 percent ride to Marin County, and the remainder ride to San Francisco.<sup>13</sup> Since 1996, the decline has been most precipitous in the Sonoma-San Francisco market, while it has been relatively stable in the Sonoma - Marin market.

Total transit ridership for the two systems combined is thus approximately 9,600 boarding trips/day. This represents approximately 0.5 percent of all trips made on an average weekday, although the percentage of commuter trips made by transit is higher.

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<sup>11</sup> Derived from information presented in Sonoma County Transit (2001). *Short Range Transit Plan FY 2001 Interim Update*, by Dowling Associates.

<sup>12</sup> Ridership in the Fall of 1984 averaged between 4,100 and 4,200 riders per weekday.

<sup>13</sup> Some of the Marin riders may be transferring to other buses that then proceed to San Francisco. There is no data to easily estimate this number, and the number is likely to be small. Actual bus ridership is higher for individual routes, because the large number of Marin-San Francisco trips has been excluded here.

**Exhibit 4.2-11**  
**Park and Ride Lots**

<b>City</b>	<b>Location</b>	<b>Transit</b>	<b>Spaces</b>	<b>Bikes</b>	<b>Lighting</b>
Boyes Hot Springs	Highway 12 at Thomson Ave	GGT SCT	10	No	Yes
Cloverdale	Asti Rd and Citrus Fair Dr	SCT	90	Yes	Yes
Cotati	St Joseph Way at Highway 116 / Old Redwood Highway & US 101	GGT SCT	182	Yes	Yes
Cotati	Redwood Dr and Highway 116	GGT SCT	83	No	Yes
Fulton	River Rd and US 101	SCT	20	No	Yes
Geyserville	Highway 128 and Rimmel Rd	SCT	16	No	Yes
Guerneville	Highway 116 at Mill St	SCT	60	Yes	Yes
Healdsburg	Healdsburg Ave at Grant Ave, near US 101	SCT	70	Yes	Yes
Occidental	Bohemian Highway and Graton Rd	SCT	25	Yes	Yes
Petaluma	North Petaluma Blvd at Gossage Ave	GGT SCT	22	Yes	No
Petaluma	US 101 / Highway 116 at Lakeville Highway	PT GGT SCT	111	Yes	Yes
Petaluma	South Petaluma Blvd near US 101	GGT	40	No	No

<b>City</b>	<b>Location</b>	<b>Transit</b>	<b>Spaces</b>	<b>Bikes</b>	<b>Lighting</b>
Petaluma	Washington St and Payran St	GGT SCT	600	Yes	Yes
Penngrove	Old Redwood Highway at Main St	GGT SCT	30	Yes	Yes
Rohnert Park	Roberts Lake Rd at Golf Course Dr	GGT SCT	170	Yes	Yes
Rohnert Park	US 101 at Rohnert Park Expwy	GGT SCT	150	Yes	Yes
Santa Rosa	Piner Rd & Industrial Way; park in back	SRCB GGT SCT	214	Yes	Yes
Santa Rosa	Highway 12 at Brookwood Ave	SRCB GGT	215	Yes	Yes
Santa Rosa	North of Sonoma County Fairgrounds, under Highway 12 north	SCT GGT	179	Yes	Yes
Schellville	Petaluma Ave at Burnett St	GGT SCT	40	Yes	Yes
Sebastopol	Highway 121 and Highway 116	GGT	47	Yes	No
Windsor	Old Redwood Highway and Starr Rd	SCT	40	Yes	Yes

Transit Abbreviations: GGT = Golden Gate Transit, SCT = Sonoma County Transit, PT = Petaluma Transit, SRCB = Santa Rosa City Bus

Source: <http://rideshare.511.org/park-lots>

**Exhibit 4.2-12**  
**Sonoma County Intercity Transit Services- Fiscal Year 2001 / 02**

<b>Route Number(s)</b>	<b>Route (service end points)</b>	<b>Frequency (Buses / Peak Hour)</b>	<b>FY 2001 Total Ridership</b>
10/11	Cotati-SSU	1	63,900
12/14	Rohnert Park (east-west)	1	97,000
20	Russian River	1	144,250
26	Sebastopol – SSU	1	16,050
30	Sonoma Valley	1	138,800
40	Sonoma-Petaluma	1	17,500
44	Petaluma East-Santa Rosa	1	260,550
48	Petaluma West-Santa Rosa	1	197,900
60	Cloverdale-Santa Rosa	2	348,100

Source: SCT schedules dated 8/20/01 to 1/19/02. Local services have been omitted from the above table.

In 2000, the basic fares were \$1.10 cents for adults, 90 cents for students, and 55 cents for elderly and handicapped (except for Route 10 and 12, where the fares are somewhat lower because the service is considered local). The Sonoma County Transit fare structure is based on the number of zones through which a rider is traveling. Every zone boundary crossed requires an additional 30 cents to be added to the adult fare, to a maximum of \$2.30. Students pay an additional 25 cents per zone, and elderly/handicapped riders 15 cents per zone. Transfers between SCT buses are free for the first fare zone. Each zone beyond this transfer zone requires payment of additional fare at the price described above. Transfers are good for two hours; transfers from other transit systems operating in the county can be used as 25 cents credit off the fare paid.

Mendocino Transit Authority (MTA) also operates an infrequent service along Highway 1 and into Santa Rosa. Route 65 operates from Mendocino, via Fort Bragg, Willits, to Santa Rosa via US 101. Route 95 operates from Point Arena to Santa Rosa via Highway 1, with stops in Bodega Bay and Sebastopol.

Golden Gate Transit (GGT) primarily provides regional inter-county transit service. GGT operated eight transit routes in 2000, some of which subsequently have been reduced due to budget cuts. The basic route offers all-day service between Santa Rosa and San Francisco (Route 80). The other routes are commuter routes which offer only peak hour and peak direction service during morning and evening commute periods. *Peak direction* is defined as toward San Francisco in the morning and from San Francisco in the afternoon. These buses offer fast, express service with relatively few stops. There are few transfers from bus to bus on this system; most people either walk or drive to a Golden Gate Transit stop. Transit ridership for these routes is shown in **Exhibit 4.2-13**.

**Exhibit 4.2-13**  
**Golden Gate Transit Services – FY 2000/01**

<b>Route Number</b>	<b>Route</b>	<b>Peak Hour Frequency (Buses/Peak)*</b>	<b>FY 2000 / 01 Average Weekday Ridership</b>
71**	Santa Rosa - San Rafael Commute	2-3	100
72	Santa Rosa - San Francisco Commute	3-6	740
74	Santa Rosa - San Francisco Commute	4	870
75	Santa Rosa - Marin Civic Center Commute	2	180
76	Rohnert Park - San Francisco Commute	4-8	660
78**	Santa Rosa - San Francisco Commute	2	120
80	Santa Rosa - San Francisco Basic Service	2	960
90**	Sonoma Valley - San Francisco Commute	1	50
<b>Total</b>	<b>---</b>	<b>-</b>	<b>3,680</b>

Rounded values. Totals may not add due to rounding.

\*Peak hour is typically 5-6 AM southbound and 4-5 PM northbound.

\*\*Route cancelled in 2003.

**RAILROAD TRANSPORTATION**

During the 1980s and 1990s, rail transportation in Sonoma County underwent a number of significant changes. The branch line to Sebastopol was removed, so that today there is only a single north-south line. The Northwestern Pacific Railroad (NWPRR) had provided service to Sonoma County since the 1870s. The NWPRR was owned by the Southern Pacific Railroad, a private corporation, which filed for abandonment of the line in the early 1980s, and then sold the segment south of Novato to the Golden Gate Bridge Highway and Transportation District. The segment between Novato and Healdsburg was sold to the Northwestern Pacific Railroad Authority (NWPRRA), a joint powers public agency. In 1990, Proposition 116 was passed by California voters, providing a limited amount of money for improving the NWP. The Sonoma – Marin Area Rail Transit (SMART) District was created by the Legislature in January 2003 replacing the Sonoma – Marin Area Rail Transit Commission. The NWPRRA thereupon dissolved, transferring its assets to SMART. SMART is currently in the process of acquiring the southern portion of the line from the Golden Gate Bridge Highway and Transportation District. SMART is charged with implementing passenger service on the NWP from Cloverdale to San Rafael. Freight service on the NWP is under the jurisdiction of the North Coast Railroad Authority (NCRA), which owns the NWP north of Healdsburg and had freight easements on the line south of Healdsburg.

Despite the presence of the physical facility, there is no passenger or freight railroad service currently operated on this line. Rail passenger service was discontinued in the mid-1950s; with rail freight

service discontinued in the 1990s. The line re-opened briefly in 2001, but then was closed by the Federal Railroad Administration due to a failure to meet safe track standards.<sup>14</sup>

The NWP mainline generally parallels US 101 and Highway 37. Prior to discontinuance of freight services, the interchange of cars was made at Schellville Junction, where a connection was made to the Union Pacific (formerly Southern Pacific) Railroad. The NWP line currently continues to north of Eureka, but has suffered from poor maintenance and a decline in business mirroring the decline of the forest products industry in Mendocino and Humboldt Counties, which it was originally built to serve. In the mid-1980s, popular passenger rail excursions were briefly run on summer weekends between Willits and Eureka.

SMART has been examining various options for routes, schedules, equipment, and funding for providing passenger services using the Northwestern Pacific line in Sonoma and Marin Counties. Their plan, currently undergoing environmental review recommends a passenger rail service from Cloverdale to San Rafael, with 14 stations along the route, primarily offering commuter service, but also some mid-day trains, using self-propelled rail cars known as diesel multiple units (DMUs). Trains would initially run every 45 minutes, shortening to 30 minutes after the service is established.<sup>15</sup>

#### **PEDESTRIAN AND BICYCLE TRAVEL**

As noted earlier, about four percent of Sonoma County residents' commute trips are made by bicycle and walking, although for other trip purposes it is likely to be higher. A Countywide Bicycle Advisory Committee (CBAC) advises the SCTA on issues related to bicycle planning in the county. In 1997, the CBAC produced the Sonoma County Bikeways Plan, which has been incorporated into the existing *General Plan*. The purpose of the plan is to implement a countywide bike plan, with rails or designated paths that link all cities and are connected to bicycle paths within cities; to provide a safer and comfortable system for those on bikes or on foot; to enhance opportunities for tourism; and to provide a linkage from bike paths to rail stations and bus stops, including a path that follows the NWP right of way to create a north-south linkage through the county.

SMART's proposal for the NWP corridor includes implementation of a pedestrian and bicycle path connecting Marin and Sonoma Counties that would run parallel and next to the rail right-of-way.

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<sup>14</sup> "Last Chance for the NWP?" by Dick Spotswood, *The Headlight* (publication of the Northwestern Pacific Railroad Historical Society,) spring 2003.

<sup>15</sup> Sonoma County Transportation Authority, *2001 Countywide Transportation Plan for Sonoma County*, adopted September 10, 2001, page 26.

## **Transportation – Regulatory Setting**

### **COUNTY AND CITY REGULATIONS:**

Local roads and streets are the responsibility of the applicable city or the County and improvements must meet the standards of the applicable jurisdiction and are subject to CEQA. Funding is directly from the jurisdiction's Capital Projects Plan and may be funded by the jurisdiction itself or through federal, state, or local funding programmed through the MTC and / or the SCTA.

### **STATE REGULATIONS:**

The California Department of Transportation (Caltrans) is responsible for several highways under the State system in Sonoma County, Highways 1, 12, 37, 116, 121, and 128. Improvements to these roads must meet Caltrans standards and are subject to the California Environmental Quality Act (CEQA). Funding is also programmed through the regional Metropolitan Transportation Commission (MTC) and Sonoma County Transportation Authority (SCTA) comprised of representatives of the County and each of the nine cities.

### **FEDERAL REGULATIONS:**

The only road in Sonoma County within the Federal Highway System is US 101. Improvements to US 101 must meet federal highway standards and are subject to the National Environmental Policy Act (NEPA). Funding for the improvements is programmed through the MTC and the SCTA.

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## **Transportation – Thresholds of Significance**

The transportation analysis uses criteria from the *State CEQA Guidelines* and the *Draft GP 2020*. The Initial Study determined that the proposed project would have potentially significant transportation and circulation impacts. The *State CEQA Guidelines* state that a project would have a significant transportation and circulation impact if it:

- Causes an increase in traffic that is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in substantial increase in either the number of vehicle trips and/or the volume to capacity ratio on roads, or congestion at intersections);
- Exceeds, either individually or cumulatively, a level of service standard established by the County for designated roads or highways;
- Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks;
- Substantially increase safety hazards due to a design feature (e.g. sharp curves or dangerous intersections) or incompatible uses (e.g. farm equipment);
- Result in inadequate emergency access;

- Result in inadequate parking capacity; or
- Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts and bicycle racks).

For this EIR, more specific significance criteria have been developed for the County's roadways. These criteria are discussed below. It should be noted that these criteria are more conservative than the congestion acceptability standards for specific projects contained in the *Draft GP 2020*. This latter standard would recognize that some roadways would operate at LOS D, E, or F in the future and that these LOS are acceptable due to a variety of circumstances.

#### ***FREEWAYS / PRIMARY ARTERIALS / OTHER ROADWAYS***

For the purposes of identifying traffic impacts in this EIR, the County's level of service standard is LOS C or better (i.e., the transition between level of service C and D). For General Plan EIR purposes, LOS is measured using average midblock travel speed and type of roadway, as shown in **Exhibit 4.2-6** in the setting section. Average midblock travel speed includes time spent slowed or stopped due to congestion and due to traffic control devices, such as signals.

- If an existing freeway / primary arterial / other arterial roadway segment is currently (year 2001-2003) operating at an acceptable LOS (LOS A, B, or C) and deteriorates to an unacceptable operation (LOS D, E, or F), this impact is significant.
- If a freeway / primary arterial / other arterial roadway segment with existing traffic volumes is operating at an unacceptable LOS (D, E, or F) and there is a decrease in the calculated average travel speed of at least 1.0 miles per hour (mph) for freeways, rural arterials (including rural-suburban arterials), and other types of arterials this impact is significant.
- If the predicted future peak hour travel speed is less than 10 mph, or cannot be reliably predicted, then an increase in volume-to-capacity (v/c) ratio of more than 0.03 is significant.

#### ***TRANSIT SIGNIFICANCE CRITERIA***

Transit impacts would be significant if the project:

- Induced substantial growth or concentration of population beyond the capacity of existing or planned public transit facilities;
- Increased demand for public transit service to such a degree that accepted service standards are not maintained; or
- Reduced availability of public transit to users, or interfered with existing transit users.

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## Transportation – Impacts and Mitigation Measures

### INTRODUCTION

The Circulation and Transit Element of the *Draft GP 2020* includes a number of roadway and other circulation improvements. Project funding would come primarily from development fees and local, State and federal sources. Funding for all of the projects has not been identified.

Funds for highway capital improvements come from a variety of sources. For state highways, money is allocated through a number of formulas and programs, but the primary factor is the county's population as a share of total state population. Funds are derived principally from the sales and gallonage taxes on gasoline. The gallonage (i.e., per gallon) tax has not increased since the early 1990s, and thus has been dropping in inflation-adjusted dollars. Because the state has declared a fiscal emergency, some of the funds earmarked for transportation purposes are presently being used for other needs. For local roads, the County relies primarily on subventions from the State, which can be used for maintenance or improvements. In the past few decades, maintenance needs have meant that few road improvements could be made. On occasion, federal funds have been earmarked for local road projects (e.g., Stony Point Road improvements), but this is the exception rather than the rule.

Another source of local funding is the recently approved Measure M. In November 2004 county voters approved a one-quarter of one percent increase in the County sales tax for local transportation projects.<sup>16</sup> The increase in the sales tax will remain in effect for 20 years. The money will be spent on projects consistent with the approved Expenditure Plan.<sup>17</sup> It is expected that the sales tax will generate \$470 million (in 2004 dollars) over the 20-year period. One-fifth of the money generated from this tax (estimated at \$94 million) will go to maintain streets in the county and cities; the same share will go to fund safety projects and fix bottlenecks; 40 percent (estimated at \$188 million) will be used for US 101 improvements; 19 percent (estimated at \$89 million) will for transit, rail, bicycle and pedestrian projects; and one percent for administration.

The following circulation improvements are planned to be in place by year 2020:

- US Highway 101 – six lanes from Town of Windsor south to the Marin County line.

High-occupancy vehicle (HOV) lanes would be added in both directions to the existing freeway, with a few of the interchanges being modified. The HOV lanes would be effective during peak commute hours, in both directions, similar to the manner they operate today on a five mile portion of the freeway in south Santa Rosa. The Sonoma County Transportation Authority has identified widening of the freeway in six discrete projects: the first, between Wilfred Avenue in Rohnert Park and Highway 12 in Santa Rosa, was opened to traffic in November 2002. The second project, from Highway 12 to north of Steele Lane in Santa Rosa, is a funded project (approximately \$77.5 million) but has been delayed due to the State's current budget problems.

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<sup>16</sup> This is known as the Measure M Traffic Relief Act for Sonoma County. Information obtained from the Supplemental Voter Information Pamphlet compiled by the Registrar of Voters.

<sup>17</sup> *Traffic Relief Act for Sonoma County Expenditure Plan*, Sonoma County Transportation Authority, Approved June 28, 2004.

The third project, from north of Rohnert Park Expressway to Wilfred Avenue in Rohnert Park, is also funded (\$47.8 million) but has likewise been delayed.

There are three unfunded projects, which are costlier than the projects listed above: from Steele Lane north to Windsor River Road in Windsor (\$100 million); from Old Redwood Highway (Penngrove) to Rohnert Park Expressway (\$99 million); and from Highway 37 (Novato) to Old Redwood Highway (\$200 million). All costs are planning-level estimates and are subject to further refinement.<sup>18</sup> By borrowing against future State and federal highway tax dollars, the SCTA hopes that all projects (except the Marin-Sonoma Narrows, the last project in the list above) can be completed and opened to traffic by 2012.

- New and improved interchanges or underpasses at the following locations along US 101:
  - East Washington Street
  - Rainer Avenue or Corona Road (new)
  - Old Redwood Highway North (north Petaluma / Penngrove)
  - West Railroad Avenue (new ramp(s))
  - Wilfred Avenue
  - Hearn Avenue
  - Bellevue Avenue (new)
  - Baker Avenue
  - Mendocino / Hopper Avenue
  - River – Mark West Springs Road
  - Airport Boulevard
  - Shiloh Road
  - Arata Lane
  - Todd Road
  - Mill Street (Healdsburg)
  - Dry Creek Road
  - Fulton Road

A new interchange is also proposed at the existing at-grade intersection of Highway 12 at Fulton Road.

- Old Redwood Highway – four lanes from Town of Windsor to the City of Santa Rosa
- Airport Boulevard – six lanes from US 101 to the Aviation Boulevard (the remaining portion of Airport Boulevard to four lanes)
- Brickway extension to River Road
- Fulton Road – four lanes from Old Redwood Highway to the City of Santa Rosa
- Mark West Springs Road – three lanes where necessary from Old Redwood Highway to a point two miles east of Riebli Road
- Mark West Springs Road – four lanes from Old Redwood Highway to US 101
- River Road – four lanes from US 101 to Laughlin Road
- Highway 12
  - Four lanes from the City of Santa Rosa to Llano Road

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<sup>18</sup> MTC Draft Transportation 2030 Plan for the San Francisco Bay Area, November 2004, page 120. Excludes cost of interchange improvements.

- Three lanes from Llano Road to the City of Sebastopol
- Three lanes from the City of Santa Rosa to Aqua Caliente Road; from Agua Caliente Road to the City of Sonoma three lanes where necessary
- Three lanes where necessary from the City of Sebastopol to Jonive Road
  
- Stony Point Road – four lanes from the City of Santa Rosa to the City of Petaluma
- Santa Rosa Avenue – four lanes from Todd Road to Mountain View Road
- Highway 116 – three lanes from the City of Sebastopol to the City of Cotati
- Petaluma Hill Road – three lanes where necessary
- Re-align intersection of Petaluma Hill Road and East Railroad Avenue (soft sweeper)
- Bodway Extension four lanes from the City of Rohnert Park to East Railroad Avenue
- Railroad Avenue – three lanes where necessary from US 101 to Petaluma Hill Road
- Adobe Road – three lanes where necessary from Old Redwood Highway to Frates Road
- Old Redwood Highway – four lanes from Railroad Avenue to the City of Petaluma
- Corona Road – three lanes where necessary from Adobe Road to the City of Petaluma
- Ely Road – three lanes where necessary form Old Redwood Highway to the City of Petaluma
- Lakeville Highway – four lanes from the City of Petaluma Hill Road to Highway 37
- Highway 37 – four lanes from County line to Highway 121
- Arnold Drive – three lanes where necessary from Madrone Road to Petaluma Avenue
- Madrone Road – three lanes where necessary from Highway 12 to Arnold Drive
- Aqua Caliente Road – three lanes where necessary from Highway 12 to Arnold Drive
- Verano Avenue – three lanes where necessary from Highway 12 to Arnold Drive
- Petaluma Avenue – three lanes where necessary from the City of Sonoma to Arnold Drive

All projects on numbered state highways would require concurrence with Caltrans, although they could be funded with local funds (or a combination of state and local funds).

- Traffic calming:
  - Community of Jenner
  - Community of Bodega Bay
  - Community of Bodega
  - Community of Freestone
  - Community of Occidental
  - Community of Geyserville
  - Community of Monte Rio
  - Lower Russian River communities
  - Community of Forestville
  - Community of Graton
  - Community of Penngrove on Main Street, Petaluma Hill from Railroad Avenue to Adobe road, and Adobe Road from Old Redwood Highway to Sonoma Mountain Road
  - The entire length of Warm Springs Road
  - Community of Glen Ellen on Arnold Drive from Highway 12 to Madrone Road

Traffic calming is designed to control speed, discourage through traffic, divert, or eliminate traffic. Such measures could include (but are not limited to):

- Modern roundabouts
- Traffic chokers or chicanes
- Speed humps
- Rumble strips

- Increased enforcement
- Use of T-intersections
- Channelization or medians
- Traffic diverters
- Street closures or culs-de-sac
- Commercial vehicle prohibitions or establishing truck routes
- Turn prohibitions (part-time or full-time)

Design features can also help with traffic calming, such as reduced lane width, street trees, pedestrian warning devices, properly located signals, enforceable speed limits, signal timing, and bike lanes.

Other Improvements:

- Port Sonoma Ferry Terminal (ferry service to San Francisco)
- SMART rail system
- Transit routes per Figure CT-2 of the Circulation and Transit Element

### **TRAFFIC MODEL**

As discussed in the setting section above, to identify potential levels of traffic impacts, a traffic analysis was performed using a computer-based traffic model. Part of the value of the model is that it allows land uses to be related to travel demand, and can predict changes that might not be immediately obvious.

Based on the results of the traffic model, roadway operations under conditions of the *Draft GP 2020* are presented in *Appendix 7.6 Transportation*. **Exhibit 4.2-14** shows those roadways that would have a significant impact in 2020 based on adoption and implementation of the *Draft GP 2020*, assuming that all of planned improvements are constructed and that growth in the incorporated cities is consistent with their current General Plans.

The reader should note that there are several different valid methods for determining level of service, including intersection delay, average roadway traffic speed, and other criteria. The *Draft GP 2020* and this EIR have generally focused on average roadway segment speed as the most important performance measure. A segment is a section of roadway that is typically at least a mile, and sometimes several miles long. Model-forecasted traffic volumes, along with the capacity of the roadway segment, are used to predict the average travel speed along the segment, including delays associated with any traffic control (such as signals). This technique requires less data than would an intersection-by-intersection analysis, and is appropriate for analyzing a large roadway network (like Sonoma County's) over a long period of time. It is therefore widely used for countywide traffic studies. It has the disadvantage of not always identifying intersection-related delays that may not meet the County standard of D or better (i.e., less than 55 seconds of average control delay per vehicle). Intersections where less than desirable level of service are likely to occur have been identified in consultation with County Transportation and Public Works staff and are described below in the impacts section.

**Exhibit 4.2-14**  
**Significant Impacts to Roadways under the Draft GP 2020**

<b>Roadway</b>	<b>Baseline LOS<sup>a,b,c</sup></b>	<b>2020 LOS<sup>b</sup></b>	<b>Time Period</b>	<b>Direction</b>
Adobe Rd				
<i>west of Corona Rd</i>	C	D	PM	W
<i>east of Frates Rd</i>	A	E	PM	E
Arnold Dr				
<i>north of Watmaugh Rd</i>	B	E	AM	S
<i>north of Verano Ave</i>	C/B	F/E	AM/PM	N/S
Guerneville Rd east of Frei Rd	A	D	AM	E
Main St (Penngrove) south of Adobe Rd	B/B	D	Both	N (AM) S (PM)
Petaluma Blvd N. north of Skillman Ln	C	E	PM	N
Petaluma Hill Rd				
<i>north of Roberts Rd</i>	A/D	F	Both	N
<i>north of Snyder Ln</i>	A/D	F	Both	N
<i>north of Snyder Ln</i>	B	F	PM	S
Rohnert Park Expwy east of Stony Point Rd	D	F	PM	W
Highway 12				
<i>south of Warm Springs Rd</i>	nd	E	AM	N
<i>south of Pythian Rd</i>	nd	E	AM	N
<i>north of Agua Caliente</i>	nd	E	AM	N
<i>north of Boyes Blvd</i>	nd/D	F	Both	Both
<i>south of Verano Rd</i>	nd/F	F	Both	Both
Highway 37				
<i>west of Lakeville Hwy</i>	E	F	PM	E
<i>Between Lakeville Hwy and Hwy 121</i>	nd/B	D	AM	Both
<i>Between Lakeville Hwy and Hwy 121</i>	B	E	PM	E
Highway 116				
<i>east of Adobe Rd</i>	nd/B	F	AM/PM	W/E
<i>west of Stony Point Rd</i>	nd	E	AM	E
US 101				
<i>Between Hwy 116 and Rohnert Park Expwy</i>	D	E	PM	N
<i>north of Wilfred Ave</i>	D/F	D/E	Both	Both
<i>south of Hwy 12</i>	F/F	D/E	AM	Both
<i>south of River Rd</i>	C	D	AM	N
<i>north of Windsor River Rd</i>	A/B	D	Both	S (AM) N (PM)
Highway 121				
<i>south of Hwy 116</i>	C	E	PM	S

<sup>a</sup> Baseline LOS is for the time period noted in the column marked Time Period.

<sup>b</sup> if two letters are shown, they are the AM / PM LOS (e.g., B/C means LOS B in the AM and LOS C in the PM)

<sup>c</sup> nd = no data (no traffic count at this location or time period)

Source: Dowling Associates, 2004

Travel within Sonoma County is affected by residential and work locations and by regional activity centers. Daily travel patterns are also influenced by work trips to and from Marin, Solano, Contra Costa, and San Francisco counties. In addition, the increasing impact of work trips to jobs located in Sonoma County and its cities, particularly Santa Rosa affects the direction of commute trips. For example, the traffic model predicts that the existing predominant southbound traffic flow in the morning (northbound in the evening) that occurs south of Rohnert Park in the US 101 corridor would begin to reverse. The predominant commute movements would be northbound in the morning and southbound in the evening commute hours. This is a result of the increasing importance of Santa Rosa as an employment center. This change is reflected in the results of the traffic model presented in *Appendix 7.6 Transportation* and in **Exhibit 4.2-14**.

This section of the EIR focuses on those portions of the transportation system that with the implementation of the *Draft GP 2020* would exceed the significance criteria discussed above. It is acknowledged that future land uses in the unincorporated portion of Sonoma County along with growth in the nine cities would result in increased travel demand. A general discussion of projected transportation conditions in 2020 is provided in the *Draft GP 2020*.<sup>19</sup> With implementation of the *Draft GP 2020* many of the existing highway conditions described in the setting section above (e.g., see **Exhibits 4.2-9** and **4.2-10**) would worsen. While land uses and development consistent with the *Draft GP 2020* would result in increases in traffic countywide in many instances this would not result in exceeding the County's acceptable level of service standards.

As discussed above, the Circulation and Transit Element of the *Draft GP 2020* includes a number of roadway and other circulation improvements. It is acknowledged that some of the improvements may not be in place by 2020. Clearly if certain circulation improvements were not completed future conditions could be worse than described in this section. It would however, be too speculative to try and forecast which improvements may not be completed. This EIR does, however, provide an analysis of future conditions if only transportation projects that are committed and substantially underway (including having environmental clearance and identified funding) were completed by 2020. This analysis is provided in the discussion of the No Project Alternative in **Chapter 5.0 Alternatives**. **Exhibit 5.0-4** shows those roadways that would have a significant impact in 2020 based on adoption and implementation of the No Project Alternative. In short, there would be many more deficient roadway segments with the No Project Alternative than with the *Draft GP 2020*.

**Impact 4.2-1 Congestion on Local County and City Roadway Segments**

*Land uses and development consistent with the Draft GP 2020, the cities, and implementation of proposed transportation improvements would result in unacceptable LOS along several local city and county roadways. This would be a significant impact. (S)*

**Exhibit 4.2-14** indicates that implementation of the *Draft GP 2020* would result in unacceptable level of service on seven county roadway segments. Each of these is discussed below.

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<sup>19</sup> See section 2.2 (Projected Transportation Conditions in 2020) of the Circulation and Transit Element of the *Sonoma County General Plan 2020 Public Review Draft*.

**Adobe Road, west of Corona Road and east of Frates Road**

Land Uses and development consistent with the *Draft GP 2020* and implementation of proposed transportation improvements would result in unacceptable LOS along Adobe Road, west of Corona Road and east of Frates Road.

**Exhibit 4.2-14** shows that Adobe Road west of Corona Road operates at LOS C during the PM peak hour under Baseline conditions. East of Frates Road, Adobe Road operates at LOS A during the PM peak hour under Baseline conditions. Land uses and development consistent with the *Draft GP 2020* and implementation of proposed transportation improvements would result in LOS D in the PM peak in the westbound direction along Adobe Road west of Corona Road and LOS E in the eastbound direction east of Frates Road. Roadway LOS along Adobe Road would therefore change from acceptable LOS under Baseline conditions to unacceptable LOS with the *Draft GP 2020*. This would be a significant impact.

Despite transportation improvements in parallel corridors (US 101, SMART), congestion would persist along this road segment, in part due to continued development in Petaluma, the eastside of Rohnert Park, and Solano County. Much of the existing LOS deficiency on this roadway is due to an existing all-way stop at Adobe Road and Corona Road, and due to traffic calming improvements in Penngrove.

Adobe Road is classified as a rural major collector road. Policy **CT-3h** would call for rural major collector roads to serve as routes intended to carry the internal traffic of a local area from that local road to the arterial road system and provide access to property. Policy **CT-1b** would call for focusing commute and through traffic onto US 101. Policy **CT-1f** would call for each jurisdiction to take responsibility for accommodating future traffic within its jurisdiction rather than relying upon roadways in the unincorporated areas.

While these policies would help reduce congestion on Adobe Road, they would not be sufficient to reduce traffic levels to a less-than-significant level. Additional improvements are available, such as widening to four lanes and / or additional turn lanes and signals at the intersections with Corona Road and Frates Road. However, the widening of Adobe Road to four lanes may not be feasible for several reasons, including lack of community support, lack of funding, unwanted traffic and other environmental impacts, and a desire to promote traffic calming in the downtown Penngrove community. Intersection improvements may reduce congestion to some degree, but they would have to be designed to be consistent with the desire to divert through traffic flow onto Frates Road, Lakeville Highway, and US 101.

**Mitigation Measure 4.2-1(a)** Revise Policy **CT-6l** of the Circulation and Transit Element (Rohnert Park / Cotati Planning Area) as follows:

**Policy CT-6l:** Utilize the County traffic model as a foundation to prepare a detailed operational analysis of roads and streets in the Penngrove community, to identify specific traffic calming improvements within the community, and to route traffic to the Highway 101 and rail corridor. As part of this study, consider expanding the area designated for traffic calming to include the remainder of Adobe Road from Sonoma Mountain Road to Frates Road. Also consider improvements to the intersections of Adobe / Corona Roads and Adobe / Frates Roads that would reduce congestion along Adobe Road where consistent with the designated road classifications. Develop a phasing mechanism for these improvements that provides for completion of traffic calming improvements on designated roadways in the community prior to improvement of other roads that accommodate through traffic.

**Significance After Mitigation** While the recommended mitigation measure and other policies and programs of the *Draft GP 2020* would reduce these impacts related to Circulation and Transit, this would remain a significant unavoidable impact.<sup>20</sup> (SU)

**Responsibility and Monitoring** The Sonoma County Transportation and Public Works Department would be responsible to implement Mitigation Measure 4.2-1(a). The Board of Supervisors would be responsible for adopting the revised policy as part of the *GP 2020*.

#### **Arnold Drive north of Watmaugh Road and north of Verano Avenue**

Land uses and development consistent with the *Draft GP 2020* and implementation of proposed transportation improvements would result in unacceptable LOS along Arnold Drive north of Watmaugh Road and north of Verano Avenue.

**Exhibit 4.2-14** shows that Arnold Drive north of Watmaugh Road currently operates at LOS B during the AM peak hour southbound under Baseline conditions. North of Verano, it is LOS C in the AM peak hour northbound and LOS B in the PM peak southbound. Land uses and development consistent with the *Draft GP 2020* and implementation of proposed transportation improvements would result in LOS E in the AM peak in the southbound direction along this roadway. North of Verano Avenue, it would operate at LOS F in the AM peak in the northbound direction, and LOS E in the PM peak in the southbound direction. Roadway LOS along Arnold Drive would therefore change from acceptable LOS under Baseline conditions to unacceptable LOS with the *Draft GP 2020*. This would be a significant impact.

Verano Avenue carries high traffic volumes over long distances in the Sonoma Valley. It is one of only two routes (along with Highway 12) to do so. Congestion would persist or worsen along this road segment, in part due to continued development in Sonoma Valley and Solano County.

Arnold Drive is classified as an urban principal arterial between Petaluma Avenue and Madrone Road, and a rural principal arterial between Highway 116 and Petaluma Avenue. Policy **CT-3g** would call for urban and rural principal arterials to carry large volumes of intercity traffic and place priority of the flow of traffic rather than on access to property.

While these policies would help reduce congestion on Arnold Drive, they would not be sufficient to reduce traffic levels to a less-than-significant level. Additional improvements are available, such as widening to four lanes and / or additional turn lanes and signals at various intersections. However, the widening of Arnold Drive to four lanes may not be feasible for several reasons, including lack of community support, lack of funding, unwanted traffic and other environmental impacts, and right-of-way constraints.

**Mitigation Measure 4.2-1(b)** Add a new policy to the Circulation and Transit Element (Sonoma Valley Planning Area) as follows:

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<sup>20</sup> It would be the responsibility of County of Sonoma decision-makers (Planning Commission and Board of Supervisors) to determine if a specific mitigation measure is not feasible. To determine that the mitigation is not feasible the decision makers would need to make a finding that “specific economic, legal, social, technological or other considerations, including considerations for the provision of employment opportunities for highly trained workers, make infeasible the mitigation”. See State CEQA Guidelines section 15091(a)(3).

**Policy CT-6xx:** Consider intersection improvements such as signalization and left turn lanes at various intersections along Arnold Drive to reduce congestion, provided that the improvements are consistent with the designated road classifications.

**Significance After Mitigation** While the recommended mitigation measure and other policies and programs of the *Draft GP 2020* would reduce these impacts related to Circulation and Transit to some degree, this would remain a significant unavoidable impact. (SU)

**Responsibility and Monitoring** The Sonoma County Transportation and Public Works Department would be responsible for implementing Mitigation Measure 4.2-1(b) based on traffic engineering studies. The Board of Supervisors would be responsible for adopting the policy as part of the *GP 2020*.

#### **Guerneville Road, east of Frei Road**

Land uses and development consistent with the *Draft GP 2020* and implementation of proposed transportation improvements would result in unacceptable LOS along Guerneville Road, east of Frei Road.

**Exhibit 4.2-14** shows that Guerneville Road operates at LOS A during the AM peak hour under Baseline conditions, and at LOS D with land uses and development consistent with the *Draft GP 2020*. Land uses and development consistent with the *Draft GP 2020* and implementation of proposed transportation improvements would result in LOS D in the AM peak in the eastbound direction along Guerneville Road east of Frei Road. Roadway LOS along this portion of Guerneville Road would therefore change from acceptable LOS under Baseline conditions to unacceptable LOS with the *Draft GP 2020*. This would be a significant impact.

Despite transportation improvements in parallel corridors (such as Highway 12), congestion would persist along this road segment, in part due to continuing jobs growth in Santa Rosa that would affect this important commuter route.

Guerneville Road is classified as a rural principal arterial. Policy **CT-3g** would call for urban and rural principal arterials to carry large volumes of intercity traffic and place priority of the flow of traffic rather than on access to property.

While these policies would help reduce congestion on Guerneville Road, they would not be sufficient to reduce traffic levels to a less-than-significant level. Additional improvements are available, such as widening to four lanes and / or increased access management. However, the widening of Guerneville Road to four lanes may not be feasible for several reasons, including lack of community support, lack of funding, unwanted traffic and other environmental impacts, and right-of-way constraints.

**Mitigation Measure 4.2-1(c)** Add a new policy to the Circulation and Transit Element (Russian River Planning Area) as follows:

**Policy CT-6yy:** Consider increased access management along Guerneville Road between Highway 116 and the Santa Rosa city limits to preserve through-traffic carrying capacity, provided that the improvements are consistent with the designated road classifications.

**Significance After Mitigation** While the recommended mitigation measure and other policies and programs of the *Draft GP 2020* would reduce these impacts related to Circulation and Transit by some degree, this would remain a significant unavoidable impact. (SU)

**Responsibility and Monitoring** The Sonoma County Transportation and Public Works Department would be responsible for implementing improvements and PRMD would be responsible for site plan and policies to address access management. The Board of Supervisors would be responsible for adopting the policy as part of the *GP 2020*.

**Main Street between Old Redwood Highway and Adobe Road, through the community of Penngrove**

Land uses and development consistent with the *Draft GP 2020* and implementation of proposed transportation improvements would result in unacceptable LOS along Main Street in Penngrove.

**Exhibit 4.2-14** shows that Main Street south of Adobe Road operates at LOS B northbound during AM peak and southbound during the PM peak - currently the “reverse peak” under Baseline conditions. Land uses and development consistent with the *Draft GP 2020* and implementation of proposed transportation improvements would result in LOS D in both the AM and PM peaks (northbound in the morning and southbound in the evening). Roadway LOS along Main Street would therefore change from acceptable LOS under Baseline conditions to unacceptable LOS with the *Draft GP 2020*. This would be a significant impact.

Despite transportation improvements in parallel corridors (US 101, SMART), congestion would persist along this road, in part due to continued development in Petaluma, the eastside of Rohnert Park, and Santa Rosa. Job growth causes the current reverse of peak direction flow to increase to the point where it equals, or exceeds, the current traffic volumes under the Baseline.

Main Street is classified as a rural major collector road. Policy **CT-3h** would call for rural major collector roads to serve as routes intended to carry the internal traffic of a local area from that local road to the arterial road system and provide access to property. Policy **CT-1b** would call for focusing commute and through traffic onto US 101. Policy **CT-1f** would call for each jurisdiction to take responsibility for accommodating future traffic within its jurisdiction rather than relying upon roadways in the unincorporated areas. Policy **CT-6l** would call for using the County Traffic Model as a foundation for preparing a detailed operating analysis of roads in the Penngrove community. Policy **CT-6m** would request the cooperation of Santa Rosa, Cotati, and Petaluma in funding traffic calming and capacity improvements in this area. Policy **CT-6n** would call for considering traffic calming measures on local streets in Penngrove. Policy **CT-6o** would call for evaluating the feasibility of closure of Petaluma Hill Road and diversion of traffic from the Petaluma Hill Road corridor near Railroad Avenue to US 101.

While these policies would help reduce congestion on Main Street, they would not be sufficient to reduce traffic levels to a less-than-significant level. Additional improvements are available, such as constructing a bypass around Penngrove, widening Main Street to four lanes, and / or turning lane intersection improvements and signal modifications. However, these improvements may not be feasible for several reasons, including lack of community support, lack of funding, and unwanted traffic and other environmental impacts. Traffic calming measures are included in the *Draft GP 2020* Circulation and Transit Element.

**Mitigation Measure 4.2-1(d)** No Mitigation available beyond the *Draft GP 2020* policies discussed in the impact analysis above.

**Significance After Mitigation** While the policies and programs of the *Draft GP 2020* would reduce these impacts related to Circulation and Transit by some degree, this would remain a significant unavoidable impact. (SU)

### ***Petaluma Boulevard north of Skillman Lane***

Land uses and development consistent with the *Draft GP 2020* and implementation of proposed transportation improvements would result in unacceptable LOS along Petaluma Boulevard North, north of Skillman Lane. This would be a significant impact.

**Exhibit 4.2-14** shows that Petaluma Boulevard north of Skillman Lane operates at LOS C northbound during the PM peak under Baseline conditions. Land uses and development consistent with the *Draft GP 2020* and implementation of proposed transportation improvements would result in LOS E in the PM peak (northbound in the evening). Roadway LOS on Petaluma Boulevard would therefore change from acceptable LOS under Baseline conditions to unacceptable LOS with the *Draft GP 2020*. This would be a significant impact.

Despite transportation improvements in parallel corridors (US 101, SMART), congestion would persist along this road segment, in part due to continued development in Petaluma and continued congestion on US 101 despite widening.

Petaluma Boulevard North is classified as an urban principal arterial. Policy **CT-1b** would call for focusing commute and through traffic onto US 101. Policy **CT-1f** would call for each jurisdiction to take responsibility for accommodating future traffic within its jurisdiction rather than relying upon roadways in the unincorporated areas. Policy **CT-6s** would seek collaboration with the City of Petaluma in establishing a traffic and circulation plan to ameliorate the adverse impact of county and city traffic on rural roads in the county area adjacent to the city.

While these policies would help reduce congestion on Petaluma Boulevard North, they would not be sufficient to reduce traffic levels to a less-than-significant level. Additional improvements are available, such as signalization, turning lanes and pockets, and access management.

**Mitigation Measure 4.2-1(e)** Recommended mitigation would include signalization and turning lane intersection improvements, lengthening turning pockets, access management, and signal modifications.

**Significance After Mitigation** Intersection improvements would aid in mitigating traffic impacts, but would be unlikely to reduce the impact to the roadway to a less-than-significant level (i.e., return the roadway to an acceptable LOS under the *Draft GP 2020*). This would be a significant unavoidable impact. (SU)

**Responsibility and Monitoring** The Sonoma County Transportation and Public Works Department in consultation with the City of Petaluma (area is within city sphere of influence) would be responsible to implement the improvements.

### ***Petaluma Hill Road from Adobe Road to the Santa Rosa City Limits***

Land uses and development consistent with the *Draft GP 2020* and implementation of proposed transportation improvements would result in unacceptable LOS along Petaluma Hill Road from Adobe Road to the Santa Rosa city limits.

**Exhibit 4.2-14** shows that Petaluma Hill Road operations vary, but are generally LOS A or B in the AM, and LOS D in the PM. Land uses and development consistent with the *Draft GP 2020* and implementation of proposed transportation improvements would result in LOS F along several roadway segments between East Railroad Avenue and north of Snyder Lane. This congestion would

affect both the AM and PM peaks. Congestion is generally more prevalent in the northbound direction, but would also occur in the southbound direction north of Snyder Lane. Certain portions of Petaluma Hill Road operating at an acceptable LOS under Baseline conditions therefore would change to an unacceptable LOS with the *Draft GP 2020*. **Appendix 7.6 Transportation** indicates that other portions of Petaluma Hill Road operating at an unacceptable LOS under Baseline conditions would have a decrease in the average travel speed of at least 1.0 mile per hour with the *Draft GP 2020*. These would be significant impacts.

Despite transportation improvements in parallel corridors (US 101, SMART), congestion would persist along this road segment, in part due to continued development in Petaluma, the eastside of Rohnert Park, and Santa Rosa. Job growth causes the current reverse of peak direction flow to increase to the point where it equals, or exceeds, the current traffic volumes under the Baseline.

Petaluma Hill Road is classified as a rural major collector road from Adobe Road (Main Street) to East Railroad Avenue. Policy **CT-3h** would call for rural major collector roads to serve as routes intended to carry the internal traffic of a local area from that local road to the arterial road system and provide access to property. From East Railroad Avenue to the Santa Rosa city limits, it is classified as a rural minor arterial. Policy **CT-3g** would call for urban and rural principal arterials to carry large volumes of intercity traffic and place priority of the flow of traffic rather than on access to property. Policy **CT-1b** would call for focusing commute and through traffic onto US 101. Policy **CT-1f** would call for each jurisdiction to take responsibility for accommodating future traffic within its jurisdiction rather than relying upon roadways in the unincorporated areas.

Policy **CT-6l** would call for using the County Traffic Model as a foundation for preparing a detailed operating analysis of roads in the Penngrove community. Policy **CT-6m** would request the cooperation of Santa Rosa, Cotati, and Petaluma in funding traffic calming and capacity improvements in this area. Policy **CT-6n** would call for considering traffic calming measures on local streets in Penngrove. Policy **CT-6o** would call for evaluating the feasibility of closure of Petaluma Hill Road and diversion of traffic from the Petaluma Hill Road corridor near Railroad Avenue to US 101.

While these policies would help reduce congestion on Petaluma Hill Road, they would not be sufficient to reduce traffic levels to a less-than-significant level. Additional improvements are available, such as, widening Petaluma Hill Road to four lanes, intersection improvements and restrictions, turning lanes, and signals. However, these improvements may not be feasible for several reasons, including lack of community support, lack of funding, and unwanted traffic and other environmental impacts.

**Mitigation Measure 4.2-1(f)** Add a new policy to the Circulation and Transit Element (Rohnert Park/Cotati Planning Area) as follows:

**Policy CT-6zz:** Consider intersection improvements and restrictions, turning lanes, and signalization along Petaluma Hill Road to reduce congestion, provided that the improvements are consistent with the designated road classifications.

**Significance After Mitigation** While the recommended mitigation measure and other policies and programs of the *Draft GP 2020* would reduce these impacts to some degree, this would remain a significant unavoidable impact. (SU)

**Responsibility and Monitoring** The Sonoma County Transportation and Public Works Department would be responsible to implement the improvements. The Board of Supervisors would be responsible for adopting the policy as part of the *GP 2020*.

### **Rohnert Park Expressway from Stony Point Road to the Rohnert Park City Limits**

Land uses and development consistent with the *Draft GP 2020* and implementation of proposed transportation improvements would result in unacceptable LOS along Rohnert Park Expressway from Stony Point Road to the Rohnert Park city limits. This would be a significant impact.

**Exhibit 4.2-14** shows that the existing Baseline LOS on this two-lane roadway is D. Land uses and development consistent with the *Draft GP 2020* and implementation of proposed transportation improvements would result in LOS F in the PM peak in the westbound direction. **Appendix 7.6 Transportation** indicates that this portion of Rohnert Park Expressway operating at an unacceptable LOS under Baseline conditions would have a decrease in the average travel speed of at least 1.0 mile per hour with the *Draft GP 2020*. This would be a significant impact.

Traffic growth occurs as a result of development in the area (including the proposed Federated Indians of Graton Rancheria casino complex), and due to widening of Stony Point Road.

Rohnert Park Expressway outside city limits is classified as a rural minor arterial. Policy **CT-3g** would call for urban and rural minor arterials to carry large volumes of intercity traffic and place priority of the flow of traffic rather than on access to property. Policy **CT-6o** would call for working with the City of Rohnert Park to enhance east/west traffic flow through these cities to US 101 and the SMART rail corridor. Policy **CT-1f** would call for each jurisdiction to take responsibility for accommodating future traffic within its jurisdiction rather than relying upon roadways in the unincorporated areas.

While these policies would help reduce congestion on Rohnert Park Expressway west of the city limits, they would not be sufficient to reduce traffic levels to a less-than-significant level. Additional improvements are available, such as widening Rohnert Park Expressway to four lanes and additional turning lanes at Stony Point Road. However, the widening of the Expressway to four lanes may not be feasible for several reasons, including lack of community support and lack of funding. Negotiations are currently underway concerning appropriate improvements to be paid for if the proposed casino is built, which could provide for funding. However, this funding is not certain.

**Mitigation Measure 4.2-1(g)** Add a new policy to the Circulation and Transit Element (Rohnert Park/Cotati Planning Area) as follows:

**Policy CT-6aaa:** Consider additional turning lanes at the intersection of Rohnert Park Expressway and Stony Point Road to reduce congestion on the Rohnert Park Expressway.

**Significance After Mitigation** While the recommended mitigation measure and other policies and programs of the *Draft GP 2020* would reduce these impacts by some degree, this would remain a significant unavoidable impact. (SU)

**Responsibility and Monitoring** The Sonoma County Transportation and Public Works Department in consultation with City of Rohnert Park (roadway is within Rohnert Park sphere of influence) would be responsible to implement the improvements. The Board of Supervisors would be responsible for adopting the policy as part of the *GP 2020*.

### **Traffic in the Cities**

Traffic congestion within the cities of Sonoma County would result from the combination of land uses and development consistent with *Draft GP 2020* and the General Plans of the cities. The major

roadways within the cities that would experience severe congestion on one or more segments (LOS E or F) are listed below:

**Cloverdale:** Cloverdale Blvd.

**Healdsburg:** Healdsburg Avenue near US 101 interchanges.

**Windsor:** Old Redwood Highway west of US101, Starr Road.

**Santa Rosa:** South Santa Rosa Avenue, Farmers Lane, Dutton Road near Highway 12, Stony Point / Marlow Road corridor, College Avenue near US 101, Fountaingrove Parkway, Bicentennial Drive, Santa Rosa Avenue, Fulton Road, and Cleveland Avenue.

**Rohnert Park:** Snyder Lane, Rohnert Park Expressway, Commerce Boulevard, Southwest Boulevard., and Golf Course Drive.

**Cotati:** Old Redwood Highway, East Cotati Avenue, and West Sierra Avenue.

**Sebastopol:** Highway 12, Gravenstein Highway, Ragle Road, Pleasant Hill Road.

**Petaluma:** Lakeville Highway, Magnolia Street, Skillman Lane, Petaluma Boulevard North, Frates Rd, East Washington, and Old Redwood Highway.

**Sonoma:** Highway 12, Spain Street, and Third Street West.

Without additional study, it is not possible to determine the extent to which the future congestion of city and county roadways would be the result of future land use and development within one jurisdiction or another. In recognition of this, the *Draft GP 2020* includes Section 6 “Goals, Objectives, and Policies for Phasing and Funding of Improvements” of the Circulation and Transit Element. This section sets forth a goal, objectives, and policies which would provide for joint City and County funding of future improvements based upon the appropriate “fair share” contributions of each jurisdiction. Without such studies, policies and programs, as well as the cooperation of the cities, it is not feasible for the County to mitigate traffic congestion within city limits.

**Mitigation Measure 4.2-1(h)** No additional mitigation is available.

**Significance After Mitigation** This would be a significant unavoidable impact. (SU)

**Impact 4.2-2 Congestion on State Highways**

*Land uses and development consistent with the Draft GP 2020 and implementation of proposed transportation improvements would result in unacceptable LOS along several locations on State Highways. This would be a significant impact. (S)*

**Exhibit 4.2-14** indicates that implementation of the *Draft GP 2020* would result in unacceptable level of service along several locations on State Highways in Sonoma County. Each of these is discussed below.

**Highway 12 in Several Locations, Primarily in the Sonoma Valley.**

Land uses and development consistent with the *Draft GP 2020* and implementation of proposed transportation improvements would result in unacceptable LOS along several locations of Highway 12.

**Exhibit 4.2-14** shows that the existing Baseline LOS on this two-lane road varies from D to F. Land uses and development consistent with the *Draft GP 2020* and implementation of proposed transportation improvements would result in the AM peak northbound, from north of Agua Caliente Road to south of Pythian Road to be LOS E; from north of Boyes Boulevard to south of Verano Road would be LOS F in both directions and both weekday peak periods. **Appendix 7.6 Transportation** indicates that portions of Highway 12 operating at an unacceptable LOS under Baseline conditions would have a decrease in the average travel speed of at least 1.0 mile per hour with the *Draft GP 2020*. This would be a significant impact.

Traffic growth occurs as a result of development in the Sonoma Valley, Santa Rosa, and Solano County, including special generator and tourism oriented traffic; to a lesser degree, it also would occur as a result of continued congestion in the US 101 corridor.

Highway 12 is classified as a rural principal arterial from the Santa Rosa city limits south (east) to Agua Caliente Road, and an urban principal arterial from Agua Caliente Road to the Sonoma town limits. Policy **CT-3g** would call for urban and rural principal arterials to carry large volumes of intercity traffic and place priority on the flow of traffic rather than on access to property. Policy **CT-6u** would require the development of parcels fronting Highway 12 between Sonoma and West Thomsen Avenue to dedicate right-of-way for planned improvements under certain conditions. Policy **CT-6w** would call for continuing utilization of the “Traffic Sensitive” designation and zoning district to reduce project traffic impacts on Highway 12. Policy **CT-6x** would call for considering cumulative weekend traffic impacts in the review of discretionary projects throughout the Sonoma Valley Planning Area. Policy **CT-6y** would call for coordinating with the City of Sonoma to improve and maintain Highway 12 as the east/west route connecting the City of Santa Rosa and Sonoma Valley.

While these policies would help reduce congestion on Highway 12, they would not be sufficient to reduce traffic levels to a less-than-significant level. Additional improvements are available, such as widening to four lanes in some segments and / or signalization, turning lanes, passing lanes, and other traffic management. However, the widening of Highway 12 to four lanes may not be feasible for several reasons, including lack of community support, lack of funding, unwanted traffic and other environmental impacts, and right-of-way constraints. In addition, improvements require the approval of Caltrans and are not within the jurisdiction of Sonoma County.

**Mitigation Measure 4.2-2 (a)** Add a new policy to the Circulation and Transit Element (Russian River, Santa Rosa, and Sonoma Valley Planning Areas) as follows:

**Policy CT-6bbb:** Work with Caltrans in considering signalization, turning lanes, passing lanes, and other traffic management improvements along Highway 12 to reduce congestion, provided that the improvements are consistent with the designated road classifications.

**Significance After Mitigation** While the recommended mitigation measure and other policies and programs of the *Draft GP 2020* would reduce these impacts by some degree, this would remain a significant unavoidable impact. (SU)

**Responsibility and Monitoring** Caltrans, in cooperation with Sonoma County Transportation and Public Works Department and PRMD would be responsible to implement these improvements. The Board of Supervisors would be responsible for adopting the policy as part of the *GP 2020*.

**Highway 37 in Several Locations.**

Land uses and development consistent with the *Draft GP 2020* and implementation of proposed transportation improvements would result in unacceptable LOS along portions of Highway 37.

**Exhibit 4.2-14** shows that the existing Baseline LOS on Highway 37 is LOS E west of Lakeville Highway, and, where data are available, LOS B between Lakeville Highway and Highway 121. With land uses and development consistent with the *Draft GP 2020* and implementation of proposed transportation improvements the PM peak eastbound, west of Lakeville Highway would be LOS E; between Lakeville Highway and Highway 121 would be LOS D in the AM peak (in both directions), and LOS E in the PM in the eastbound direction. Therefore certain portions of Highway 37 operating at an acceptable LOS under Baseline conditions would change to an unacceptable LOS with the *Draft GP 2020*. **Appendix 7.6 Transportation** indicates that other portions of Highway 37 operating at an unacceptable LOS under Baseline conditions would have a decrease in the average travel speed of at least 1.0 mile per hour with the *Draft GP 2020*. These would be significant impacts.

Traffic growth occurs as a result of development in the Sonoma Valley and Solano County, including special generator and tourism-oriented traffic, and through traffic between the North Bay and Sacramento. A large percentage of traffic on this route (which is 6.1 miles long within Sonoma County) is through traffic (i.e., has neither an origin nor destination in Sonoma County).

Highway 37 is classified as a rural principal arterial in its entirety from the Marin to the Solano County line. It is a divided expressway from the Marin County line to Highway 121, where the *Draft GP 2020* would provide for widening to four lanes to the Solano County line (at the Petaluma River Bridge). Policy **CT-3g** would call for urban and rural minor arterials to carry large volumes of intercity traffic and to place priority of the flow of traffic rather than on access to property.

Widening Highway 37 to four through lanes is included in the Circulation and Transit Element proposed transportation network to mitigate impacts.

While these policies would help reduce congestion on Highway 37, they would not be sufficient to reduce traffic levels to a less-than-significant level. Additional improvements are available, such as grade separation structures at Lakeville Highway and Highway 121, turning lanes, access control, and other traffic management. However, the grade separation structures may not be feasible for several reasons, including the considerable expense and lack of funding and other environmental impacts such as wetlands. In addition, improvements require the approval of Caltrans and are not within the jurisdiction of Sonoma County.

**Mitigation Measure 4.2-2(b)** Add a new policy to the Circulation and Transit Element (Petaluma and Sonoma Valley Planning Areas) as follows:

**Policy CT-6ccc:** Work with Caltrans in considering turning lanes, access controls, and other traffic management improvements along Highway 37 to reduce congestion, provided that the improvements are consistent with the designated road classifications.

**Significance After Mitigation** While the recommended mitigation measure and other policies and programs of the *Draft GP 2020* would reduce these impacts by some degree, this would remain a significant unavoidable impact. (SU)

**Responsibility and Monitoring** Caltrans, in coordination with Sonoma County PRMD would be responsible to implement these improvements. The Board of Supervisors would be responsible for adopting the policy as part of the *GP 2020*.

**Highway 116 east of Adobe Road (Petaluma Planning Area) and west of Stony Point Road (Rohnert Park – Cotati Planning Area).**

Land uses and development consistent with the *Draft GP 2020* and implementation of proposed transportation improvements would result in unacceptable LOS along portions of Highway 116. This would be a significant impact.

**Exhibit 4.2-14** shows that the existing Baseline LOS is LOS B in the PM east of Adobe Road (no data are available in the AM peak). West of Stony Point Road, the Baseline LOS is not available. Land uses and development consistent with the *Draft GP 2020* and implementation of proposed transportation improvements would result in LOS F in the AM westbound, and PM eastbound. West of Stony Point Road, LOS E would occur in the AM peak eastbound. Roadway LOS on Highway 116 would change from acceptable LOS under Baseline conditions to unacceptable LOS with the *Draft GP 2020*. This would be a significant impact.

Traffic growth occurs as a result of continuing congestion on US 101, growth in western Sonoma and Solano County.

Highway 116 is classified as a rural principal arterial in its entirety from its junction with Highway 1 near Jenner to the southern Sonoma Valley. It is a two-lane road in nearly its entirety, although there are passing lanes between Sebastopol and Cotati, and a short section of four lanes in west Cotati near US 101. Policy **CT-3g** would call for urban and rural minor arterials to carry large volumes of intercity traffic and place priority on the flow of traffic rather than on access to property.

While these policies would help reduce congestion on Highway 116, they would not be sufficient to reduce traffic levels to a less-than-significant level. Additional improvements are available, such as widening Highway 116 to four lanes, or passing lanes and turning lanes. However, widening Highway 116 may not be feasible for several reasons, including the lack of community support, lack of funding, unwanted traffic, and other environmental impacts. In addition, improvements require the approval of Caltrans and are not within the jurisdiction of Sonoma County.

**Mitigation Measure 4.2-2(c)** Add a new policy to the Circulation and Transit Element (Sebastopol, Russian River, Santa Rosa, Petaluma and Sonoma Valley Planning Areas) as follows:

**Policy CT-6ddd:** Work with Caltrans in considering passing and turning lanes along Highway 116 to reduce congestion, provided that the improvements are consistent with the designated road classifications.

**Significance After Mitigation** While the recommended mitigation measure and other policies and programs of the *Draft GP 2020* would reduce these impacts by some degree, this would remain a significant unavoidable impact. (SU)

**Responsibility and Monitoring** Caltrans would be responsible to implement these improvements. The Board of Supervisors would be responsible for adopting the policy as part of the *GP 2020*.

**Highway 121 south of Highway 116 in the southern Sonoma Valley.**

Land uses and development consistent with the *Draft GP 2020* and implementation of proposed transportation improvements would result in unacceptable LOS along a portion of Highway 121. This would be a significant impact.

**Exhibit 4.2-14** shows that the existing Baseline LOS is LOS C in the PM peak at this location. Traffic growth occurs as a result of development in Sonoma Valley and Solano County. Land uses and development consistent with the *Draft GP 2020* and implementation of proposed transportation improvements would result in LOS E in the PM peak southbound direction on this portion of Highway 121. Roadway LOS there would change from acceptable LOS under Baseline conditions to unacceptable LOS with the *Draft GP 2020*. This would be a significant impact.

Highway 121 is classified as a rural principal arterial in its entirety from its junction with Highway 37 to through its junction with Highway 116 near Schellville to the Napa County line. This highway carries a large amount of through traffic (neither an origin nor destination in Sonoma County), and is highly affected by growth in tourism (it is aptly named the Carneros Highway for the world-renowned wine producing region through which it runs), and special events (e.g., Infineon Raceway, wineries). Except for passing lanes near the Napa/Sonoma County line, Highway 121 is two lanes along its entirety. Policy **CT-3g** would call for urban and rural minor arterials to carry large volumes of intercity traffic and place priority of the flow of traffic rather than on access to property.

While these policies would help reduce congestion on Highway 121, they would not be sufficient to reduce traffic levels to a less-than-significant level. Additional improvements are available, such as widening Highway 121 to four lanes in some segments, intersection improvements at the intersection of Highways 116 and 121, and passing lanes and access management. However, the widening of Highway 121 to four lanes may not be feasible for several reasons, including lack of community support, lack of funding, unwanted traffic, and other environmental impacts. In addition, improvements require the approval of Caltrans and are not within the jurisdiction of Sonoma County.

**Mitigation Measure 4.2-2(d)** Add a new policy to the Circulation and Transit Element (Sonoma Valley Planning Area) as follows:

**Policy CT-6eee:** Work with Caltrans in considering intersection improvements at Highways 116 and 121 and passing lanes, and access management along Highway 121 to reduce congestion, provided that the improvements are consistent with the designated road classifications.

**Significance After Mitigation** While the recommended mitigation measure and other policies and programs of the *Draft GP 2020* would reduce these impacts to some degree, this would remain a significant unavoidable impact. (SU)

**Responsibility and Monitoring** Caltrans, in cooperation with Sonoma County PRMD for access management and land use issues would be responsible to implement these improvements. The Board of Supervisors would be responsible for adopting the policy as part of the *GP 2020*.

**Impact 4.2-3 Congestion on Portions of US 101 in Several Areas between Cotati to north of Windsor**

*Land uses and development consistent with the Draft GP 2020 and implementation of proposed transportation improvements would result in unacceptable LOS along portions of US 101. This would be a significant impact. (S)*

US 101 carries nearly one-third of all vehicle-miles traveled in Sonoma County on a weekday. **Exhibit 4.2-14** shows that the existing Baseline LOS for portions of US 101 as follows:

- LOS D, Highway 116 (Cotati) to Rohnert Park Expressway (PM northbound direction)
- LOS D/F north of Wilfred Avenue (AM and PM in northbound and southbound direction)
- LOS F south of Highway 12 (AM in northbound and southbound direction)
- LOS C south of River Road (AM in northbound direction)
- LOS A southbound AM, and B northbound PM, north of Windsor River Road

Note these service levels reflect conditions in 2000-2001, prior to the widening of US 101 between Wilfred Avenue (Rohnert Park) and Highway 12 (Santa Rosa). Also, backups from other downstream bottlenecks may cause the LOS south of River Road to be F at certain times under existing conditions.

Land uses and development consistent with the *Draft GP 2020* and implementation of proposed transportation improvements would result in LOS D or E on portions of US 101. These include:

- Between Highway 116 (Cotati) and the Rohnert Park Expressway (LOS E in the PM northbound)
- North of Wilfred Avenue, in both directions and both peaks, LOS D or E
- South of Highway 12, LOS D northbound and LOS E southbound, in the AM peak
- South of River Road, LOS D in the AM northbound (travel toward the Airport Industrial area)
- North of Windsor River Road, southbound in the AM and northbound in the PM (no widening proposed in this area)

Portions of US 101 north of Santa Rosa operating at an acceptable LOS under Baseline conditions would change to an unacceptable LOS with the *Draft GP 2020*. **Appendix 7.6 Transportation** indicates that portions of US 101 south of Santa Rosa operating at an unacceptable LOS under Baseline conditions would have a decrease in the average travel speed of at least 1.0 mile per hour with the *Draft GP 2020*. These would be significant impacts.

Traffic congestion persists despite widening US 101, because the increase in trips generated by new development exceed the new capacity provided (the lanes would be reserved for high occupancy vehicles, so effectively increase capacity during peak hours by 20 to 30 percent, which is less than the growth in trips between 2000 and 2020).

US 101 is classified as a freeway in its entirety from the Marin County to the Mendocino County line. Policy **CT-3f** would call for the designation and design of freeways, in conjunction with SCTA and Caltrans, as limited access highways that carry large volumes of interurban, regional, and interstate traffic, and carry local traffic in urban areas. Furthermore, planned additional travel lanes should allow for HOV and transit use during peak commute periods.

While these policies would help reduce congestion on US 101, they would not be sufficient to reduce traffic levels to a less-than-significant level. Additional improvements are available, such as widening US 101 to eight lanes in some segments, and / or to implement management actions such as ramp metering, auxiliary lanes, the Bay Area Traffic Operations System (TOS), and the Freeway Service Patrol. Policies of the *Draft GP 2020* to increase transit and TDM would also help reduce congestion.

However, the widening of US 101 to eight lanes may not be feasible for several reasons, including lack of community support, lack of funding, unwanted traffic, right-of-way constraints, limited space at overpasses, and other environmental impacts. In addition, improvements require the approval of Caltrans and are not within the jurisdiction of Sonoma County.

**Mitigation Measure 4.2-3(a)** Revise Policy CT-3f of the Circulation and Transit Element as follows:

**Policy CT-3f:** In conjunction with SCTA and Caltrans, designate and design freeways as limited access highways that carry large volumes of interurban, regional, and interstate traffic, and carry local traffic in urban areas. The following policies apply to designated freeways:

Sub policy items 1-4 do not change

- (5) Consider additional traffic management actions such as ramp metering, auxiliary lanes, the Bay Area Traffic Operations System, and the Freeway Service Patrol.

**Significance After Mitigation** While the recommended mitigation measure and other policies and programs of the *Draft GP 2020* would reduce these impacts by some degree, this would remain a significant unavoidable impact. (SU)

**Responsibility and Monitoring** Caltrans, with the Metropolitan Transportation Commission, the Sonoma County Transportation Authority, and PRMD would be responsible to implement the improvements. For transit services, Golden Gate Transit and Sonoma County Transit would be responsible for bus services, and the SMART District for possible rail transit services. The Board of Supervisors would be responsible for adopting the revised policy as part of the *GP 2020*.

**Impact 4.2-4 Congestion at Key Intersections throughout the County**

*Land uses and development consistent with the Draft GP 2020 and implementation of proposed transportation improvements would result in unacceptable LOS at several key intersections. This would be a significant impact. (S)*

Traffic modeling conducted for this EIR determined that congestion on county roadway segments would increase significantly as a result of future land uses and development in the unincorporated county and the cities. These impacts are discussed in detail earlier in this section. While the traffic model did not identify specific LOS for intersections, the model's data combined with projections by County Transportation and Public Works Department staff, identified key intersections in the unincorporated area that would most likely experience significant congestion (LOS D or worse). These intersections are:

In the Santa Rosa Planning Area:

- Sebastopol Road and West Avenue (PM)
- Stony Point Road at Todd Road (PM)

In the Rohnert Park / Cotati Planning Area (Penngrove):

- Adobe Road at Petaluma Hill Road (AM and PM)

In the Petaluma Planning Area:

- Adobe Road at Frates Road (AM)
- Adobe Road at Corona Road (PM)

In the Sonoma Valley Planning Area:

- Napa Road at 8<sup>th</sup> Street East (PM)
- Highway 121 at Highway 116 (PM)

In addition to these key intersections, significant congestion would also be likely at many other intersections in the unincorporated area. For example, intersection traffic would also likely be congested along the roadways identified as LOS D or worse under *Impact 4.2-1 Congestion on County Roadway Segments*. Detailed intersection impacts are best quantified during the review of project traffic analyses.

The *Draft GP 2020* contains a number of objectives and policies that would reduce congestion at intersections. Objective **CT-3.2** would call for maintaining the level of service at LOS D or better at roadway intersections. Objective **CT-3.3** would allow a lower LOS to be acceptable if warranted by local environmental or community values, or by an overriding public benefit. Objective **CT-5.3** would call for the use of appropriate funding strategies for maintenance of acceptable LOS. These objectives would be implemented by several policies. Policy **CT-3a** would establish the appropriate standard for service acceptability. Policies **CT-5e** and **CT-5f** would establish funding and mitigation requirements for land uses and development projects that impact the LOS levels. However, new land uses and development in the county unincorporated area would be responsible only for their fair share of congestion impacts. Much of the congestion will continue to be the result of existing land uses and future development within the cities. Therefore, these objectives and policies would not reduce intersection congestion to a less-than-significant level.

In light of the likelihood of significant congestion at intersections and the uncertainty about the specific levels of congestion at each intersection, this would be a significant impact. The following mitigation would therefore be required.

**Mitigation Measure 4.2-4(a)** Mitigation measures may include changing the timing of the signal controller; adding or modifying signal phases; and / or re-striping, lengthening, or constructing new lanes. In some areas, right of way is constrained, or intersections are in environmentally sensitive areas, limiting the ability to construct new lanes. Specific mitigation measures would be selected as individual projects are planned.

**Significance After Mitigation** Because of uncertainties associated with the extent of intersection improvements, this would be a significant unavoidable impact. (SU)

**Responsibility and Monitoring** County DTPW, in cooperation with Sonoma County PRMD for access management and land use issues would be responsible to implement these improvements.

## **TRANSIT**

### **Impact 4.2-5 Increased Demand for Transit Services**

*Implementation of the Draft GP 2020 would result in increased demand for transit services. Implementation of policies included in the Draft GP 2020 would result in improvements in transit services. This would be a less-than-significant impact. (LTS)*

Implementation of the *Draft GP 2020* would result in additional residential and non-residential land use development. A portion of the people associated with the additional development would use public transit. Thus, the demand for transit service would increase. Furthermore, one of the strategies of the *Draft GP 2020* to solving the congestion problem on the roadway network is the development of an effective transit system.

The *Draft GP 2020* contains a number of goals and policies that would improve transit service in Sonoma County. Goal **CT-4** and policies **CT-4a** and **CT-4c** would promote the reduction of future congestion along the US 101 by developing the SMART project. Policy **CT-1d** would call for the County to work with cities to provide jobs, housing, and shopping along the SMART Rail Corridor in order to reduce the need for automobile travel. Policy **CT-1e** would support the development, implementation, and operation of a commuter rail system and continuous north-south pedestrian and bicycle path along the SMART corridor, including funding necessary to support a multi-modal feeder system. Policy **CT-1j** would support a sales tax or similar local funding mechanism to pay for the major regional circulation and transit system improvements, such as the commuter rail system. Policy **CT-1k** would result in a subregional traffic mitigation fund for road and transit improvements. Goal **CT-2** would promote an increase in opportunities for transit systems, pedestrians, bicycling and other alternative transportation modes to reduce the demand for automobile travel. Policies **CT-2a** through **CT-2aa** would strive to increase the opportunities for use of transit systems, as well alternative modes to the single occupant vehicle.

To the extent that the County has jurisdiction and involvement in decision making, implementation of the *Draft GP 2020* policies would increase transit service and therefore reduce transit impacts to a less-than-significant level. However, many transit services and improvements are decided by special districts such as SMART and not the County. Lack of funding could affect the ability of the transit service providers to increase transit service. In that event, as discussed above, transit service will not keep pace with demand.

**Mitigation Measure 4.2-5** None required.

### **Impact 4.2-6 Air Traffic Safety**

*Land uses and development consistent with the Draft GP 2020 could be subject to safety risks from air traffic at the county's six airports. However, existing regulations and policies contained in the Draft GP 2020 would reduce this to a less-than-significant impact. (LTS)*

Implementation of the *Draft GP 2020* would not result in the development of any new airports nor any changes to the locations of Sonoma County's six existing airports. General aviation air operations would be expected to increase above current levels, particularly at the Sonoma County Airport. While commercial air operations would be expected to increase at the Sonoma County Airport, such an increase would not exceed levels that are currently permitted nor would it exceed the peak levels of service that have occurred in the past. Current and projected levels of air operations at Sonoma County's airports are discussed in greater detail in *Impact 4.4-5 Airport Noise*.

Sonoma County's six airports would continue to be subject to the regulations of the Airport Land Use Commission (ALUC) as well as the existing and proposed policies in the General Plan Air Transportation Element (ATE). Land uses within the ALUC designated referral areas that surround each airport would continue to be subject to the policies and standards set forth in the ALUC's adopted *Comprehensive Airport Land Use Plan*. These regulations, as well as the policies of the ATE, would provide protection for the future operations of the airports as well as providing for the safety and compatibility of land uses around the airports.

Since future land uses and development involving residential, commercial, industrial, and public uses would continue to be subject to these regulations and policies, this would be a less-than-significant impact.

**Mitigation Measure 4.2-6** None required.

**Impact 4.2-7 Conflict with Alternative Transportation**

*Land uses and development consistent with the Draft GP 2020 could conflict with adopted plans, policies, and programs supporting alternative transportation modes, such as bicycle, pedestrian, rail, and other modes of travel. However, proposed policies in the Draft GP 2020 would reduce this to a less-than-significant impact. (LTS)*

Section 65089(b) (A) of the Government Code requires that general plans contain "trip reduction and travel demand element that promotes alternative transportation methods, including but not limited to carpools, vanpools, transit, bicycles, and park-and-ride lots; improvements in the balance between jobs and housing; and other strategies, including but not limited to, flexible work hours, telecommuting, and parking management programs." The Circulation and Transit Element of the *Draft GP 2020* includes provisions for increasing transportation alternatives to automobile use. In addition, the Open Space and Resource Conservation Element of the *Draft GP 2020* includes a previously adopted Bikeways Plan establishing the County's Goals, Objectives, Policies and standards supporting bicycle travel for both transportation and recreational purposes. Also, the Metropolitan Transportation Commission, the regional transportation agency for planning and allocating funding, adopted a Regional Transportation Plan that coordinates regional transportation systems and improvements. All future development projects occurring through the provisions of the *Draft GP 2020* would adhere to the County and regional policies, plan, and programs in place to support alternative modes of transportation. Adherence to these provisions would reduce potential impacts to below a level of significance.

**Mitigation Measure 4.2-7** None required.

**Impact 4.2-8 Lack of Parking Capacity or Emergency Access**

*Land uses and development consistent with the Draft GP 2020 could result in safety hazards or lack of emergency services due to inadequate parking and/or insufficient access for emergency vehicles. However, existing regulations and proposed policies in the Draft GP 2020 would reduce this to a less-than-significant impact. (LTS)*

Residential, commercial, industrial, and public uses, as well as some agricultural uses, may draw substantial numbers of visitors, customers, and employees that need adequate parking space not only to allow the use to function, but also to assure that people don't park in unsafe locations, especially close to through traffic. At the same time, sufficient space needs to be available for emergency services and vehicles to access these uses in the event of health and safety emergencies.

The existing Zoning Code, as well as policies contained in the *Draft GP 2020*, would reduce the likelihood that land uses and development would result in inadequate parking or emergency access. Proposed projects are currently subject to the Parking Standards in the Zoning Code that establish the level of parking necessary to accommodate various uses and to avoid the potential for occupants of these uses to park in unsafe locations. Similarly, proposed land uses and development are subject to review by both Sonoma County and local district fire and emergency service agencies in order to assure adequate access is provided. Policies contained in the *Draft GP 2020*, such as **PS-3e** and **PS-3f** would assure that emergency service providers continue to be involved in this project review function as well as future evaluation and updates of applicable code provisions.

Since future land uses and development involving all land uses would continue to be subject to these regulations and policies, this would be a less-than-significant impact.

**Mitigation Measure 4.2-8** None required.

**Impact 4.2-9 Safety Risk from Transportation System Design**

*Land uses and development consistent with the Draft GP 2020 could result in an increase in safety hazards associated with transportation design features or with incompatible uses of the road system. However, existing regulations and proposed policies in the Draft GP 2020 would reduce this to a less-than-significant impact. (LTS)*

As the County and State road and transit systems are developed and improved, design factors often come into play in response to environmental concerns, neighborhood compatibility, agricultural operations, traffic volumes, access, geologic and slope constraints, etc. The primary overriding factor in all of these design issues is public safety. The County and State both follow roadway design standards that provide for roadway safety. The County Bikeways Plan provides standards to accommodate bicycle travel. Sonoma County would continue to use the American Association of State Highway Transportation Officials (AASHTO) road classification system and guidelines for geometric design (Objective **CT-3.4**) under the *Draft GP 2020*. These guidelines allow for flexibility to accommodate all of the above factors, but in all cases provide for public safety. Compliance with these guidelines would reduce the likelihood that safety hazards would occur due to design features. Similarly, the design guidelines would allow for issues such as roadway use by farm vehicles to occur in a safe manner in concert with other traffic use of the roadway.

In addition, the *Draft GP 2020* would include other policies that address transportation system safety. Policies **CT-3c** and **CT-3d** include provisions for traffic safety as part of the implementation of traffic calming measures or local community design guidelines. Policy **CT-3e** gives priority to safety improvements on roadways whenever safety problems arise. Policies **CT-2v** and **CT-2w** provide for urban and community design that prioritizes pedestrian safety.

Since future transportation improvements would continue to be subject to these regulations and policies, this would be a less-than-significant impact.

**Mitigation Measure 4.2-9** None required.