

# 3.2

## CEQA-Required Conclusions

This section assesses the impacts of the 2009 CTP in several subject areas specifically required by CEQA: significant unavoidable effects, significant irreversible environmental changes, growth-inducing impacts, and cumulative impacts. These subject areas are evaluated based on the analysis in Part Two: Settings, Impacts, and Mitigation Measures, of this EIR and is a summary reorganization of that material.

### Significant Unavoidable Effects

Significant unavoidable effects are those impacts that cannot be mitigated to a level that is not significant. This EIR has found significant unavoidable effects in the following issue-areas:

- *Alteration of views* — Construction or expansion of some transportation projects included in the 2009 CTP could adversely alter views in the County over the long-term by adding incongruous elements to the existing landscape, thereby blocking view or altering the scale, character, and quality of rural or open space areas, important vistas along roadways, and urban communities;
- *Construction noise* — Construction of the projects proposed in the 2009 CTP would have short-term noise impacts on surrounding areas;
- *Cumulative noise levels* — Transportation improvements proposed as part of the 2009 CTP together with regional growth and development could contribute to cumulative noise levels; and
- *Conversion of non-urban land to transportation uses* — The conversion of agricultural lands to transportation uses would remain a significant impact despite the limitations on the extent of conversion provided by the proposed mitigation measures.

Alternatives 1, 2 and 3 would have the similar impacts as the Project on alteration of views, construction noise, cumulative noise levels, and potential conversion of agricultural lands to transportation uses.

### **Significant Irreversible Environmental Changes**

Significant irreversible environmental changes are those irretrievable commitments that consign non-renewable resources to uses that future generations will probably be unable to reverse. “Nonrenewable resource” refers to the physical features of the natural environment, such as land, air, waterways, etc. According to CEQA Guidelines Section 15126.2(c), use of non-renewable resources during the initial and continued phases of the project may be irreversible since a large commitment of such resources makes removal or nonuse thereafter unlikely. Significant irreversible changes attributable to the transportation improvements in the proposed 2009 CTP would include:

- Consumption of significant amounts of nonrenewable energy sources for construction, maintenance, and operation of transportation improvements;
- Degradation of ambient air quality through the increase of harmful particulate matter caused by a cumulative increase in vehicle exhaust;
- Emission of greenhouse gases that will contribute to global climate change;
- Use of building materials, fossil fuels, and other resources for construction, maintenance and operation of transportation improvements; and
- Potential conversion of some resource lands, such as agricultural land, habitat areas, and other undeveloped lands into transportation uses.

### **Growth-Inducing Impacts<sup>1</sup>**

Significant population and employment growth is projected for Contra Costa County, and is considered in local and regional plans, including the 2009 CTP. This analysis considers the degree to which the 2009 CTP itself induces growth beyond that which is projected. The proposed project would have growth-inducing impacts if the location and/or amount of growth resulting from proposed transportation improvements differ from planned growth in the county. For the purposes of this EIR, planned growth is assumed in Contra Costa’s Land Use Information System (LUIS) projections through the year 2030. Please see Section 2.11, *Land Use and Housing* for detailed household projections.

The economic and population growth that the Bay Area has witnessed in the past four decades is expected to continue. ABAG’s *Projections 2005* and LUIS data estimate that each of the

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<sup>1</sup> The data in this section is derived from Contra Costa’s Land Use Information System 2006, based on ABAG *Projections 2005*.

nine Bay Area counties will experience average population gain of 168,000 and average employment gains of 163,000.

Based on regional projections, overall growth is expected to continue, and it is unlikely that the 2009 CTP will induce growth on a countywide or regional scale over what is already projected to occur. The benefits that would result from the development of the various proposed transportation projects represent incremental improvements in mobility, rather than significant increases that would be necessary to have clear impacts on development patterns.

### POPULATION AND EMPLOYMENT

The San Francisco Bay Area is one of the largest metropolitan regions in the world. Right now, with a population of about 7 million, it is larger than most countries in the world, including Denmark, Jordan, and Laos. Between 2007 and 2030, the Bay Area is forecast to add 1.5 million people, a 21 percent increase, which will bring the total population to about 8.7 million. As shown in Table 3.2-1, Contra Costa is now the third-largest county in the Bay Area, behind Santa Clara and Alameda, and is expected to remain the third-largest county in 2030. In those 23 years, the county is forecast to add over 200,000 new residents, the third-largest increase forecast, behind Santa Clara with nearly 475,000 and Alameda with 345,000 people. Overall, about 45 percent of new residents in the Bay Area are expected to live in Contra Costa and the adjoining counties of Solano and Alameda.

**Table 3.2-1: Population Forecasts**

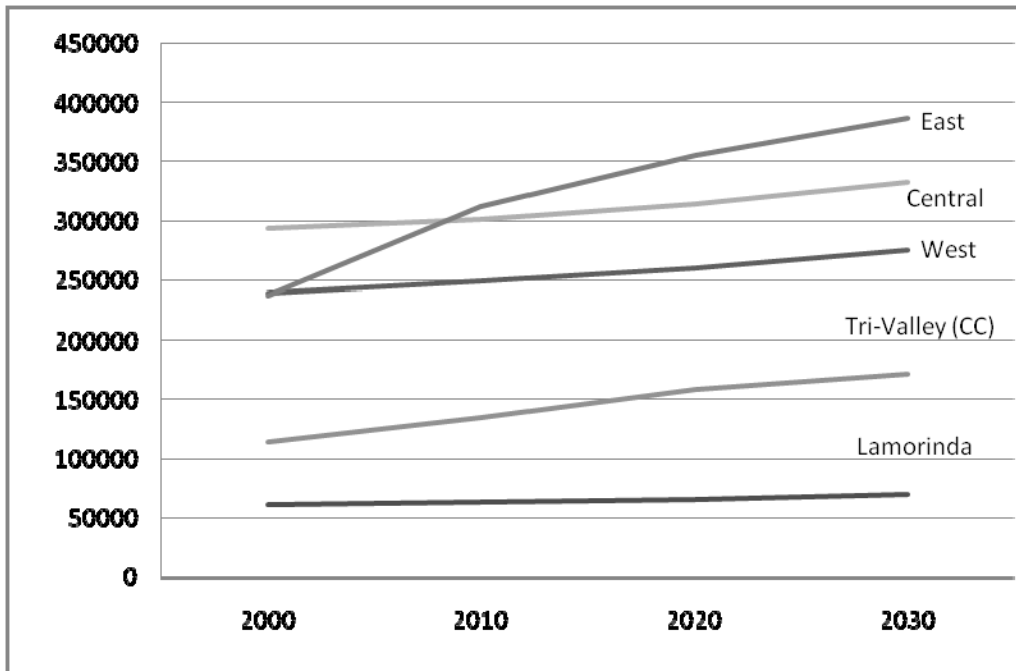
Bay Area	2007		2030		% Change
County	#	%	#	%	2007-2030
Alameda	1,539,485	21%	1,884,600	22%	22%
Contra Costa	1,033,188	14%	1,234,091	14%	19%
Marin	254,675	4%	284,000	3%	12%
Napa	137,645	2%	153,400	2%	11%
San Francisco	793,615	11%	924,600	11%	17%
San Mateo	724,890	10%	848,400	10%	17%
Santa Clara	1,793,760	25%	2,267,100	26%	26%
Solano	448,745	6%	581,800	7%	30%
Sonoma	500,440	7%	558,400	6%	12%
<b>Region</b>	<b>7,226,443</b>	<b>100%</b>	<b>8,736,391</b>	<b>100%</b>	<b>21%</b>
Contra Costa	2007		2030		% Change
Sub-area	#	%	#	%	2007-2030
West	245,535	24%	275,369	22%	12%
Central	296,398	29%	331,908	27%	12%
East	300,539	29%	386,720	31%	29%
Lamorinda	61,540	6%	69,104	6%	12%
Tri-Valley (CC)	129,176	13%	170,990	14%	32%
<b>Contra Costa</b>	<b>1,033,188</b>	<b>100%</b>	<b>1,234,091</b>	<b>100%</b>	<b>19%</b>

Source: Land Use Information Systems (LUIS) 2006 and ABAG Projections 2005.

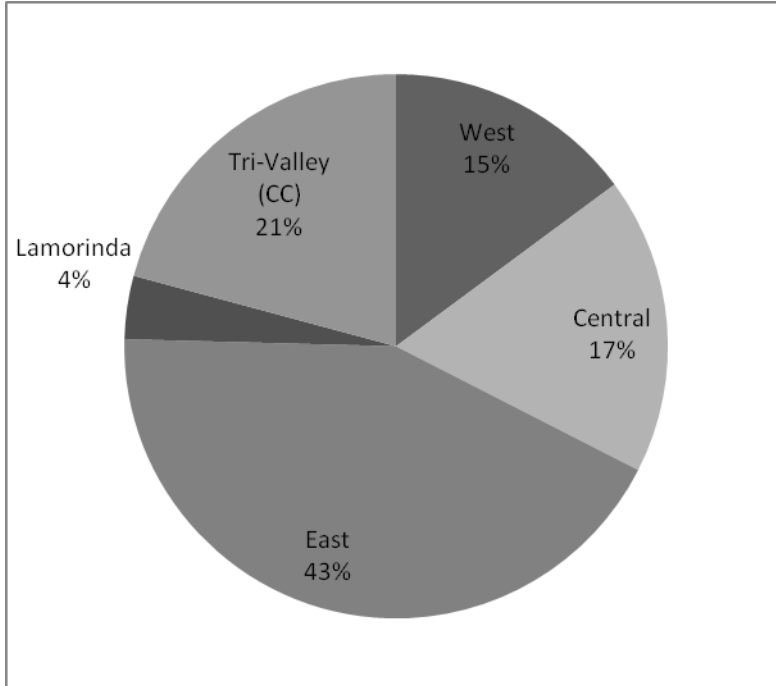
As described for households in section 2.11: *Land Use and Housing*, the population of different sub-regions of Contra Costa are expected to grow at different rates (see Charts 3.2-1 and 3.2-2). Currently, Central County and East County have the most residents, with around 300,000 residents each. West County is the third most populous at just over 245,000. Together, almost 85 percent of the County’s residents live in these three areas. By 2030, East County is expected to become the most populous area, growing by 29 percent, to a population of just over 380,000 residents. However, as noted in section 2.11, Central County will continue to have the most households. The Contra Costa Tri-Valley area is forecast to be fastest growing area, growing 32 percent from 2007 to 2030, although it will remain the fourth-largest area in Contra Costa with a population of 170,990. West, Central, and Lamorinda are all forecast to grow about 12 percent each.

These forecast changes in population show a slight shift eastward, away from the I-80 and SR 24 corridors and towards the SR 4 and I-680 corridors. Chart 3.2-2 shows the distribution of residents throughout Contra Costa over the 23 years between 2007 and 2030.

**Chart 3.2-1 Population Forecasts, Contra Costa County**



Source: Land Use Information Systems (LUIS) 2006 and ABAG Projections 2005.

**Chart 3.2-2: New Residents in Contra Costa County Between 2007 & 2030**

Source: Land Use Information Systems (LUIS) 2006 and ABAG Projections 2005.

### WORKERS AND JOBS

As with population and households, the number of jobs and employed residents in the Bay Area are also forecast to grow substantially between 2007 and 2030 (see Table 3.2-2). The region is forecast to add 40 percent more workers and 40 percent more jobs over those 23 years, and Contra Costa County is forecast to add 38 percent more workers and 37 percent more jobs during the same period. As with population and households, Contra Costa is now, and is forecast to remain in 2030, home to the third highest number of employed residents in the Bay Area – over 660,000 – behind Santa Clara and Alameda counties. Of the more than 1.3 million new employed residents in the Bay Area in 2030, about 60 percent would live in these three counties. About 65 percent of new workers would live in Santa Clara, Alameda, Contra Costa, and Solano, reflecting the continuing expansion of the region to the east and south when compared with 22 percent living in San Francisco and San Mateo counties and 11 percent living in the North Bay counties.

LUIS estimates that Contra Costa was the location for 390,103 jobs in 2007, two-thirds of which were in the Central County and West County. Of the five cities with the highest job concentrations, four are in the central I-680 corridor. Concord and San Ramon had the two largest concentrations of employment, followed by Walnut Creek, Martinez, and Antioch. LUIS forecasts that four of these five cities will remain the top five employment centers in 2030

and in the same order (except that Martinez will drop out of the top five and Pittsburg will have the fifth largest concentration of jobs).

Employed residents and jobs in Contra Costa are forecast to shift somewhat to the east and south between 2007 and 2030. The county is forecast to add 183,000 new employed residents and 146,000 new jobs in those 23 years. Nearly 60 percent of those new workers would live in East County and the Tri-Valley portions of Contra Costa, while 54 percent of the new jobs would locate in those two areas. The rest of the new workers will primarily live in West and Central Counties, with the remaining few (4%) in Lamorinda. Similarly, the remaining new jobs would primarily be located in Central and West County with minimal growth in Lamorinda.

As with population, East County would have the most employed residents in 2030, though Central County would continue to have the most jobs, as it did in 2007. East County, however, would add both more workers and more jobs than Central County during that time. The Contra Costa portion of the Tri-Valley area would also grow significantly in new employed residents, increasing by 58 percent to 98,000. Growth in jobs would be less substantial, growing by 25 percent to 80,000. While the “center of gravity” for jobs and employed residents would shift east somewhat, West County would also grow substantially, adding 26,000 new employed residents and 28,000 new jobs, 24 and 37 percent increases respectively. The Lamorinda, on the other hand, would add relatively few new workers and jobs.

#### **RATIO OF EMPLOYED RESIDENTS TO JOBS**

In 2007, the Bay Area had about 300,000 more jobs than workers living there to fill them, a ratio of 1.09. In 2030 this trend will continue, with 421,000 more jobs than workers, and a ratio of 1.09. These deficits are and will be made up by workers that commute into the Bay Area from adjoining counties. Most counties within the region have more jobs than workers, most notably San Francisco with about 1.48 jobs for every employed worker, predicted to remain constant into 2030. Only three counties, including Contra Costa, Solano and Sonoma, have more employed residents than jobs. In 2007, Contra Costa had only 0.82 jobs for every employed resident, the lowest ratio in the Bay Area with the exception of Solano County. Despite adding 37 percent more jobs, Contra Costa is still projected to add 37,000 more residents than jobs, resulting in 0.82 jobs per worker, the same ratio as in 2007.

As with the county as a whole, all sub-areas of Contra Costa except West County are forecast to add more employed residents than jobs. The differences would be greatest for the East County and the Tri-valley portions of Contra Costa (8,000 and 20,000 more employed residents than jobs respectively). However, in all sub-areas except Lamorinda and Tri-Valley, the job to worker ratio moves closer to 1. Tri-Valley actually changes from having more jobs than residents to more residents than jobs. Only Central County and Tri-Valley have more jobs than employed residents in 2007, and only Central County is forecast to continue to have more jobs than employed residents in 2030.

**Table 3.2-2: Forecasts of Employed Residents and Jobs, Bay Area**

County	Employed Residents					Jobs					Ratio of Jobs to Employed Residents	
	Number in 2007	% in 2007	Number in 2030	% in 2030	% Change from 2007-2030	Number in 2007	% in 2007	Number in 2030	% in 2030	% Change from 2007-2030	2007	2030
Alameda County	729,880	23%	1,032,100	24%	41%	778,336	21%	1,088,870	21%	40%	1.07	1.06
Contra Costa County	477,763	14%	660,329	14%	38%	390,103	11%	535,638	10%	37%	0.82	0.81
Marin County	126,948	4%	179,100	4%	41%	136,999	4%	173,580	3%	27%	1.08	0.97
Napa County	66,445	2%	93,700	2%	41%	75,912	2%	91,920	2%	21%	1.14	0.98
San Francisco County	402,185	12%	558,700	12%	39%	593,294	16%	829,090	16%	40%	1.48	1.48
San Mateo County	330,625	10%	464,600	10%	41%	347,585	10%	507,090	10%	46%	1.05	1.09
Santa Clara County	760,735	23%	1,086,300	23%	43%	940,288	26%	1,339,970	26%	43%	1.24	1.23
Solano County	202,640	6%	269,800	6%	33%	154,062	4%	217,910	4%	41%	0.76	0.81
Sonoma County	244,546	7%	346,700	7%	42%	232,124	6%	328,310	6%	41%	0.95	0.95
All Bay Area	3,341,766	100%	4,691,329	100%	40%	3,648,702	100%	5,112,378	100%	40%	1.09	1.09
West sub-region	110,053	23%	136,741	21%	24%	76,929	20%	105,142	20%	37%	0.70	0.77
Central sub-region	148,248	31%	188,982	29%	27%	175,301	45%	211,358	39%	21%	1.18	1.12
East sub-region	128,264	27%	199,823	30%	56%	53,402	14%	116,486	22%	118%	0.42	0.58
Lamorinda sub-region	28,883	6%	36,267	5%	26%	20,039	5%	22,395	4%	12%	0.69	0.62
Tri-Valley (CC) sub-region	62,315	13%	98,516	15%	58%	64,433	17%	80,257	15%	25%	1.03	0.81
Contra Costa County	477,763	100%	660,329	100%	38%	390,103	100%	535,638	100%	37%	0.82	0.81

Source: Land Use Information Systems (LUIS) 2006 and ABAG Projections 2005.

### POTENTIAL FOR THE 2009 CTP TO INDUCE GROWTH

While changes to the transportation system can have real and demonstrable effects on land use, many other factors, including economic trends, homebuyer preferences, local planning and development policies, and changes in technology, are often more significant factors in the pattern of land use within a community or region. It is often difficult to untangle the impacts of transportation improvements on development trends from these other impacts. In addition, the impact of transportation improvements on land use patterns will be affected by how much of an increase in capacity it represents to the Contra Costa transportation system as a whole.

Several aspects of urban development may be affected by increased transportation capacity:

- *Location.* While transportation improvements rarely increase the rate of development within a region, they may change where it locates. Historically, transportation improvements have shifted development from the core city to its suburban areas, such as the ongoing shift in the rate of new development from west to east in Contra Costa.
- *Use.* Greater accessibility may make a site suitable for a new use. New highways can make shopping centers and mixed-use projects viable when they allow a critical mass of population to reach the site. Similarly, highway improvements can expand the commute shed and spur housing development, although since people follow jobs, moves may be linked. However, this may require changes to the city or county general plans, as the general plans dictate the types of uses permitted.
- *Intensity.* As a site becomes more accessible, pressure may increase for higher densities, such as is apparent around some BART stations.
- *Timing.* Speculation occurs before facilities are approved and under construction, but the expectation of new capacity can influence project timing as well as lease-end and long-term occupancy rates. One method to assess how transportation improvements might affect land use patterns is to look at how projects in the 2009 CTP change accessibility. Residential location theory hypothesizes that people will locate to minimize the cost of travel, housing, and other goods and services. As the cost of traveling to different locations decreases, households can spend more on housing (or other goods and services). If easier and faster regional access facilitates longer commutes, households will be able to purchase “more house” at the edges of the urban area. Employers, on the other hand, tend to locate new employment in central locations; when travel times or costs to these central locations increase, decentralization in employment occurs.

Various studies have looked at the effect of transportation improvements that increased accessibility on land use. These studies have investigated both rail systems (including BART) and freeways. Generally, these studies have found a clear and significant relationship only for the early freeways. Rail studies and studies of more recent freeways have not always shown a con-

sistent relationship. These studies suggest several reasons why recent transportation improvements have had such minor impacts on land use. They include the following:

- Local general plans, and other land use regulations, zoning, and political local attitudes, limit the ability of developers to respond to changes in accessibility.
- The significant amount of development already in place means that changes in land use that respond to changes in accessibility could take many years to become evident.
- The availability of vacant or developable land (which is related to the first two reasons) will mean that some developers can respond more quickly to changes in accessibility.
- Most important, recent changes in accessibility have been too small to change the cost of travel significantly within the urban area.

In addition, in a vast majority of instances in the Bay Area, transportation improvements are merely “catching up” to serve existing or planned development, rather than influencing the pattern of development.

#### Accessibility

To evaluate changes in locational preference, this EIR compares average speeds, as one potential factor in growth-inducement. As noted in *Chapter 2.1: Transportation and Circulation*, average speeds are an indication of congestion on a transportation network. Reduction in congestion, or an increase in speeds, would allow people to travel farther in the same amount of time, making housing farther from work more feasible.

Model results indicate that while the Project allows faster average speeds than in the No Project, average speeds remain considerably slower than in the existing condition. This indicates that while average speeds will continue to decrease as population increases and roads become more congested, the Project will eliminate some of the congestion and allow faster speeds than the No Project. However, because speeds overall will be slower, the reduction in congestion is not expected to induce additional travel or change locational preference. Given that the population in Contra Costa County is projected to grow by 19 percent and average speeds are projected to decrease across the county, it is clear that capacity in excess of projected need is not being created.

**Table 3.2-3: Average Speeds**

	Average Speed (Miles per Hour)		
	AM peak	PM peak	Daily Average
Baseline	37.5	36.1	42.4
No Project	20.3	23.5	34.1
Project	25.5	27.0	36.7

Source: DKS, 2008, Dyett & Bhatia, 2008.

Another measure of the transportation network's capacity is the percent of peak hour traffic conditions at LOS D or worse. Based on this measure, it is clear that transportation improvements in the 2009 CTP cannot accommodate substantially more growth than expected growth in the county. Modeling results indicate that 36 percent of the Contra Costa peak hour VMT is in traffic conditions at LOS D or worse. By 2030, that will rise to 57 percent in the No Project condition and be slightly lower in the Project and Alternatives 1, 2 and 3, ranging from 51 to 55 percent. In general, while road improvements will ease worsening traffic conditions, they will not introduce unused new capacity, and so are not likely to induce growth by themselves.

#### **Comparison of Projects with Existing Land Use & Projected Growth**

The majority of projects in the 2009 CTP occur in urbanized areas or within existing right of ways. Projects are generally planned to accommodate recent growth, accommodate planned and projected growth, improve existing roadways, and, particularly in the case of e-BART, to connect areas by transit. As described above, growth in East County has been rapid and is expected to continue. The majority of projects that occur outside of urbanized areas occur in East County in response to this growth.

The only major projects in the 2009 CTP that occur outside of the Urban Limit Line are the East County Corridor Improvements, which are largely safety improvements on existing corridors, State Route 239, and eBART Phase II. eBART Phase II is the project which has the greatest potential to induce population growth due to its expansion outside of the Urban Limit Line (ULL), though all stations would be located within the ULL.

Although eBART is designed to connect urban areas, it is also designed to provide BART access for residents in unincorporated Contra Costa County. It would be likely that a station in Byron would also serve residents of Discovery Bay and other nearby communities. For increased growth near Byron to occur, changes in local land use plans and in the Urban Limit Line would be required. If these changes were made, the eBART Phase II project would most likely have growth inducing impacts in unincorporated Contra Costa County. However, until more specific plans are made for the train, it is difficult to determine the project's potential to induce growth. The potential of this specific project to induce growth will have to be evaluated in the project level EIR.

Similarly, State Route 239 has the potential to induce growth by increasing access to unincorporated portions of Contra Costa County outside the ULL. However, once again, for increased growth to occur, changes in local land use plans and in the Urban Limit Line would be required. Only if these changes were made, would the SR 239 connection have growth inducing impacts in unincorporated Contra Costa County. This project could also, however, induce growth in San Joaquin County, where the Contra Costa Urban Limit Line does not apply. Growth would be subject land use restrictions in San Joaquin County. The potential of this specific project to induce growth will have to be evaluated in the project level EIR.

It is important to note that through the RTPC process, transportation planning is being completed by local cities and towns in Contra Costa through a cooperative planning process that includes the same local jurisdictions that control land use decisions and general plans. Transportation projects and programs are therefore scrutinized at a local level to ensure consistency with local general plans and projected growth.

Growth-inducing effects may occur at the local level (movement within the county rather than into the county; and the allocation of anticipated future residents to specific places over others), but these effects would be consistent with *Projections 2005*, which anticipates more infill and growth in existing urban centers, and more growth in East County. Likewise, the alternatives to the proposed Project would not have regional growth-inducing effects, but may contribute to local effects, for the same reasons as those given for the proposed Project.

Based on the above analysis, the transportation improvements in the 2009 CTP are not anticipated to induce unforeseen countywide population growth, nor would they significantly affect the distribution of population growth forecast for Contra Costa to the year 2030. There are three reasons for this conclusion. First, it is evident that transportation investment and increased capacity currently lag behind the growth that has already occurred in the County. This situation is likely to continue with limited resources available for system capacity expansion since the proposed project is financially constrained. Second, due to existing congestion, transportation plays a minimal role in attracting or inducing new development for the county as a whole. Considering the limited funding available over the Project timeline for expansion, improvements in accessibility would be relatively small. Finally, the transportation improvements in the 2009 CTP are consistent to serve the growth projected by ABAG and planned for by local agencies.

### **Cumulative Impacts**

The CEQA Guidelines require every EIR to discuss the cumulative impacts of a project. The term *cumulative impact*, as defined in the CEQA Guidelines, is an impact that is created as a result of the combination of the project evaluated in the EIR together with other projects causing related impacts. The purpose of this requirement is to ensure that projects or programs are not looked at in isolation and that the full impacts of the project, together with other probable development, are assessed. Thus, cumulative impacts can result from individually minor projects or projects with little or no significant impacts that, over time, are collectively significant.

### **ASSUMPTIONS/METHODOLOGY**

Since the proposed project is confined to Contra Costa County, it is assumed that the area of potential cumulative effect is the county together with adjacent counties potentially served or affected by proposed transportation improvements.

In this EIR, the cumulative impact analysis considers the possible effects of all the projects in the proposed 2009 CTP together with projected regional growth and the increase in regional

travel produced by Contra Costa County's growth in population and jobs as presented in ABAG's *Projections 2005* and LUIS data. This cumulative analysis assumes that demographic forecasts in ABAG's adopted projections for the region would occur regardless of whether the proposed 2009 CTP projects are completed. The Transportation, Air Quality, Energy, Greenhouse Gas, and Noise impact analyses are all cumulative in nature because the indicators being measured (e.g. vehicle miles traveled, emissions, noise) are the result of many interrelated activities and the significance of the proposed 2009 CTP is only apparent when it is considered in conjunction with those wider regional development patterns.

Cumulatively considerable and significant impacts, which are discussed at greater length in each issue area section, are summarized by issue area below include:

- Increased vehicle hours traveled, increased VMT at level-of-service F, decreased average vehicle speed, and increased total number of vehicle trips compared to existing conditions, due to projected cumulative regional growth and the related increase in automobile travel, would result in a cumulatively considerable impact. Sufficient road and transit capacity increases cannot be accommodated within the financial constraints of the proposed 2009 CTP.
- Projected regional growth and development, together with the implementation of the 2009 CTP would result in a cumulative net increase in emissions of PM-10 and PM-2.5 when compared to existing conditions. However, the 2009 CTP is not expected to contribute considerably to this cumulative impact.
- Implementation of the 2009 CTP, combined with regional growth and State fuel efficiency standards, would result in increased energy consumption. While per capita energy consumption would decrease, overall energy consumption would increase slightly.
- The impact of 2009 CTP projects in conjunction with regional population growth and urban development could have a cumulatively significant impact on visual resources.
- Transportation improvements proposed as part of the 2009 CTP together with regional growth and development could contribute to cumulative noise levels.
- Concurrent implementation of the proposed 2009 CTP and forecast development would result in cumulatively considerable conversion of agricultural and non-urban land to transportation uses.
- Implementation of the 2009 CTP combined with regional growth and development could contribute to cumulative impacts on special-status plant and animal species or wetlands, riparian habitat, and related resources.
- Forecast urban development combined with construction of transportation projects included in the 2009 CTP, could contribute to the conversion of undeveloped land to urban uses, resulting in the removal of fragmentation of habitat area.

### Non-significant Impacts

This EIR focuses on potentially significant impacts. CEQA requires that an EIR provide a brief statement indicating why various possible significant impacts were determined to not be significant and were not discussed in detail. For the issue areas addressed in Chapter 2, all potential impacts are identified. Non-significant impacts are those effects that have no significant adverse impact on the environment. Issue areas determined to not be significant and not addressed in this EIR include the following:

- *Public Services and Utilities.* It is not anticipated that the 2009 CTP will cause a significant increase in demand for public services or utilities.
- *Recreation.* No adverse effects on recreational uses or facilities are expected. Minor short term effects may occur if construction of 2009 CTP projects occurs near recreational resources.
- *Mineral Resources.* It is not anticipated that the 2009 CTP will impact any mineral resources.

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