
Chapter 3

Environmental Setting, Impacts, and Mitigation

This chapter describes substantial changes in the environmental setting, impacts, and mitigation for each of the environmental resource areas that were evaluated in the 2005 Final EIR and 2007 Final SEIR. Within each environmental resource area, only those design changes that have the potential to result in an environmental effect or change in adopted mitigation measures are discussed. For a detailed discussion of the existing setting, impacts (including thresholds of significance), and mitigation, please refer to Chapter 4.0 of the 2005 Final EIR and 2007 Final SEIR. A summary of adverse effects and proposed mitigation measures can be found in Attachment D.

3.1 Transportation

This section supplements Section 4.2 of the 2005 Final EIR and 2007 Final SEIR. It generally evaluates the effect of the project on intersections, roadway circulation, transit, pedestrians, and bicycles. Mitigation measures are identified for impacts that exceed the significance thresholds listed in the 2005 Final EIR and 2007 Final SEIR.

Environmental Impacts and Mitigation

Several transportation studies were prepared for the EIS to comply with NEPA. The 2010 Transportation Study (Revised September 2012) updated the 2006 Transportation Study that was prepared for the 2007 Final SEIR to reflect baseline conditions at the time of the Notice of Intent to prepare a Supplemental Draft EIS (September 2009), refreshed the opening year and 20-year forecast, and analyzed the effects of any proposed changes to the project. This study was subsequently revalidated in April 2013 to ensure that it was still representative of current conditions (Attachment E). In addition, an Eastridge Transit Center Traffic Evaluation (October 2012) was prepared to evaluate the effect of the project on the private roadways within the Eastridge Mall (Attachment G). Based on these studies, the impacts and mitigation measures identified in the 2005 Final EIR and 2007 Final SEIR have been updated.

Impacts to Intersections

Given the change in forecast years from 2010 to 2018 and from 2020 to 2035, traffic conditions for future No-Build and Build Alternatives have deteriorated when compared to the 2006 Transportation Study for the Supplemental EIR, as a result of changed

circumstances unrelated to the project changes. This is observed not so much in the change in Level of Service (LOS), but in the increase in average delay for intersections. A significant impact to intersections is based on the following criteria contained in the City of San Jose's Transportation Impact Policy (Revised 2005) and VTA's Transportation Impact Analysis Guidelines (Updated 2009) :

- Cause an intersection's LOS to deteriorate from LOS D when compared to the No-Project Alternative;
- Increase the critical volume delay by 4 seconds or more and increase the critical V/C ratio by 0.01 or more at an intersection already operating at LOS F under the No-Project Alternative;
- Result in a change of two letter grades at an intersection operating at LOS A or B under the No-Project Alternative.

It should be noted that some of these criteria have changed since the 2007 Final SEIR.

Impact: Compared to the No-Build Alternative, traffic conditions with the Light Rail Alternative have changed such that the intersections at Story Road, Tully Road, and Quimby Road will no longer experience significant and unavoidable impacts as identified in the 2007 Final SEIR. These relative improvements are offset by the degradation of the intersection at Capitol Avenue to a potentially significant impact not previously identified in the 2007 Final SEIR (See Tables 3.1-1 to 3.1-4). There will continue to be a significant and unavoidable impact at the Ocala Avenue intersection, as identified in the 2007 Final SEIR.

The No Median Ocala Station option will result in changes in the roadway geometry, a slight decrease in light rail ridership, and an increase in Vehicle Miles Travelled (VMT). However, none of these changes will affect future traffic conditions with the project.

The significant intersection impacts of the Light Rail Alternative can be summarized as follows:

- Capitol Expressway/South Capitol Avenue: In 2018 and 2035, this intersection is impacted during the AM peak hours. In 2018, the Light Rail Alternative caused the LOS to change by two grades from D to F and critical delay to increase by 61.0 seconds when compared to the No-Build Alternative. In 2035, the LOS is F in both scenarios but the critical delay increases by 95.1 seconds as a result of the Light Rail Alternative. This potentially significant intersection impact, which is due to changed circumstances rather than project changes, was not identified in the 2007 Final SEIR.

- Capitol Expressway/Ocala Avenue: In 2018 and 2035, this intersection is impacted during the PM peak hours. In 2018, the Light Rail Alternative caused the LOS to deteriorate from E+ to E and critical delay to increase by 29.3 seconds when compared to the No-Build Alternative. In 2035, the LOS is F in both scenarios, but the critical delay increases by 31.5 seconds as a result of the Light Rail Alternative. This intersection impact remains significant and unavoidable, as identified in the 2007 Final SEIR, and in the Statement of Overriding Considerations adopted by the VTA Board of Directors in May 2005 and August 2007. Although there will be some increase in the severity of the previously identified significant and unavoidable impact since the 2007 SEIR, the increase is minor enough that it will not constitute a substantially more severe significant impact. In the 2007 Final SEIR, the 2010 PM LOS decreased by two levels from D to E+ which is more than the decrease from E+ to E in the 2018 PM disclosed in this SMND. In the 2007 Final SEIR, the 2025 PM LOS decreased from E to E- and critical delay increased by 23%. In this MND, the 2035 PM LOS was already F and the critical delay increased by 23% similar to the 2007 Final SEIR. Given that the changes in LOS and critical delay in this SMND are similar to or less than the changes in the 2007 Final SEIR, the intersection impact is not considered to represent a substantial increase in the severity of a previously identified impact.

In addition to updating the traffic forecasts for the intersections along Capitol Expressway, VTA also prepared an Eastridge Transit Center Traffic Evaluation (Attachment E). Roadway intersections internal to the Eastridge Mall parking lot were analyzed based on VTA Traffic Impact Analysis Guidelines (VTA 2009). Analysis was conducted for a typical weekend during the midday peak hour scenario (no holiday adjustment). Table 1-5 and 1-6 shows the level of service and average stopped delay of these intersections for existing and existing plus project conditions. The "Existing + Project" conditions represent the cumulative effect of the Eastridge Improvements Project and the Light Rail Alternative on these intersections. The Eastridge Improvements Project began construction in June 2013 and will reroute 11 buses per hour onto Eastridge Loop Road and the Capitol Expressway Connector Road that are currently exiting directly from the transit center onto Capitol Expressway. The Light Rail Alternative will be shifting the intersection of Capitol Expressway and the Connector Road slightly to the south of its current location. Exhibit C depicts the Eastridge Transit Center and the changes that will be occurring with the Light Rail Alternative.

The analysis indicates that the existing LOS at the Eastridge Loop/Connector Road to Capitol Expressway intersection is currently operating at LOS F during the weekend midday peak hour scenario. The “Existing + Project” conditions are not anticipated to worsen average delay (See Table 3.1-5 and 3.1-6).

Table 3.1-1 Intersection Level of Service, Delay, and Volume-to-Capacity Ratio under the Light Rail Alternative, 2018 AM

Intersection	Cross Street	CMP?	2018 AM No-Build				2018 AM With LRT (Base)				Δ in Crit Delay (sec)
			LOS	Avg Delay (sec)	Crit V/C	Crit Delay (sec)	LOS	Avg Delay (sec)	Crit V/C	Crit Delay (sec)	
1	South Capitol Avenue	Yes	D	47.5	0.899	52.4	F	91.1	1.120	113.4	61.0
2	Story Road	Yes	F	100.7	1.163	134.8	F	95.5	1.146	128.6	-6.2
3	Ocala Avenue	No	E+	58.1	0.810	64.9	E	62.5	0.771	72.0	7.1
4	Cunningham Avenue	No	B+	11.6	0.684	8.2	B+	11.6	0.643	8.4	0.2
5	Tully Road	Yes	D-	51.4	0.857	54.1	D	46	0.609	46.7	-7.4
6	Eastridge Access	No	A	5.3	0.472	1.0	A	5.8	0.396	1.1	0.1
7	Quimby Road	Yes	F	88.1	1.092	119.5	E	72.8	0.990	87.8	-31.7
8	Nieman Boulevard	No	D	40.2	0.881	49.6	C-	33.4	0.760	41.2	-8.4

Source: AECOM 2010.

Note: Shaded cells indicate adverse effects.

Table 3.1-2 Intersection Level of Service, Delay, and Volume-to-Capacity Ratio under the Light Rail Alternative, 2018 PM

Intersection	Cross Street	CMP?	2018 PM No-Build			2018 PM With LRT (Base)			Δ in Crit Delay (sec)		
			LOS	Avg Delay (sec)	Crit V/C	Crit Delay (sec)	LOS	Avg Delay (sec)		Crit V/C	Crit Delay (sec)
1	South Capitol Avenue	Yes	D-	52.9	0.907	56.7	D	46.3	0.759	44.8	-11.9
2	Story Road	Yes	E	68.4	0.985	104.2	E	60.7	0.904	79.9	-24.3
3	Ocala Avenue	No	E+	58.6	0.779	58.0	E	74.4	0.835	87.3	29.3
4	Cunningham Avenue	No	A	9.0	0.589	5.0	A	8.7	0.601	4.4	-0.6
5	Tully Road	Yes	D-	54.5	0.774	72.0	D-	53.7	0.715	68.7	-3.3
6	Eastridge Access	No	B	13.5	0.509	17.8	B	13.9	0.478	18.5	0.7
7	Quimby Road	Yes	F	112.0	1.133	145.5	F	111.3	1.117	139.1	-6.4
8	Nieman Boulevard	No	C	28.2	0.780	43.4	C	27.7	0.761	42.7	-0.7

Source: AECOM 2010.

Note: Shaded cells indicate adverse effects.

Table 3.1-3 Intersection Level of Service, Delay, and Volume-to-Capacity Ratio under the Light Rail Alternative, 2035 AM

Intersection	Cross Street	CMP?	2035 AM No-Build			2035 AM With LRT (Base)			Δ in Crit Delay (sec)		
			LOS	Avg Delay (sec)	Crit V/C	Crit Delay (sec)	LOS	Avg Delay (sec)		Crit V/C	Crit Delay (sec)
1	South Capitol Avenue	Yes	F	106.1	1.176	136.8	F	172.5	1.394	231.9	95.1
2	Story Road	Yes	F	161.8	1.400	237.7	F	156.2	1.396	236.0	-1.7
3	Ocala Avenue	No	F	102.9	0.986	143.1	F	118.1	0.963	168.1	25.0
4	Cunningham Avenue	No	B	12.5	0.826	9.7	B	12.1	0.802	9.6	-0.1
5	Tully Road	Yes	E	72.6	1.065	90.8	E+	56.3	0.916	60.6	-30.2
6	Eastridge Access	No	A	5.4	0.590	1.2	A	5.8	0.514	1.2	0.0
7	Quimby Road	Yes	F	129.1	1.271	193.2	F	106.1	1.169	151.0	-42.2
8	Nieman Boulevard	No	E	61.9	1.043	82.0	D	41.1	0.922	52.1	-29.9

Source: AECOM 2010.

Note: Shaded cells indicate adverse effects.

Table 3.1-4 Intersection Level of Service, Delay, and Volume-to-Capacity Ratio under the Light Rail Alternative, 2035 PM

Intersection	Cross Street	CMP?	2035 PM No-Build				2035 PM With LRT (Base)				Δ in Crit Delay (sec)
			LOS	Avg Delay (sec)	Crit V/C	Crit Delay (sec)	LOS	Avg Delay (sec)	Crit V/C	Crit Delay (sec)	
1	South Capitol Avenue	Yes	F	116.6	1.162	146.0	F	86.9	1.081	113.7	-32.3
2	Story Road	Yes	F	137.8	1.252	221.7	F	121.9	1.180	172.7	-49.0
3	Ocala Avenue	No	F	105.4	0.997	134.8	F	126.6	1.081	166.3	31.5
4	Cunningham Avenue	No	A	10.0	0.729	6.4	B+	10.4	0.757	6.3	-0.1
5	Tully Road	Yes	F	87.1	1.070	133.6	E-	78.2	1.011	112.6	-21.0
6	Eastridge Access	No	B	15.7	0.650	23.6	B	15.8	0.620	24.1	0.5
7	Quimby Road	Yes	F	199.4	1.426	267.8	F	195.6	1.409	260.8	-7.0
8	Nieman Boulevard	No	E-	78.6	1.126	113.5	E	73.8	1.107	106.3	-7.2

Source: AECOM 2010.

Note: Shaded cells indicate adverse effects.

**Table 3.1-5: Eastridge Mall
Existing Conditions Intersection LOS**

#	Intersection	Intersection Control	Weekend Mid-day Peak hour	
			LOS	Delay (sec/veh)
3	Eastridge Loop/ North Mall Internal Driveway	AWSC	B	10.4
4	Eastridge Loop/ Connector Road to Capitol Expressway	TWSC ₂	F	> 100
5	Capitol Expressway/ Connector Road to Capitol Expressway	Signal	C	22.3

¹ AWSC – All way stop sign

² TWSC - Two way stop sign

Source: VTA 2013.

**Table 3.1-6: Eastridge Mall
Existing + Project Conditions Intersection LOS**

#	Intersection	Intersection Control	Weekend Mid-day Peak hour		Change in Delay (secs)
			LOS	Delay (sec/veh)	
3	Eastridge Loop/ North Mall Internal Driveway	AWSC	A	9.7	-0.7
4	Eastridge Loop/ Connector Road to Capitol Expressway	TWSC ₂	F	> 100	0
5	Capitol Expressway/ Connector Road to Capitol Expressway	Signal	C	22.8	0.5

Source: VTA 2013.

Mitigation: Providing an exclusive straight-through lane and adding a left-turn lane on westbound South Capitol Avenue and eastbound Excalibur Drive would mitigate the significant traffic impact at Capitol Expressway/South Capitol Avenue for both 2018 and 2035 in the AM Peak Hour to “less than significant” (See Tables 3.1-7 to 3.1-10). This mitigation measure reduces critical delay by 0.5 seconds in the 2018 AM, and improves LOS from F to E and reduces critical delay by 63.3 seconds in the 2035 AM. This mitigation measure is included in the Light Rail Alternative as TRN-2a and is described in greater detail in the Supplemental Traffic Analysis (Attachment F). This mitigation measure, incorporated into the project, would reduce to a less-than-significant level the new potentially significant impact at the South Capitol Avenue intersection. As a result, the impact at this intersection is not considered a new significant effect or a substantial

increase in the severity of a previously identified significant effect which would require preparation of a subsequent or supplemental EIR under CEQA Guidelines sections 15162 or 15163.

A potential mitigation measure for the traffic impacts at Ocala Avenue could be to replace the existing HOV lanes between Capitol Avenue and Tully Road that will be removed under the Light Rail Alternative. Because the existing HOV lanes would be removed to provide space for the light rail trackway, right-of-way would need to be acquired from adjacent properties. In addition, retaining the HOV lanes would likely result in severe noise and vibration impacts at many properties. Since implementing this mitigation measure would have several adverse effects on adjacent properties, it is not considered feasible.

The significant and unavoidable impact at the Ocala Avenue intersection was previously identified in the 2007 Supplemental EIR and was included in a Statement of Overriding Considerations that was adopted by the VTA Board of Directors in May 2005 and August 2007, and no substantial increase in the severity of this previously identified significant and unavoidable intersection impact is identified in this SMND. As a result, this effect at intersections is not considered a new significant effect or a substantial increase in the severity of a previously identified significant effect which would require preparation of a subsequent or supplemental EIR under CEQA Guidelines sections 15162 or 15163.

Impacts to Roadway Circulation

There would be no effects to roadway circulation as a result of the proposed changes to the project. As a result, no new significant effects or substantial increase in the severity of previously identified significant effects to roadway circulation would occur.

Impacts to Park-and-Ride Demand and Capacity

As a result of the addition of Bus Rapid Transit service to the corridor, VTA's model was rerun and the demand at the Alum Rock and Eastridge Station was updated as indicated in Table 3.1-11.

At the Alum Rock Park-and-Ride the existing number of spaces (110) is expected to be less than the future estimated demand of 129 spaces with the Light Rail Alternative. VTA will monitor the Park-and-Ride demand at Alum Rock Station.

When demand exceeds supply on a consistent basis, VTA will try to negotiate an arrangement with the adjacent residential complex to share parking as the peak usage for these two land uses occur at different times of the day. VTA is not proposing to construct a parking structure because of potential adverse impacts to adjacent properties, including displacement of residents and visual effects from a multi-story parking structure being placed next to single- and multifamily residences. If it is not possible to reduce demand or increase supply at Alum Rock Station, parking spillover into the surrounding neighborhoods could occur. If so, VTA will work with the city to eliminate this effect, including the implementation of a neighborhood parking permit program, as needed. See Figure 3.1-1 Alum Rock Transit Center, which shows the existing Park-and-Ride lot and its relationship to adjacent properties.

Table 3.1-7 Intersection Level of Service, Delay, and Volume-to-Capacity Ratio under the Light Rail Alternative at South Capitol Avenue after Mitigation, 2018 AM

Intersection	Cross Street	CMP?	2018 AM No-Build			2018 AM With LRT (Base)			Δ in Crit Delay (sec)			
			LOS	D	Avg Delay (sec)	Crit Delay (sec)	V/C	Avg Delay (sec)		Crit Delay (sec)		
1	South Capitol Avenue	Yes	D		47.5	0.899	52.4	D	45.8	0.936	51.9	-0.5

Source: AECOM 2013.

Table 3.1-8 Intersection Level of Service, Delay, and Volume-to-Capacity Ratio under the Light Rail Alternative at South Capitol Avenue after Mitigation, 2018 PM

Intersection	Cross Street	CMP?	2018 PM No-Build			2018 PM With LRT (Base)			Δ in Crit Delay (sec)			
			LOS	D	Avg Delay (sec)	Crit Delay (sec)	V/C	Avg Delay (sec)		Crit Delay (sec)		
1	South Capitol Avenue	Yes	D		52.9	0.907	56.7	D	37.9	0.684	34.7	-22.0

Source: AECOM 2013

Table 3.1-9 Intersection Level of Service, Delay, and Volume-to-Capacity Ratio under the Light Rail Alternative at South Capitol Avenue after Mitigation, 2035 AM

Intersection	Cross Street	CMP?	2035 AM No-Build			2035 AM With LRT (Base)			Δ in Crit Delay (sec)			
			LOS	F	Avg Delay (sec)	Crit Delay (sec)	V/C	Avg Delay (sec)		Crit Delay (sec)		
1	South Capitol Avenue	Yes	F		106.1	1.176	136.8	F	101.8	1.166	129.4	-7.4

Source: AECOM 2013

Table 3.1-10 Intersection Level of Service, Delay, and Volume-to-Capacity Ratio under the Light Rail Alternative at South Capitol Avenue after Mitigation, 2035 PM

Intersection	Cross Street	CMP?	2035 PM No-Build			2035 PM With LRT (Base)			Δ in Crit Delay (sec)		
			LOS	Avg Delay (sec)	Crit V/C	Crit Delay (sec)	LOS	Avg Delay (sec)		Crit V/C	Crit Delay (sec)
1	South Capitol Avenue	Yes	F	116.6	1.162	146.0	E	62.8	0.996	82.7	-63.3

Source: AECOM 2013

At the Eastridge Transit Center Park-and-Ride, the existing number of spaces (115) is expected to be less than the future 2035 estimated demand with the No-Build Alternative (164 spaces) and with the Light Rail Alternative (approximately 480 spaces). The project is proposing to add approximately 330 spaces for a total of 445 spaces. Given the difference between the expected demand (476 with the Ocala Station option and 481 with the No Ocala option) and proposed supply of 445 parking spaces, VTA will monitor Park-and-Ride demand at Eastridge and will increase parking up to 481 by redeveloping an area occupied by an existing structure owned by VTA into parking and other transit-oriented uses.

Table 3.1-11: Estimated Demand and Supply for Park-and-Ride Spaces in 2035

Station	Existing (2009)	No-Build Alternative	Light Rail Alternative (Ocala)	Light Rail Alternative (No Ocala)	Notes
Alum Rock					
Demand	77	110	129	128	Existing Park-and-Ride facility would remain. No expansion has been planned.
Supply	110	110	110	110	
Eastridge					
Demand	16	164	476	481	Existing Park-and-Ride of 115 spaces would be expanded to 445 to partially address the new demand.
Supply	115	115	445	445	

Source: VTA 2009.



Figure 3.1-1
Alum Rock Transit Center

Impacts to Pedestrians and Bicyclists

The No Sidewalk Widening and Sound wall Relocation North of Ocala Avenue option would eliminate improvements to the newly constructed sidewalk with pedestrian lighting. The improvements that would be eliminated include the widening of the sidewalk and the addition of landscaping. The reason for this change is to avoid the need to take property from the backyards of nine adjacent residences. Because the proposed change would not affect existing pedestrian facilities and would not worsen pedestrian conditions in the corridor, there is no new significant effect or substantial increase in the severity of previously identified significant effects on pedestrians and bicyclists.

Cumulative Effects

In combination with other reasonably foreseeable projects, the Light Rail Alternative will have the following cumulative impacts on parking:

Impact: Indirect Effect of Loss of Parking

At Eastridge Mall, VTA is proposing to reconstruct and rehabilitate Eastridge Transit Center as a separate phase of the project. That phase is directly in conflict with over 304 parking spaces at the mall due to the relocation of the transit center, the relocation of Eastridge Ring Road, and the addition of pedestrian facilities along the Ring Road and to the eastern entrance of the mall. Moreover, VTA is performing certain conformance work in consultation with and at the request of the Eastridge Mall, which results in an additional loss of 98 parking stalls. The loss of the 402 total parking stalls can be mitigated by re-striping the mall parking area, which allows the mall to meet standard parking ratios and market demands. With re-striping of only a portion of the mall parking area, 140 parking stalls can be recovered, resulting in a maximum loss of 262 parking stalls.

When combined with the estimated 330 - 366 parking spaces that have been acquired at the request of and as part of a settlement agreement with Eastridge Mall for property needed for the Eastridge Transit Center phase, the total loss of parking at the mall will be 592 - 628 spaces. Accordingly, no additional parking spaces will need to be acquired for the Light Rail phase. Based on a review of aerial photographs taken on December 15, 2007, December 13 and 20, 2008, and December 17, 2011, these spaces are not usually used due to their location far from the mall entrances. These aerials can be found in Attachment H.

At Eastridge Mall, the other issue associated with the cumulative loss of parking is compliance with the City of San Jose Municipal Code and contractual obligations with tenants since these may require that the mall build or procure additional parking. VTA has reviewed the City of San Jose’s parking requirements. Based on a requirement of 1 parking space per 225 square feet of Rentable Building Area or Gross Leasable Area (GLA), it was determined that 6,185 spaces are needed to meet parking requirements for existing and approved buildings. There are currently 7,126 spaces. Taking into account that 285 spaces will be lost in order to accommodate the footprint of future buildings, it was determined that there are conservatively 656 surplus spaces. It should be noted that an additional reduction for parking is also possible per Municipal Code 20.90.220, which states "a reduction in the required off-street parking spaces of up to ten percent (10%) may be authorized with a Development Permit for structures or uses located within 2,000 feet of a proposed or an existing rail station". Most of the buildings at Eastridge Mall are located within 2,000 feet of the proposed light rail station. Not assuming this reduction, the cumulative loss of parking will not result in a contravention of the City of San Jose Municipal Code. The legal obligation to provide its tenants with parking at a ratio of 5.0 spaces per 1,000 square feet of “floor area” has been addressed during the acquisition process in which compensation for economic losses is determined. As a result, the proposed changes to the project will not result in a new significant effect or increase in the severity of a previously identified significant effect.

Mitigation: None Required. The impact is “Less than Significant”.

**Table 3.1-12 Eastridge Mall
City of San Jose Parking Requirements**

	Gross Building Area	Rentable Building Area %	Gross Leasable Area	Parking Ratio	Required Spaces
Total Existing Buildings	1,600,735				
Future Non-Mall Buildings	36,490				
Grand Total Buildings	1,637,225	85%	1,391,641	1 space per 225 sf	6,185

Source: Smith & Associates, No Date.

3.2 Air Quality and Climate Change

This section generally evaluates the effect of the project on compliance with regional, state, and federal air quality standards. Mitigation measures are identified for impacts that exceed the significance thresholds listed in the 2005 Final EIR and 2007 Final SEIR.

Environmental Setting

The Capitol Expressway Corridor is located within the San Francisco Bay Area Air Basin. The pollutants of greatest concern in this area are ozone, particulate matter less than or equal to 2.5 microns in diameter (PM_{2.5}), particulate matter less than or equal to 10 microns in diameter (PM₁₀), and carbon monoxide (CO).

An Air Quality Technical Study (2010) was prepared for the Environmental Impact Study to comply with NEPA. This study updated the report that was prepared for the 2007 Final SEIR to reflect baseline conditions at the time of the Notice of Intent to prepare a Supplemental Draft EIS, to incorporate new guidelines for greenhouse gases and regulations for PM_{2.5}, to refresh the opening year and 20-year forecast, and to analyze the effects of any proposed changes to the project.

On October 8, 2009, EPA designated the Bay Area as in nonattainment with the PM_{2.5} standard. The effective date of the designation was December 14, 2009, on which date certain transportation projects that use any federal funds or seek federal action became subject to project level conformity requirements. For projects which are not exempt, a project level review and an interagency consultation with members of EPA, FHWA, FTA, Caltrans, MTC and other agency members must be completed to determine if the construction of the project will result in adverse air quality impacts of fine particulate matter in the project area. In November 2010, VTA submitted the project assessment form for PM_{2.5}, which was reviewed by the Air Quality Conformity Task Force at their meeting on December 8, 2010. On January 24, 2011, the Air Quality Conformity Task Force determined that the project is not a Project of Air Quality Concern (POAQC) and that no hot-spot analysis would be required.

On March 18, 2010, the Office of Planning and Research released guidance on determining the significance of impacts from greenhouse gas emissions. The greenhouse gas analysis has been updated to incorporate this guidance.

Environmental Impacts and Mitigation

The No Median Ocala Station option will result in a slight increase in Vehicle Miles Traveled of less than 0.1 percent. However, this increase is not expected to result in any adverse air quality impacts or exceedances of state or federal ambient air quality standards.

Based on information in Table 3.2-1, implementation of the proposed action would result in an increase in GHG emissions from electricity and natural gas consumption relative to the No-Build Alternative. However, these increases would be offset by the GHG reductions achieved by the removal of single-occupancy-vehicles. As shown in Table 3.2-2, implementation of the No Median Ocala Station option under 2035 conditions would result in net reductions of GHG emissions achieved by the removal of single-occupancy vehicles. This is considered to be an air quality benefit. However under interim year conditions, implementation of the No Median Ocala Station option will result in an increase of 10,652 metric tons in GHG emissions. These emissions are not in excess of the Council of Environmental Quality's (CEQ) Draft Guidance for Greenhouse Gas Emissions and Climate Change Impacts (Sutley 2010) that suggests that projects emitting GHGs in excess of 25,000 metric tons (MT) annually be considered in a qualitative and quantitative manner. As a result, there would be no new significant effects or substantial increase in the severity of previously identified significant effects to air quality.

Table 3.2-1 Summary of GHG Emissions from Electricity Usage (metric tons CO₂e^a per year)^b

Scenario	Electricity	Natural Gas
Existing	11,407	852
2018 No-Build Alt	29,753	2,223
2018 LRT Alt	31,176	2,329
2018 LRT Alt (No Ocala Station option)	31,099	2,324
2035 No-Build Alt	39,465	2,949
2035 LRT Alt	41,354	3,090
2035 LRT Alt (No Ocala Station option)	41,211	3,082
Alternative Difference (Compared to the No-Build Alternative)		
2018 LRT Alt - No-Build Alt	1,424	106
2018 LRT Alt (No Ocala Station option) - No-Build Alt	1,347	101
2035 LRT Alt - 2035 No-Build Alt	1,888	141
2035 LRT Alt (No Ocala Station option) - 2035 No-Build Alt	1,746	133

Modeling completed by ICF International. Emission factors obtained from California Climate Action Registry 2009 and Pacific Gas & Electric 2007

Refer to ICF International 2010 for additional information.

Notes:

^a Refers to carbon dioxide equivalents--represents total emissions of carbon dioxide, methane, nitrous oxide, and sulfur-hexafluoride, accounting for the global warming potential of each gas. Please see ICF International 2010 for additional detail.

^b Based on usage assumptions summarized in Chapter 4-7.

Table 3.2-2 Total GHG Emissions Generated by Project Operations, Relative to the No-Build Alternative (metric tons CO₂e per year)

Scenario	Electricity	Natural Gas	Traffic	Net Change
2018 LRT Alt - No-Build Alt	+1,424	+106	-1,581	-51
2018 LRT Alt (No Ocala option) - No-Build Alt	+1,347	+101	+9,204	+10,652
2035 LRT Alt - No-Build Alt	+1,888	+141	-2,047	-18
2035 LRT Alt (No Ocala option) - No-Build Alt	+1,746	+133	-2,093	-214

3.3 Biological Resources

The Capitol Expressway corridor is located in an urban environment that does not provide suitable habitat for special-status plant and wildlife species with the exception of the Western Burrowing owl (*Athene cunicularia hypugea*). Potential habitat for the Western Burrowing owl was identified near Lake Cunningham and Reid Hillview Airport between Cunningham Avenue and Tully Road. None of the proposed changes to the project would result in any new significant effects or a substantial increase in the severity of previously identified significant effects to biological resources.

3.4 Community Services

There are numerous community facilities located near the Capitol Expressway corridor, including schools, libraries, community centers, churches, parks, trails, fire stations, and regional facilities. The proposed changes to the project would not affect access to these facilities, result in alterations or displacements to these facilities, or changes in police/fire service ratios. As a result, no new significant effects or substantial increase in the severity of previously identified significant effects to community services would occur.

3.5 Cultural Resources

The Cultural Resources Identification and Evaluation Report was updated in June 2010. Since there are no known archaeological and architectural resources in the immediate vicinity of the project changes, no new significant impacts or substantial increase in the severity of previously identified significant effects to cultural resources would occur.

3.6 Electromagnetic Fields

Electromagnetic Fields (EMF) are invisible, non-ionizing, low-frequency radiation. Concern about EMF exposure pertains to its ability to interfere with other electrical systems and have adverse biological effects. Under the Light Rail Alternative, the greatest potential for exposure to increased EMF would be within the light rail vehicles and at the proposed stations. Since none of the proposed changes would increase exposure to EMF, no new significant effects or substantial increase in the severity of previously identified significant effects as a result of EMF would occur.

3.7 Energy

The effect of the project on energy consumption, namely electricity, diesel fuel, and gasoline, was recalculated based on updated model runs for the vehicle miles traveled for each major transportation mode and for refreshed opening year and 20-year forecast dates. In all, the Light Rail Alternative results in lower net energy use than the No-Build Alternative because of higher transit ridership and lower personal automobile use.

In the 2007 Final SEIR, VTA identified a significant and unavoidable impact to electrical transmission infrastructure during periods of peak demand as the electricity generation and transmission network in California came under increasing strain to meet growing demand from population and economic growth, higher-than-average summer temperatures, and decreasing consumer conservation efforts. Since then, conditions have changed dramatically. The 2010 CAISO Transmission Plan indicates that the state's power infrastructure and supply will have sufficient thermal capacity to handle the Greater Bay Area, including peak periods, through 2024 (CAISO 2010). Given the state's current projections, this increase in electricity demand during peak periods is not considered to represent an adverse effect. As a result, this effect is no longer considered significant and unavoidable.

3.8 Geology, Soils, and Seismicity

None of the proposed changes to the project would increase the potential for human injury or loss resulting from hazards related to geology, soils, and seismicity since they would generally reduce the number of facilities or structures that could be damaged in a major earthquake. As a result, no new significant effects or a substantial increase in the severity of previously identified significant effects to geology, soils, and seismicity would occur.

3.9 Hazardous Materials

The expansion of the Eastridge Park-and-Ride to 476 – 481 spaces would require the demolition of a building that was formerly occupied by the JC Penny Tire, Battery, and Automotive Facility. It was most recently used as a dialysis center, but is currently unoccupied. Since this building was constructed prior to 1978, the potential for lead-based paint (LBP) and asbestos containing material (ACM) to be found onsite is likely. Demolition of this structure may produce solid waste including LBP and ACM. Improper handling and disposal of LBP and ACM would be considered a potentially significant impact unless mitigation is incorporated.

Impact: Hazard to the Public or Environment Caused by the Release of Hazardous Materials

Mitigation: HAZ-3 - Comply with Regulations Regarding the Disposal of Lead-Based Paint

According to the Department of Toxic Substances Control (DTSC), if paint is not removed from the building material during demolition (and is not chipping or peeling), the material can be disposed of as construction debris (a non-hazardous waste). The landfill operator will be contacted prior to disposal of building material debris to determine any specific requirements the landfill may have regarding the disposal of LBP materials. The disposal of demolition debris shall comply with any such requirements.

If during demolition of any building, paint is separated from the building material (e.g. chemically or physically), the paint waste will be evaluated independently from the building material by a qualified hazardous materials inspector to determine its proper management. All hazardous materials shall be handled and disposed of in accordance with local, state, and federal regulations.

Mitigation: HAZ-4 - Comply with the National Emission Standards For Hazardous Air Pollutants Regarding Asbestos Containing Materials

Prior to demolition work, buildings built prior to 1978 shall be sampled as part of an asbestos survey in compliance with the National Emission Standards For Hazardous Air Pollutants (NESHAP). If asbestos is found in the building, asbestos-related

work, including demolition, involving 100 square feet or more of asbestos-containing materials (ACMs) shall be performed by a licensed asbestos abatement contractor under the supervision of a certified asbestos consultant and asbestos shall be removed and disposed of in compliance with applicable State laws.

With the incorporation of these mitigation measures, no new significant effects or substantial increase in the severity of previously identified significant effects to hazardous materials would occur.

3.10 Hydrology and Water Quality

The acquisition of property to add up to 231 more parking spaces at Eastridge Station will not increase runoff or drainage since these areas are already paved and used for parking. As for the other proposed changes, they will be occurring in a Federal Emergency Management Agency (FEMA) 100-year flood hazard zone. Since these changes will be removing structures from the FEMA-identified flood hazard areas, no new significant effects or substantial increase in the severity of previously identified significant effects to hydrology and water quality would occur.

3.11 Land Use

The primary land use in the Capitol Expressway corridor is residential. Notable non-residential land uses in the corridor include the Reid-Hillview Airport, Lake Cunningham Park, and Eastridge Shopping Mall.

The No Median Ocala Station option and the No Sidewalk Widening or Sound Wall Relocation North of Ocala Avenue option occur in residential areas. The No Sidewalk Widening or Sound Wall Relocation North of Ocala Avenue option would eliminate the need to acquire property from the backyards of nine adjacent properties, thus minimizing land use impacts without compromising the utility of the project. The recently constructed sidewalk and lighting would remain. The No Median Ocala Avenue Station option would increase the distance needed to travel to access the Light Rail Alternative. However, the area would still be served by a BRT station and is located within one mile of the Story Road and Eastridge Stations.

The addition of up to 231 parking spaces at Eastridge Station affects a major commercial area. This proposed change to the project would be compatible with the existing land uses since the property is currently used for parking.

Based on this analysis, no new significant effects or substantial increase in the severity of previously identified significant effects to land use would occur.

3.12 Noise and Vibration

A Noise and Vibration Study (2010) was prepared for the Environmental Impact Study to comply with NEPA. This study updated the report that was prepared for the 2007 Final SEIR to reflect baseline conditions at the time of the Notice of Intent to prepare a Supplemental Draft EIS, refresh the opening year and 20-year forecast, and analyze the effects of any proposed changes to the project.

The ambient noise environment was measured in 2010 with future noise levels modeled based on traffic volumes from the 2010 Transportation Study. The results of the 2010 Noise and Vibration Study were similar to previous studies in which aerial and embankment sound walls were included as a project feature. Even with this project feature, 150 moderate impacts and 1 severe impact remained.

In the 2010 Noise and Vibration Study, installation of quiet pavement, such as a layer of open-graded rubberized asphalt on Capitol Expressway, was identified as an additional mitigation measure that would reduce the 1 severe impact near Ocala Avenue and all but one of the moderate impacts. This additional mitigation measure has been included in the Light Rail Alternative as NV-1c.

With regards to the proposed changes to the project, none are anticipated to change noise or vibration levels. As a result, no new significant effects or substantial increase in the severity of previously identified significant effects to noise and vibration would occur.

3.13 Safety and Security

None of the proposed changes to the project would result in unsafe conditions or threats to security. These conditions are usually caused by failure to comply with applicable safety regulations, unsafe design features or service characteristics, and inadequate security measures. As a result, no new significant effects or increase in the severity of previously identified significant effects to safety and security would occur.

3.14 Socioeconomics

Socioeconomics refers to the potential to negatively affect the population, household, and community characteristics of an area through physical divisions, disruption of efforts to economically revitalize the area, growth inducement, displacement of businesses or housing, and increased demand for housing. The No Median Ocala Station and the No Sidewalk Widening, and Sound Wall Relocation North of Ocala Avenue options, would not contribute to any negative effects to socioeconomics. In fact, the No Sidewalk Widening and Sound Wall Relocation North of Ocala Avenue option would have a beneficial impact by eliminating the need to acquire property from the backyards of nine adjacent properties. The changes at Eastridge Station would reduce the number of parking spaces available to patrons and tenants at the mall. Based on a review of aerial photographs taken on December 15, 2007, December 13 and 20, 2008, and December 17, 2011, these spaces are not usually used due to their location far from the mall entrances. These aerials can be found in Attachment G. In addition, analysis indicates that the Eastridge Mall would have enough parking remaining to meet City of San Jose municipal code requirements for parking (See Section 3.1 for more details). As a result, no new significant effects or substantial increase in the severity of previously identified significant effects to socioeconomics would occur.

3.15 Utilities

Utilities include storm drains, sanitary sewer lines, water, gas and electricity lines, and telecommunications. Utility impacts generally occur from increasing demand on utilities and causing disruptions in utility services. None of the proposed changes to the project would result in utility impacts. As a result, no new significant effects or substantial increase in the severity of previously identified significant impacts to utilities would occur.

3.16 Visual Quality

Visual quality refers to the potential to negatively affect scenic vistas, introduce new sources of light and glare, and degrade the existing visual character of the Capitol Expressway corridor. The No Median Ocala Station would not affect visual quality since it would be eliminating station facilities, such as canopies, light poles, and furniture, from the project. The No Sidewalk Widening and Sound Wall Relocation North of Ocala Avenue would eliminate proposed landscaping from the plans, which would not change the existing visual character of this segment. The Eastridge Park-and-Ride Lot would convert existing parking

spaces for the mall into parking spaces for the Eastridge Station, which would not result in a major change in the visual character of the mall.

Based on this analysis, no new significant effects or substantial increase in the severity of previously identified significant effects to visual quality would occur.

3.17 Environmental Justice

Environmental justice refers to the potential to have disproportionately high and adverse environmental impacts on minority and/or low income populations. Since none of the proposed changes would result in significant effects that cannot be mitigated, no new significant effects or substantial increase in the severity of previously identified significant effects to environmental justice would occur.

3.18 Construction

The only proposed change to the project that would involve additional construction is the expansion of the Eastridge Park-and-Ride lot by up to 231 more parking spaces beyond the 135 parking spaces that have already been approved. The additional construction would generally be similar to the construction already planned for the area and include the appropriate mitigation measures related to construction activities included in the 2005 Final EIR and the 2007 Final SEIR. However, it could potentially involve the demolition of an existing building. With the incorporation of measures related to lead-based paint (HAZ-3) and asbestos-containing materials (HAZ-4), any construction impacts from hazardous materials would be mitigated.

Providing a straight-through lane and adding a left-turn lane on westbound South Capitol Avenue and eastbound Excalibur Drive to mitigate significant impacts at the Capitol Expressway and South Capitol Avenue intersection (TRN-2a) to less than significant would involve narrowing the center median and reducing the widths of existing travel lanes. In addition, the existing westbound left-through lane would need to be re-striped to a straight-through lane. These modifications to this intersection would result in only minor revisions to the plans and would not involve any major changes in construction activities or durations. The Light Rail Alternative would already be modifying the center median to accommodate the aerial guideway and be restriping the roadway to reflect changes in geometry. Therefore, no new significant effects or substantial increase in the severity of previously identified effects to construction would occur from the incorporation of this mitigation measure into the Light Rail Alternative.

For construction emissions, the 2005 Final EIR and the 2007 Final SEIR relied on the Bay Area Air Quality Management District's (BAAQMD) 1999 CEQA

Thresholds. At that time, the District’s approach to CEQA analyses of construction impacts was to emphasize implementation of effective and comprehensive control measures rather than detailed quantification of emissions. As a result, the 2005 Final EIR and the 2007 Final SEIR did not quantify construction emissions. Subsequently, the BAAQMD adopted thresholds of significance on June 2, 2010 that included thresholds for construction emissions. VTA evaluated construction emissions in the Air Quality Technical Study (2010) that was prepared for the federal environmental document and found that the project did not exceed any of these thresholds.

The analysis of construction emissions also included GHG emissions that would result from onsite construction equipment (see Table 3.18-1). However, with innovations such as longer pavement lives, improved traffic management plans, and changes in materials, the GHG emissions produced during construction can be mitigated to some degree by longer intervals between maintenance and rehabilitation events. These long-term GHG reductions would offset the short-term construction emissions. Implementation of the BAAQMD’s Best Management Practices for GHG Emissions (AQ (CON)-2) would reduce potential effects related to increases in GHG emissions during construction. These BMPs are outlined in their 2010 CEQA Guidelines and consist of the following:

- Use of alternative-fueled (e.g., biodiesel, electric) construction vehicles/equipment of at least 15 percent of the fleet.
- Incorporation of local building materials of at least 10 percent.
- Recycling at least 50 percent of construction waste or demolition materials.

Table 3.18-1 Summary of Construction Emissions (pounds per day)

Phase	ROG	NO _x	CO	PM10			PM2.5			CO ₂ ^a
				Total	Exhaust	Dust	Total	Exhaust	Dust	
Light Rail Alternative										
Grubbing/Land Clearing	2.0	6.5	22.8	150.6	0.6	150.0	31.5	0.3	31.2	51
Grading/Excavation	2.4	9.6	24.3	264.7	0.7	264.0	55.4	0.5	54.9	1,236
Drainage/Utilities/Sub-Grade	5.6	34.1	33.3	451.8	1.8	450.0	95.0	1.4	93.6	1,735
Paving	3.9	18.6	26.9	1.3	1.3	-	0.9	0.9	-	1,124
<i>BAAQMD Threshold</i>	<i>54</i>	<i>54</i>	<i>-</i>	<i>-</i>	<i>82</i>	<i>-</i>	<i>-</i>	<i>54</i>	<i>-</i>	<i>-</i>
Light Rail Alternative, No Ocala Station Option										
Grubbing/Land Clearing	2.0	6.5	22.8	150.6	0.6	150.0	31.5	0.3	31.2	51
Grading/Excavation	2.4	9.6	24.3	264.7	0.7	264.0	55.4	0.5	54.9	1,179
Drainage/Utilities/Sub-Grade	5.6	34.1	33.3	451.8	1.8	450.0	95.0	1.4	93.6	1,735
Paving	3.9	18.6	26.9	1.3	1.3	-	0.9	0.9	-	1,041
<i>BAAQMD Threshold</i>	<i>54</i>	<i>54</i>	<i>-</i>	<i>-</i>	<i>82</i>	<i>-</i>	<i>-</i>	<i>54</i>	<i>-</i>	<i>-</i>

^a Presented in MT per year

As a result, no new significant effects or substantial increase in the severity of previously identified significant effects from construction, particularly construction emissions, would occur.

