

# Section 4

## Other CEQA Considerations

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### 4.1 INTRODUCTION

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This section presents a summary of significant unavoidable impacts resulting from implementation of the proposed project. These are the impacts described in Section 3 that cannot be mitigated to a less-than-significant level. The section also identifies irreversible and irretrievable commitment of resources and significant cumulative impacts. The potential for the project to stimulate unplanned growth in the region is considered. Finally, this section discusses project alternatives, including the No Project Alternative, and describes the environmentally superior alternative.

### 4.2 SIGNIFICANT AND UNAVOIDABLE IMPACTS

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Section 3 of this document identifies impacts considered significant and the mitigation measures required to reduce those impacts to a less-than-significant level. The one significant impact of the proposed project that cannot be mitigated to a less-than-significant level are repeated below.

*EN-4. Implementation of Phase 2, Single Car LRT, would increase peak period electricity demand. (SU)*

The electricity transmission network in California is under increasing strain to meet the growing demand, especially during peak periods. Peak period demand can be significantly higher than off-peak demand. The ability of California's energy infrastructure to generate and deliver electricity during peak periods to where it is needed may be affected by the retirement of aging power plants; the slow pace of new plant construction; the limitations of the transmission network to supply surplus electricity from other regions; and inadequate infrastructure for the delivery and storage of natural gas, which provides 40 percent of the fuel for California's power plants.

Phase 1 - BRT would not increase peak period electricity demand, as it would rely on diesel power. In general, Phase 2 - Single Car LRT would have a beneficial effect on overall energy use by reducing vehicle miles traveled and generating a relatively small increase in total electricity demand. However, information from the California Energy Commission suggests that any proposed project that would increase the demand for electricity would have an energy impact due to constraints on electricity supply, especially during peak periods. Since Single Car LRT increases demand on the statewide electrical transmission grid, an energy impact would occur during peak hours. However, Single Car LRT would be designed to incorporate energy efficiency features consistent with VTA's Sustainability Program, thereby reducing the long-term energy requirements and the operating costs. Because no mitigation is available to reduce this impact to a negligible level, it is considered significant and unavoidable.

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### 4.3 SIGNIFICANT AND IRREVERSIBLE ENVIRONMENTAL CHANGES

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CEQA defines the significant and irreversible changes that would be caused by the project, should it be implemented, as the use of nonrenewable resources during the initial and continued phases of a project that require a large commitment of such resources that may make unlikely the future removal or nonuse of the resources. Energy is a non-renewable resource. Without implementation of the proposed project, transit services in the Santa Clara-Alum Rock Corridor would essentially remain as they currently exist. No new services that require additional energy use would be implemented in the Corridor. This lack of transit improvements could lead to a slight increase in vehicle miles traveled. However, this slight increase would not lead to a substantial demand on the regional energy supply. Also, without implementation or operation of new transit facilities requiring electrical power, such as what would be required with the implementation of Single Car LRT service during Phase 2 of the proposed project, no effects on electricity reserve are expected, and no additional capacity would be required.

A public transit project such as BRT and Single Car LRT service has the potential to alter the pattern of energy use—to not only consume new amounts of energy in a particular form, but to also diminish the use of energy in some other form. Shifts in demand from one end-use form of energy to another would likely occur as discussed in Section 3.8, Energy. While both the BRT and the Single Car LRT service would lead to increased energy use to power buses and LRT vehicles, respectively, these increases would be potentially offset by reduced demand for energy to power automobiles. Neither phase of the project would lead to a wasteful, inefficient, and unnecessary usage of energy. No adverse effect is expected. The articulated diesel-powered buses used under the BRT phase would consume approximately 65,000 gallons of diesel fuel per year, which is roughly 0.07 percent of the annual consumption of diesel fuel in Santa Clara County of about 88,000,000 gallons. The electrically powered articulated LRT cars used with the Single Car LRT phase would consume approximately 2.2 gigawatt-hours of electricity per year, which is roughly 0.01 percent of the annual consumption of electricity in Santa Clara County of about 16,000 gigawatt-hours. Therefore, a substantial demand would not be placed on regional energy supply and no significant impact is expected.

BRT service would not increase electricity demand, as it would rely on diesel power. Single Car LRT service, however, would place new demands on electricity and diesel fuel supplies. On the other hand, this phase could reduce demands on gasoline due to some transit patrons substituting transit use for automobile use. Nonetheless, the demands on electricity are not significant. As described above, the electrically powered articulated light rail cars would consume roughly 0.01 percent of the annual consumption of electricity in Santa Clara County. This would not result in a significant increase in electricity demand and no significant impact is expected.

Both BRT and Single Car LRT would involve commitments of non-renewable energy resources. However, the demands would primarily shift from one end-use form of energy to another, and no substantial demand would be placed on regional energy supply. Therefore, the proposed project would be expected to have a similar, less-than-significant impact on regional energy supply.

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## 4.4 ANALYSIS OF CUMULATIVE EFFECTS

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CEQA Guidelines Section 15355 defines the term *cumulative impact* as “two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts.” A cumulative impact consists of a change in the environment that results from the incremental impact of a project when added to closely related past, present, and reasonably foreseeable probable future projects.

To analyze a proposed project’s contribution to cumulative impacts, CEQA requires that the lead agency identify past, present, and probable future projects in the vicinity of the proposed project; summarize their effects, and identify the contribution of the proposed project to cumulative impacts in the region. CEQA requires that feasible options for mitigating or avoiding the project’s contribution to any significant cumulative effects be recommended (CEQA Guidelines Section 15130[b][5]). Cumulative impacts should be considered separately for each resource area addressed in an EIR. However, when the combined cumulative impact associated with the project’s incremental effect and the effect of other projects is not significant, the EIR shall briefly indicate why the cumulative impact is not significant and why it is not discussed in further detail in the EIR.

### Approach

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For this analysis, two approaches to identifying related foreseeable projects and their impacts have been used: a “list” approach, in which projects are identified on an individual basis, and a “projection” approach, in which the analysis of cumulative impacts is based on a summary of projections in an adopted general plan or related planning document. Projections resulting from traffic modeling have been incorporated into the analysis of cumulative impacts for transportation and air quality. For all other resource areas, the list approach has been used. Table 4-1 identifies a list of approved, pending, and reasonably foreseeable potential developments within the City of San Jose that were included in this cumulative analysis.

The impact analysis in Section 3, Environmental Analysis, has identified impacts associated with the proposed alternatives that are considered significant and the mitigation measures required to reduce those impacts to a less-than-significant level. The analysis has identified that there would be no cumulative impact for the proposed project in the following resource areas:

- Community Services
- Cultural Resources
- Electromagnetic Fields (EMF)
- Energy (annual consumption)
- Soils, Geology, and Seismicity
- Hydrology and Water Quality
- Safety and Security

**Table 4-1**  
**City of San Jose and San Jose Redevelopment Agency Development Permit Activity**  
**Santa Clara-Alum Rock Corridor Area (within 0.25 Mile of Street Centerline)**

Project	Location	Estimated Completion	Description	Land Use
<b>Projects Under Construction</b>				
The 88 – Phase 1	San Fernando Street, between 2 <sup>nd</sup> Street & 3 <sup>rd</sup> Street	May 2008 (Phase 1)	23-story tower with 197 luxury homes, 32,000 square feet (s.f.) of ground-floor retail, and 338 public parking spaces below ground	Residential, Commercial
Axis – Phase 1 Tower	Notre Dame Street, Carlyle Street, Almaden Boulevard	May 2008 to September 2008	Phase I: 329 residential units Phase II: low-rise residential building up to 7 stories along Santa Clara Street adjacent to DeAnza Hotel	Residential
Legacy Partners Riverpark II	333 West San Carlos Street	May 2009	16-story office tower adjacent to the existing office tower and parking garage	Commercial
105 South Montgomery Parking Lot	105 South Montgomery Street	June 2008	Approximately 1-acre parking lot that will include 130 parking spaces, three streetlights, and landscaping	Parking
San Jose Day Nursery Infant Center	33 North 8 <sup>th</sup> Street	July 2008	Demolition of existing modular and installation of a new modular building	Commercial
51 (Centex Homes)	Bush Street & The Alameda	Summer 2008	Construction of 265 residential units	Residential
Three Sixty Residences	360 1 <sup>st</sup> Street	Summer 2009	Construction of 213 residential units with 266 parking spaces	Residential
<b>Projects in Planning and Design Stage</b>				
City Front Square (Block 8)	1 <sup>st</sup> Street & San Carlos Street	2011-2014	Construction of up to 600 residential units and parking	Residential
North San Pedro Housing Site	Julian Street, San Pedro Street, & Devine Street	2009-2014	Construction of up to 600 residential units in four phases (450 high rise units and 150 townhomes)	Residential
Park View Towers	St. James Street, between 1 <sup>st</sup> Street and 2 <sup>nd</sup> Street	Summer 2008-2012	Construction of up to 191 residential units and 230 parking spaces	Residential

*Sources: City of San Jose Redevelopment Agency, Neighborhood & Business Development Division Monthly Report, March 2008; and Monthly Housing Report, March 2008.*

An analysis of the potential cumulative impacts in the remaining resource areas for the proposed project is summarized below.

## **Transportation**

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As described in Section 3.2, Transportation, the CMP travel forecast model was used to develop future-year traffic projections and transit ridership forecasts. The model incorporates local and regional government projections of future background growth, land use, and employment intensities and locations, as well as programmed highway, street and transit improvements and the transportation consequences of other anticipated development projects for 2010 and 2030. Accordingly, the analysis of adverse effects based on this model already accounts for the cumulative impacts of the proposed project in combination with other projects. The proposed project would contribute to the cumulative impacts listed below, which unless indicated otherwise are considered less than significant or would be reduced to a less-than-significant level with mitigation incorporated.

The No Project Alternative would not contribute to cumulative impacts on transportation since transportation improvements are included in the regional transportation model. The proposed project would contribute to the following potential cumulative impacts.

### **BRT Service**

- Significant impacts to the Alum Rock Avenue/King Road intersection (AM peak only), the Alum Rock Avenue/McCreery Road intersection (PM peak only), and the Alum Rock Avenue/I-680 southbound ramps (AM peak and PM peak).

### **Single Car LRT**

- delay to transit vehicles due to vehicle queuing at the U.S. 101 northbound on-ramp;
- Significant impacts during the AM peak hour and/or PM peak hour to the Alum Rock Avenue/Capitol Avenue Intersection, the San Fernando/Autumn Street intersection, the San Fernando/Delmas Avenue Intersection, the Santa Clara Street/10th Street Intersection, and the Santa Clara Street/Autumn Street Intersection (LRT Alignment Option 1 only).
- Changes to an existing passenger loading zone along West Santa Clara Street between Almaden Boulevard and Notre Dame Street and between Notre Dame Street and Almaden Avenue.
- Incompatibility with proposed bicycle facilities along West San Fernando Street and Almaden Boulevard.

These impacts are considered less than significant or would be reduced to a less-than-significant level with mitigation incorporated or with design options as identified in Section 3.2, Transportation.

## Implementation Constraints

The alignment of the proposed San Jose BART extension would share the alignment of both BRT and Single Car LRT along Santa Clara Street from the vicinity of 28<sup>th</sup> Street to the San Jose Diridon Station. BART would be constructed in a tunnel alignment under Santa Clara Street, from 28<sup>th</sup> Street through Downtown San Jose to the City of Santa Clara. Most BART-related construction on Santa Clara Street would be done using Tunnel Boring Machines (TBM) and would cause a minimum of disturbance on the street level. However, in the BART station areas and the area where BART crosses under tracks would be reconstructed and Santa Clara Street would be closed for various construction periods. During these construction periods, LRT vehicles could not operate through the area from approximately the proposed BART Civic Center Station at 7<sup>th</sup> Street through Downtown San Jose. BART station and ancillary facility construction in this area is scheduled for 2010 to 2016. Therefore, LRT vehicles could not operate over this portion of Santa Clara Street until 2018, at the earliest, which is the planned opening of BART.

Single Car LRT includes a side running alignment from 34<sup>th</sup> Street to Almaden Boulevard with a single track on each side of the street. Trains could turn back and therefore LRT vehicles could not operate until a turn back facility is built just west of the San Jose Diridon Station. Thus, implementation of Single Car LRT service is tied to the schedule of the BART construction and cannot be implemented prior to the completion of BART planned for 2018.

Should both BART and Single Car LRT be approved for construction, extensive coordination would be required to minimize the disruption to traffic, bicyclists, pedestrians, and businesses on Santa Clara Street. This would be accomplished by tracking and implementing both the Mitigation Monitoring and Reporting Plan and a Construction Community Outreach Plan (CCOP) (refer to Section 3.18, Construction) for both projects.

BRT has the advantage of being able to use parallel streets with temporary stops during the time of BART construction. Therefore, most features of BRT could be constructed and in operation independent of the schedule of the BART construction.

## Air Quality

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The *BAAQMD CEQA Guidelines* indicates that a project would have a “cumulatively considerable” impact if the incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects. According to the *BAAQMD CEQA Guidelines*, any proposed project that would individually have a significant air quality impact would also be considered to have a significant cumulative air quality impact.

As discussed under Impact AQ-2, the operational emissions resulting from both BRT and Single Car LRT service would not exceed BAAQMD significance thresholds for ROG, NO<sub>x</sub>, and PM<sub>10</sub>. For cumulative ROG, NO<sub>x</sub>, and PM<sub>10</sub> impacts as related to long-term operational emissions, the Single Car LRT phase would contribute essentially zero ROG, NO<sub>x</sub>, and PM<sub>10</sub> emissions and would therefore not

lead to a cumulatively adverse impact. The BRT phase would also contribute minimal amounts of ROG, NO<sub>x</sub>, and PM<sub>10</sub>. Based upon the guidance provided by BAAQMD, the proposed project would not result in a cumulatively considerable contribution with regard to criteria pollutants, and this impact would be less than significant.

For CO, the cumulative impact threshold for emissions is the same as that for project-specific impacts (20 ppm averaged over one hour and 9 ppm averaged over eight hours). For analysis of cumulative indirect CO emissions, cumulative traffic impacts are compared to the same criteria listed above for project-specific indirect CO emissions. As shown in the CO concentration analysis in this study, the CO concentrations resulting from cumulative conditions (Year 2030 conditions) for each of the proposed project would not exceed either State or federal AAQS. Therefore, the proposed project would not lead to a cumulatively adverse CO impact.

Both phases of the project would generate PM<sub>10</sub> during the construction phase. Cumulative impacts from PM<sub>10</sub> construction-related emissions, in association with the collective contribution of PM<sub>10</sub> from nearby sources, cannot be quantitatively determined. The *BAAQMD CEQA Guidelines* state that construction emissions from a project need not be quantified, but that all feasible mitigation measures must be implemented to reduce any impact. Implementation of applicable mitigation measures from *BAAQMD's CEQA Guidelines* (Mitigation Measure AQ-1.1) would reduce the impacts of construction emissions of particulate matter to the extent feasible, resulting in an impact that would be temporary and less-than-cumulatively considerable.

## **Biological Resources**

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As discussed in Section 3.4, Biological Resources, the proposed project would be constructed in a highly developed urban corridor. Because the Santa Clara-Alum Rock Corridor is completely urban, there is no habitat that can be considered undisturbed. This is true even of the creek crossings where two of the four crossings are contained within concrete channels (Lower Silver Creek and the Guadalupe River) and provide only marginal wildlife habitat. Five biological habitats totaling just over 1.096 acres were identified and mapped from in the vicinity of Coyote Creek. These include common habitats such as urbanized areas of landscaping and ruderal (weedy) grasslands. Also there are remnants of native habitats associated with the creek crossings including mixed riparian forest, emergent wetland, and aquatic habitats. These three habitats are all considered sensitive habitats by CDFG. Project construction throughout the Santa Clara-Alum Rock Corridor associated with the proposed project, would result in the loss of urban landscaping and ruderal habitats throughout the Corridor. The loss of urban landscaping and ruderal habitats would not represent an adverse effect because these habitats have negligible habitat values for native plant and wildlife species.

Despite the level of disturbance already present in the project area, implementation of Single Car LRT service, in combination with other reasonably foreseeable projects, is expected to result in cumulative impacts on biological resources to the extent that cumulative losses may occur. Where the Santa Clara-Alum Rock Corridor crosses Coyote Creek, the implementation of Single Car LRT service would result in impacts to the creek and its associated riparian corridor and the biological resources within these habitats. Project plans detail the widening of the bridge over Coyote Creek when the Single Car

LRT phase is implemented. As described in Section 3.4, Biology, the bridge widening would result in the permanent loss of 0.04 acres of Mixed Riparian Forest and about 130 square feet (0.003 acres) of Emergent Wetland on each side for a total of 0.08-acres of mixed riparian forest, and about 260 square feet of Emergent Wetland. This permanent loss of sensitive habitats would be considered a significant impact. Construction is estimated to require the temporary removal of 0.14 acres of Mixed Riparian Forest and about 348 square feet (0.008 acres) of Emergent Wetland on each side. Because sensitive habitats would be affected, even if they are restored following construction, this would be considered a significant impact.

BRT and Single Car LRT service would contribute to the following potential cumulative impacts.

### **BRT and Single Car LRT Service**

- Loss of urban street trees and potential nesting habitats for migratory birds.

The project's contribution to this impact is considered less than significant or would be reduced to a less-than-significant level with mitigation incorporated as identified in Section 3.4, Biological Resources.

### **Single Car LRT Service**

The Single Car LRT phase would also contribute to the following potential cumulative impacts.

- Permanent removal of riparian habitat and emergent wetlands.
- Permanent and temporary loss of biological habitats and disturbance to inhabiting species.
- Permanent loss or temporary disturbance of aquatic species such as salmonids and red-legged frogs.

The project's contribution to these impacts is considered less than significant or would be reduced to a less-than-significant level with mitigation incorporated as identified in Section 3.4, Biological Resources.

### **Energy (Peak Period Consumption)**

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Because the Single Car LRT phase would increase demand for peak period electricity, an additional strain would be placed on the transmission infrastructure. When the Single Car LRT service demand for peak hour electricity is added to other past, present, and reasonably foreseeable projects, the cumulative effect is significant. Until long-term improvements to the transmission infrastructure are implemented, reliability cannot be assured.

### **Hazardous Materials**

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As described in Section 3.11, Hazardous Materials, hazardous materials are currently used by numerous businesses at and near the Corridor. In addition, hazardous materials may be present in surface and subsurface soils and groundwater at sites within the Corridor as a result of releases from

current or historic land uses. The presence of hazardous materials could potentially expose construction workers or the public to various health risks and may require special soil and/or groundwater management procedures during construction of the proposed project. A database search conducted to identify sites of environmental concern in the Corridor identified a total of 63 sites. Three of the 63 sites were identified as having a moderate potential for impact to the Corridor, and one of the 63 sites was identified as having a high potential for impact to the Corridor. Four facilities are ranked as having a moderate to high potential for an environmental condition located adjacent to the Santa Clara-Alum Rock Corridor. There are five schools and one university located within 0.25 miles of the Santa Clara-Alum Rock Corridor. Construction activities in the vicinity of any of these four sites could result in construction workers and/or the public to come into contact with contaminated soil or groundwater.

The proposed project would contribute to the following cumulative impacts on hazardous materials.

### **BRT and Single Car LRT Service**

- Exposure of construction workers or the public to various health risks associated with contaminated soil or groundwater.
- Exposure of sensitive receptors at school sites located within 0.25 miles of the Corridor to hazardous materials.

The project's contribution to these cumulative impacts is considered less than significant or would be reduced to a less-than-significant level with mitigation incorporated as identified in Section 3.11, Hazardous Materials.

### **Noise and Vibration**

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As indicated in the analysis in Section 3.14, Noise and Vibration, operation of BRT service in the Corridor is not anticipated to result in significant operational, stationary, or construction noise. Mitigation measures have been provided to reduce potential impacts associated with Single Car LRT service to a less-than-significant level. However, the project in combination with other future developments within the Corridor would have the potential to result in cumulatively significant impacts. Along with the proposed BRT and the Single Car LRT service, the Bay Area Rapid Transit (BART) extension has been considered as a future development within the area. BART would also run along Santa Clara Street.

The noise and vibration study that is contained within Chapter 4 of the *Draft Supplemental Environmental Impact Report (DSEIR)* on the *BART Extension to Milpitas, San Jose and Santa Clara*, identifies only certain residences along Santa Clara Street where there would be significant ground vibration impacts due to the BART trains in the bored tunnel beneath the street. Several different types of available vibration mitigation measures are described in the BART DSEIR to reduce impacts in the Santa Clara-Alum Rock Corridor to less than significant levels.

The major concern for cumulative impacts would be from groundborne vibrations impacts. Although there are no indications that the light-rail trains of the LRT phase would alone cause vibration levels to

exceed any criterion level, some of the estimates are close enough to the criterion level for residences as to suggest that reflections of ground vibrations off of the BART bored tunnel structure might enhance the transmission of peak passby ground vibrations between the LRT vehicles and the adjacent residences. The effect would not be substantial, but it could cause vibrations from the LRT vehicles to be enhanced to approximately the criterion level at a few residences. This might be the case, for example on the south side of Santa Clara Street west of 26<sup>th</sup> Street.

**MITIGATION MEASURE.** The following measure would reduce the potentially significant cumulative impact to a less than significant. (LTS)

*NOI-C.1 Cumulative Mitigation Measures.* With the assumption that the BART project would be constructed initially, as is planned, the following measure would promote the maintenance of acceptable ground-vibration levels in the residences and other structures along Santa Clara Street when the Single Car LRT phase is implemented: During the final engineering design phase for Phase 2 – Single Car LRT component of the proposed project, an engineering study of vibration impacts at on the south side of Santa Clara Street West of 26<sup>th</sup> Street structures shall be conducted which analyzes: (1) potential Single Car LRT vibration impacts in view of soil and other geotechnical data that may become available with BART tunnel construction or final design preparation; and (2) the potential for reflections or backscattering off of the BART tunnel structures brought about by increased Single Car LRT vibration levels at nearby receptors.

## **Population and Housing**

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The *San Jose 2020 General Plan* designates the Santa Clara-Alum Rock Corridor an “Intensification Corridor,” in which higher residential densities, mixed uses, and nonresidential uses would be centered along an existing or planned light rail line and/or major bus routes. Further, the general plan notes that Intensification Corridors are key to achieving general-plan objectives, including vigorous economic growth. These goals are particularly important for the accommodation of projected growth in the region. As such, the build alternatives are considered supportive of planned growth, and would not induce unplanned growth.

As described in Section 3.16, Population and Housing, the proposed project would not displace residents or housing units. Therefore, the project would not contribute to any cumulative impact in this area, and no cumulative impact would occur.

## **Visual Quality**

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There is potential for the proposed project in combination with other projects to result in cumulative impacts on visual quality. As described in Section 3.17, Visual Quality, the proposed Single Car LRT station at Almaden Boulevard would result in the removal of the existing stand of mature fan palms and the replacement of the current lawn and open space with the station platform, railbeds, and OCS poles and wires. This site-specific alteration of the visual setting, when considered in combination with other

pending projects in the study area, would not be cumulatively considerable, as landscaping associated with the cumulative projects in the study area would be expected to offset the alterations in the visual character of Almaden Boulevard.

Both phases of the proposed project would require lighting of stations throughout the night. Additional commercial or residential development in the Corridor would also introduce new sources of night lighting. This cumulative impact would not be considered significant, however, due to the urban/suburban nature of the Corridor. In addition, the project would reduce any spillover light with implementation of required mitigation.

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## 4.5 GROWTH INDUCING IMPACTS

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Pursuant to CEQA Guidelines Section 15126.2(d), an EIR must address the growth inducing effects of a project. A project is considered growth inducing if it has the potential to directly or indirectly foster economic or population growth or the construction of new housing. Section 15126.2(d) states that an EIR shall:

*... discuss the ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this are projects that would remove obstacles to population growth (a major expansion of wastewater treatment plant, might, for example allow for more construction in service areas). Increases in the population may further tax existing community service facilities requiring construction of new facilities that could cause significant environmental effects. Also [an EIR shall] discuss the characteristic of some projects which may encourage or facilitate other activities that could significantly affect the environment, either individually or cumulatively. It must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment.*

The proposed project involves minimal building of additional transit stations, but could it have an effect on growth by providing enhanced transit opportunities. The analysis in this section focuses on whether the proposed project would directly or indirectly induce economic, population, or housing growth within the surrounding environment.

### **Growth, Land Use, and Transportation Systems**

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Growth rates and patterns within an area are influenced by various local, regional, and national forces that reflect ongoing social, economic, and technological changes. Ultimately, the amount and location of population growth and economic development that occurs within a specific area is regulated by city and county governments through zoning, land use plans and policies, and decisions regarding development applications. Local government and other regional, State, and federal agencies also make decisions regarding the provision of infrastructure (e.g., transportation facilities, water facilities, sewage facilities) that may influence growth rates and the location of future development.

Transportation projects can have a wide range of growth-inducing effects. A project may hasten growth in certain areas, retard it in other areas, intensify growth in certain locations, or shift growth from one locality to another. However, transportation improvements generally support growth, whereas land use development generates new travel demand and therefore supports the need for new transportation facility capacity. Transportation infrastructure is one component of the overall infrastructure that may serve to accommodate planned growth.

Extension of urban services or transportation facilities into previously unserved or underserved areas, and removal of obstacles to growth and development are considered factors that contribute to growth inducement. However, City projections include substantial future population and employment growth in the study area over the next 20 years, as detailed in Section 3.16, Population and Housing. The proposed project is planned to serve the existing Santa Clara-Alum Rock Corridor's transit needs and to accommodate planned future development. And, the Corridor is already served by bus lines as discussed in Section 3.2, Transportation. Generally, extension of rail transit systems, such as VTA's light rail system, into communities has concentrated growth into infill areas and produces positive economic benefits to a community. More compact development is made possible by the high-volume service of light rail transit systems, creating less urban sprawl than if all development were auto-oriented. This more compact style of development is a key principle of "smart growth," a movement to foster responsible land use development patterns and growth that benefits the economy, community, and environment. The implementation of "smart growth" principles is achieved through zoning, land use plans, and policies that include the interest and support of public agencies, community members, and private-sector developers.

## **Growth Inducement Analysis**

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The proposed project is designed to serve the current and planned growth in population, housing, and employment in the next 15 to 20 years in the Santa Clara-Alum Rock Corridor.

On a regional level, MTC has determined that the region wide transportation improvements in the Bay Area would not have a significant growth-inducement effect in the Bay Area because the proposed transportation systems lag behind the growth that has already occurred in the region. MTC has determined that these transportation improvements are consistent with projected and planned growth in the region overall and would not adversely alter land designated for future development in existing local plans. MTC, in conjunction with ABAG and other regional agencies, has since created a smart-growth approach to planning regional transportation improvements that support updated general plans, redevelopment plans, and concept plans with a transit-oriented development focus. In Santa Clara County, VTA has prepared and adopted "best practices" that reflect similar principles for integrating transportation and land use.<sup>1</sup>

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<sup>1</sup> Community Design and Transportation, A Manual of Best Practices for Integrating Transportation and Land Use, VTA, 2002.

## **Direct Growth Inducement in the Santa Clara-Alum Rock Corridor**

Based on the analysis in Section 3.13, Land Use, most of the land along the Santa Clara-Alum Rock Corridor is already developed, although some parcels remain undeveloped and some properties are proposed for redevelopment. Most of the projects that have been approved recently or are pending approval are residential or commercial developments (Table 4-1). These projects are undergoing or have undergone a consistency analysis with San Jose 2020 General Plan policies and implementation strategies. Therefore, neither phases of the proposed project would directly induce substantial population or housing growth beyond that currently planned for by the City. Operation of the either BRT or Single Car LRT service would result in the employment of approximately 50 new employees. The study area and the City as a whole are expected to substantially gain population and employment over the next 20 years. By 2025, it is predicted that the City will have a total population of 1,230,664 people; an increase of 38 percent from 2000. The study area is expected to grow much more quickly, with an increase of 67 percent over the same time period.

Implementation of the proposed project would not directly result in substantial new employment opportunities within the Corridor. Although project-related employment would constitute a small percentage of the City's employment growth, the new employment opportunities would be consistent with General Plan policies to create more job opportunities for existing residents to improve the balance between jobs and resident workers.

Implementation of the proposed project does not include any elements that would induce substantial population growth beyond planned growth levels and, as described above, would not impede the efforts of the City to achieve the growth goals established for the Corridor. Existing and planned transit projects would serve existing populations and forecasted population levels reflected in the *San Jose 2020 General Plan*. Implementation of transit improvements such as light rail or bus are considered key to the Intensification Corridor planning strategy for vigorous growth, which is particularly important for the accommodation and guidance of the high projected growth the study area. According to this strategy, both BRT and Single Car LRT service would help renovate the Corridor by improving access and promoting the growth of activity nodes proximate to the proposed stops. Either phase of the project would both promote and accommodate planned growth in a designated Intensification Corridor and would not directly induce substantial population, housing, or employment growth beyond that currently defined in the *San Jose 2020 General Plan*.

## **Indirect Adverse Growth-Inducing Impacts in the Santa Clara-Alum Rock Corridor**

Although the proposed project would directly induce population, housing, or economic growth, it could indirectly induce growth in the study area through several means, including alleviating highly congested transportation systems; improving access to existing neighborhoods, civic resources, and employment centers from regional public transit that may grow as a result; and providing incentives for development on vacant and underused land in the vicinity. The *San Jose 2020 General Plan* designates the Santa Clara-Alum Rock Corridor as an “Intensification Corridor,” in which higher residential densities, mixed uses, and nonresidential uses would be centered along an existing or planned light rail lines. The new stations would provide access points for residents and employees seeking transit on the

VTA system. Therefore, to the extent that improved transit systems encourage development by removing obstacles to mobility or improving access in the region, the project could have an indirect growth-inducing effect by accelerating planned growth in a more compact, transit-oriented form, particularly in and around the proposed stations. Any potential future growth that could result from implementation of the project would be under City jurisdiction. The City's planning efforts for the areas surrounding the proposed stations are intended to encourage land use designations and zoning to accommodate anticipated growth, including transit-oriented development. These changes reflect the indirect influence of BRT and Single Car LRT service. Any new transit-oriented development proposals would be subject to environmental review on a project-specific basis.

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## **4.6 PROJECT ALTERNATIVES**

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This section discusses the No Project Alternative and those alternatives that have been previously evaluated for the Santa Clara-Alum Rock Corridor. The impacts of these alternatives are compared to those of the proposed project. A brief summary of the reasons why these alternatives were not considered further is also provided.

### **No Project Alternative**

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CEQA requires that an EIR describe and evaluate the impacts of a no project alternative. The no project analysis must discuss the existing conditions, as well as what would be reasonably expected to occur in the foreseeable future if the project were not approved and development continue to occur in accordance with existing plans and consistent with available infrastructure and community services (CEQA Guidelines, Section 15126.6(e)(3)(C)).

The No Project Alternative assumes the following LRT Routes would be in operation (Figure 2-5):

- Guadalupe Corridor;
- Tasman West Corridor
- Vasona Corridor;
- Tasman East/Capitol Corridor; and
- Capitol Expressway Corridor to Eastridge Transit Center.

The No Project Alternative also includes the current bus network and fleet and assumes the construction of BART to San Jose.

### **Prior Studies**

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As discussed previously, VTA completed an MIS that identified transportation needs within the community and developed a major transit investment plan for the 30-square-mile Downtown East Valley Study Area. During that process, 16 conceptual alternatives and a No Project Alternative were carried forward as initial alternatives to be studied. An initial screening process in late 1999 by the Downtown East Valley Policy Advisory Board (PAB) eliminated six of the alternatives from further

consideration. Nine alternatives plus No-Build and Transportation Systems Management, or TSM, were then carried forward for a more detailed evaluation, which was completed in spring 2000.

In June 2000, the Downtown East Valley PAB recommended that a light rail alignment between the San Jose Diridon Station to the Capitol Avenue LRT line be included in the Preferred Investment Strategy for consideration by the VTA Board of Directors for further study. East of King Road, light rail would operate in an exclusive guideway and west of King Road light rail would operate in the center travel lane, sharing the right-of-way with general auto traffic. In August 2000, the VTA Board of Directors approved this Preferred Investment Strategy.

As the planning process for transit improvements in the Downtown East Valley Study Area moved forward, it became evident that further study was needed to address the unique transportation needs and potential integration of high capacity transit investments into the Santa Clara-Alum Rock Corridor before detailed environmental analysis could begin. Therefore, in December 2002, VTA initiated a focused technical study, including a series of public workshops, to further evaluate transit options in the Corridor. Completion of these workshops in May 2003 resulted in the selection of the alternatives evaluated in this EIR.

### **Alternatives Raised During the Scoping Meeting**

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In the responses to the public scoping meeting, an alignment alternative to the Santa Clara-Alum Rock LRT Project was suggested that included an alignment along San Antonio Street rather than along Alum Rock Avenue. This alternative was rejected from further consideration due to a combination of factors, including a lack of right-of-way along San Antonio Street, residential impacts, difficulty in connecting with the Capitol LRT line, and the high level of transit demand on Alum Rock Avenue that would not be served by an alignment on San Antonio Street.

### **Alternatives Considered During Preliminary Environmental Screening and Conceptual Engineering**

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As part of VTA's planning process, the following alternatives were considered during the preliminary environmental scoping and conceptual engineering process, but were rejected:

- Two Car Light Rail
- Single Car Light Rail with New Vehicles
- European Modern Streetcar
- California Modern Streetcar
- Undergrounding of LRT
- Alignment Alternatives

These alternatives are discussed in detail below.

**Two Car Light Rail.** The Two Car Light Rail Alternative would use the current VTA two car light rail trains (approximately 180 feet in length) running at 10-minute headways in an alignment similar to the proposed Single Car LRT service. The Two Car Light Rail Alternative could interline with the Capitol Expressway LRT line on the east and continue on to the Eastridge Transit Center, and interline with the Vasona LRT line in Downtown San Jose on the west and continue on through the Vasona tunnel to the San Jose Diridon Station. This alternative was dropped because of the significant community impacts such as the magnitude of impacts to on-street parking, loading areas, traffic circulation, and businesses along the Corridor.

**Single Car Light Rail with New Vehicles.** The Single Car Light Rail Alternative with New Vehicles would use a new single car light rail vehicle (approximately 77 feet in length) running at 10-minute headways in an alignment similar to the proposed Single Car LRT. The Single Car Light Rail Alternative with New Vehicles could interline with the Capitol Expressway LRT line on the east and continue on to the Eastridge Transit Center, and interline with the Vasona LRT line in Downtown San Jose on the west and continue on through the Vasona tunnel to the San Jose Diridon Station. This alternative was dropped because it would provide lower capacity than the other alternatives and it would require the purchase and maintenance of a new fleet of LRT vehicles.

**European Modern Streetcar.** The European Modern Streetcar Alternative would use a contemporary streetcar vehicle (approximately 66 feet in length), potentially imported from Europe, running at five-minute headways in an alignment similar to the proposed Single Car LRT. The European Modern Streetcar Alternative could not interline with any existing or future LRT lines and would terminate at the Alum Rock Station. This would require a cross-platform transfer for passengers wishing to access trains on the Capitol Expressway LRT Line. The west end of the alignment would terminate at the San Jose Diridon Station off Santa Clara Street at a surface streetcar stop with a short walk for LRT, bus, BART, or commuter rail transfers. The European Modern Streetcar under consideration would not meet the California Public Utility Commission (CPUC) General Order 143-B safety requirements. Therefore, each streetcar vehicle would have to be modified to meet CPUC requirements or VTA would have to work with the CPUC for approval to accommodate streetcar operations. This alternative was dropped because it did not meet the goal of creating an integrated and connected rail system; it had unique requirements and costs, and lacked community support.

**California Modern Streetcar.** The California Modern Streetcar Alternative would use a contemporary streetcar vehicle (approximately 66 feet in length) built to CPUC structural standards running at 10-minute headways along an alignment similar to the proposed Single Car LRT. This alternative has the potential for interlining with existing LRT corridors and could continue on to the Eastridge Transit Center on the east, but would terminate at the San Jose Diridon Station off Santa Clara Street at a surface streetcar stop. It should be noted that the vehicle described for this alternative is not currently available in the marketplace and would have to be designed, approved by the CPUC, and manufactured for this project. This alternative was dropped because it lacked full system integration, would have created limitations on capacity, posed potential difficulties with designing a new vehicle, and lacked community support.

**Undergrounding of LRT.** Two options for the potential undergrounding of LRT in the Santa Clara-Alum Rock Corridor were considered: 1) an LRT tunnel from 28<sup>th</sup> Street through Downtown to the San Jose Diridon Station, and 2) LRT remaining in a street-running operation east of 7<sup>th</sup> Street and then transitioning to a tunnel from 7<sup>th</sup> Street to the San Jose Diridon Station. Due to the high level of impact and construction costs for below-grade stations, tunnel alignments would have fewer stations than at-grade operations and both options would have had fewer stations than the proposed at-grade alignment. The tunnel alternative was also raised by community members at the public scoping meeting. While this alternative has the benefits of faster speed and shorter travel time, higher capacities, potentially better connections to BART, less interference with traffic operations (when completed), and no visual impact associated with LRT catenary compared to other alternatives, it was rejected because of the significantly higher costs, funding challenges, and substantially greater construction impacts. These impacts would outweigh the benefits and the limited number of stops would not serve the transit needs in the Corridor.

**San Fernando Street Alignment Option.** This alignment would have traveled from the existing San Jose Diridon Station along San Fernando Street through Downtown San Jose, turned north at 7<sup>th</sup> Street to connect to East Santa Clara Street, and continued on East Santa Clara Street and Alum Rock Avenue to connect to the Capitol LRT line. It would have provided a direct link and fast travel time between the San Jose Diridon Station, Downtown, and a Civic Plaza station on San Fernando Street. Implementation of this alternative would require the removal of one travel lane in each direction along San Fernando Street and the removal of some on-street parking. This alternative was rejected from further consideration because it would have had the most significant utility relocation impacts of all the alignment options considered, greater loss of on-street parking, potential BART impacts, conflicts with the Downtown Strategy Plan, and greater noise and vibration effects to sensitive surrounding land uses, including St. Joseph's Cathedral and the San Jose Art Museum.

**San Antonio Street Alignment Option.** In December 2002, VTA initiated a series of public workshops, to further evaluate transit options in the Corridor. Specifically, an alignment alternative to the Santa Clara-Alum Rock Corridor Project was suggested that included an alignment along San Antonio Street rather than along Santa Clara Street and Alum Rock Avenue. Alum Rock Avenue business owners preferred this alignment because they felt that San Antonio Street had better transit and provided a more direct connection to Capitol Expressway. This alternative was rejected from further consideration due to a lack of right-of-way along San Antonio Street, residential impacts, and the difficulty in connecting with the Capitol LRT line.

**Story Road Alignment Option.** A comment was received during the environmental scoping meeting regarding the potential for an alignment option on Story Road rather than Santa Clara Street and Alum Rock Avenue. Although it is a parallel east/west transportation corridor between the East Valley and Downtown San Jose, it is physically too far removed to serve the high transit demand in the Santa Clara-Alum Rock Corridor and would, therefore, not accomplish the basic purpose of the project. This alternative was considered but rejected.

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## **4.7 ENVIRONMENTAL ANALYSIS OF PROJECT ALTERNATIVES**

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The purpose of this impact assessment is to identify whether the above-described alternatives would reduce the potentially significant adverse impacts identified for the proposed project or would generate other secondary or tertiary adverse impacts different from those identified for the proposed project.

### **No Project Alternative**

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The No Project Alternative would not result in potentially significant and significant impacts to transportation, air quality, biological resources, cultural resources, energy, hazardous materials, noise and vibration, visual quality, and construction as identified for the proposed project, as analyzed in Sections 3.2 through 3.18. However, the No Project Alternative would result in new impacts associated with a potential increase in traffic volumes and an associated increase in vehicle emissions along the Corridor due to limited transit service along the Corridor. Also, the No Project Alternative does not meet any of the project objectives identified in Section 2, Project Description.

### **Two Car Light Rail Alternative**

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Implementation of the Two Car Light Rail Alternative would result in the same potentially significant and significant impacts identified for Phase 2 of the proposed project, including transportation, air quality, biological resources, cultural resources, energy, hazardous materials, noise and vibration, visual quality, and construction. This alternative may have additional traffic impacts at Corridor intersections due to the increased clearance time through intersections. This alternative could also require the removal of additional on-street parking spaces to accommodate two light rail cars at stations along Santa Clara Street. The Two Car Light Rail Alternative would satisfy the project objectives.

### **Single Car Light Rail Alternative with New Vehicles**

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The Single Car Light Rail Alternative with New Vehicles would also result in the same potentially significant and significant impacts identified for Phase 2 of the proposed project. In general, the Single Car Light Rail Alternative with New Vehicles would also satisfy the project objectives; however, as discussed above, this alternative would provide lower capacity and require the purchase and maintenance of a new fleet of LRT vehicles.

### **European Modern Streetcar Alternative**

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This alternative would also result in the same potentially significant and significant impacts along the Corridor as the proposed project. The European Modern Street Car Alternative would satisfy most of the project objectives, with the exception of the goal to create an integrated and connected rail system.

## California Modern Streetcar Alternative

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Implementation of the California Modern Streetcar Alternative would also result in the same potentially significant and significant impacts along the Corridor as the Single Car LRT phase of the proposed project. This alternative would satisfy the project objectives except it would not provide the desired capacity. This alternative was not pursued because it lacked full system integration and provided lower capacity.

## Undergrounding of LRT

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The Undergrounding of LRT Alternative would result in additional impacts not identified for the proposed project, including potential impacts on archaeological and paleontological resources due to depth of excavation and ground disturbance, increase energy use due to lighting of underground stations and tunnels, increased exposure to geologic hazards, potential changes in water quality and groundwater recharge, noise and vibration impacts from underground operations, and more intensified construction impacts. This alternative could reduce impacts related to this disturbance of nesting birds assuming that fewer street trees along the Corridor would need to be removed. This alternative could result in greater impacts to aquatic and riparian habitats along channels that traverse the Corridor if construction of the undergrounding of the LRT would require construction within the channels. Depending on the construction techniques used to underground the LRT, this alternative could also result in lesser impacts to aquatic and riparian habitat if the channels are avoided during construction. The Undergrounding of LRT Alternative would also avoid visual impacts on mosaics on the Coyote Bridge and impacts due to the compatibility of TPSS facilities along the Corridor. In general, this alternative would satisfy the project objectives, but this alternative was not chosen because of cost, greater construction impacts, and reduced number of stops.

## Alignment Alternatives

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The San Fernando Street, San Antonio Street, and Story Road Alignment Options would result in similar impacts as the proposed project; however those impacts would occur along those proposed alignments. These impacts could vary depending on each location, which could affect traffic volumes and intersection operations, parking, biological resources, cultural resources, hazardous materials, noise and vibration, visual quality, and construction impacts. The alignment alternatives meet most of the project objectives, with the exception of the Story Road alignment because it does not serve the Santa Clara-Alum Rock Corridor.

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## 4.8 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

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CEQA requires that an *environmentally superior alternative* be selected among the alternatives analyzed. In general, the environmentally superior alternative is defined as that alternative with the least adverse impacts to the project site and its surrounding environment.

The No Project Alternative would best avoid the impacts identified for the proposed project. In particular, it would not involve the construction and operational impacts in the areas of increased traffic volumes and delays at intersections, effects on special-status species and habitats, energy consumption during peak hours (LRT phase only), hazardous materials, noise, and visual quality. However, the No Project Alternative would have impacts on the physical environment by failing to address continuing long-term congestion- and traffic-related air quality and energy impacts. Under the No Project Alternative, projected demand for transit would not be met. There would be increased traffic volumes on roadways. The No Project Alternative would not be consistent with the *San Jose 2020 General Plan* in terms of supporting vigorous economic growth along a designated “Intensification Corridor.” The No Project Alternative would also not achieve the project objectives. The State CEQA Guidelines indicate that when the No Project Alternative is environmentally superior, the EIR shall also identify an environmentally superior alternative among the other alternatives.

Overall, the European Modern Street Car Alternative and the California Modern Street Car Alternative would result in the same natural and physical environmental impacts as the implementation of Single Car LRT in the Corridor. The alternatives would avoid certain impacts associated with the Single Car LRT Alternative, such as effects on special-status species and habitats due to the required widening of the Coyote Creek Bridge, and impacts associated with visual quality on Almaden Boulevard due to removal of the palm trees (although both of these impacts would be mitigated under the proposed project). However, because the European Modern Street Car Alternative and the California Modern Street Car Alternative would not provide full system integration and/or provide adequate capacity, they would not meet the project objectives or be consistent with the *San Jose 2020 General Plan*.

Both phases of the proposed project would be consistent with the *San Jose 2020 General Plan*. In addition, the beneficial impacts of the proposed project (i.e., reduction in roadway traffic volumes, increased transit ridership, reductions in air pollution emissions, vehicle miles traveled, and regional energy consumption) would exceed the beneficial impacts of the European Modern Street Car Alternative and the California Modern Street Car Alternative. Therefore, the proposed project is considered the environmentally superior alternative.