4 Analysis of Alternatives

The California Environmental Quality Act (CEQA) mandates consideration and analysis of alternatives to the proposed Plan. According to CEQA Guidelines, the range of alternatives "shall include those that could feasibly accomplish most of the basic objectives of the project and could avoid or substantially lessen one or more of the significant effects" (CEQA Guidelines Section 15126.6(c)). The discussion must also include an evaluation of the No Project Alternative to allow decision-makers to compare the impacts of approving the proposed Plan against the impacts of not approving it.

Case law suggests that the discussion of alternatives need not be exhaustive and that alternatives be subject to a rule of reason. The impacts of the alternatives may be discussed "in less detail than the significant effects of the project proposed" (CEQA Guidelines Section 15126.6(d)). Additionally, the CEQA Guidelines permit analysis of alternatives at a less detailed level for general plans and other program EIRs than what is required for project EIRs. The CEQA Guidelines do not specify what constitutes an adequate level of detail, though they require that an EIR provide sufficient information to allow meaningful evaluation, analysis, and comparison of each alternative. The CEQA Guidelines require that this analysis identify the environmentally superior alternative among those analyzed. Quantified information on the alternatives is presented where available; however, in some cases only partial quantification can be provided because of data or analytical limitations.

4.1 Background on Development of Alternatives

Beginning in the fall of 2015, the Isabel Neighborhood Plan planning team held a series of outreach events to solicit reactions, feedback and ideas from the Livermore community on a range of land use and circulation design options. The outreach events helped the planning team to gain insight into the community's goals related to development around the future BART station and its priorities for intensification of land uses; vehicular, pedestrian, and bicycle connectivity; and parking and traffic management. These outreach events, together with decision-maker input throughout the planning process helped to identify community priorities and established an overall vision for the Neighborhood.

In general, the planning team found that parking and traffic is a major area of concern for the community and local decision-makers. The planning team also determined that the greatest impacts of the buildout of the Neighborhood would likely be related to parking and traffic. For these reasons, the planning team has developed alternatives to the project that explore different options for parking and traffic management strategies. These scenarios serve the purpose of

minimizing adverse traffic impacts, and by extension air quality and greenhouse gas emissions impacts, consistent with the purpose of alternatives analysis in an EIR.

The No Project Alternative assumes continuation of the current General Plan.

4.2 Description of Alternatives

This chapter describes and evaluates impacts of five alternatives—the Reduced Development Alternative, the Enhanced Parking Alternative, the Car-Light Alternative, the DMU (Diesel-Multiple Unit) Alternative, and the No Project Alternative—and compares them to the impacts of the proposed Plan. The Reduced Development Alternative assumes a land use and buildout scenario based on the Association of Bay Area Governments' (ABAG's) Plan Bay Area 2040, which includes less residential and non-residential development than the proposed Plan. The Enhanced Parking Alternative assumes an additional City-owned parking structure north of I-580. The Car-Light Alternative assumes reduced parking ratios paired with enhanced shuttle and bus service, and the DMU Alternative assumes that a diesel-multiple unit transit system is installed as an extension of BART, instead of full BART.

Consideration of the No Project Alternative is required by CEQA in all EIRs to help decision-makers compare the impacts of approving the proposed Plan with the impacts of not approving the proposed Plan. The No Project Alternative is based on the 2004 City of Livermore General Plan, which represents the continuation of the existing plans and policies. Table 4.2-1 summarizes buildout of the proposed Plan, the No Project Alternative, the Reduced Development Alternative, the Enhanced Parking Alternative, the Car-Light Alternative, and the DMU Alternative.

Table 4.2-1: Comparison of Alternatives at Buildout

		Net New			
	Existing Conditions (2013)	*Proposed Plan*	*No Project (GP 2040)*	*Reduced Development (PBA 2040) Alternative*	*Enhanced Parking, Car-Light, and DMU alternatives*
Population and Housing					
Housing Units	1,383[1]	4,095	910	3,102	4,095[1]
Households[2]	1,313	3,890	865	2,947	3,890
Population	3,308[3]	9,803[3]	2,179	7,426	9,803[3]
Non-Residential Area and Jobs[4]					
Ground Floor Retail/Neighborhood Commercial (sf)	0	324,300	0	0	324,300
General Commercial (sf)	903,000	296,300	784,000	574,700	296,300
Office Core (sf)	0	1,414,000	0	0	1,414,000
Office/Business Park (sf)	918,100	482,700	797,100	917,500	482,700
Industrial/Warehousing (sf)	2,345,000	-413,100	2,036,100	264,600	-413,100
Education/Institutional	231,500	0	201,000	0	0
Total Non-Residential (sf)	**4,397,700**	**2,104,200**	**3,818,300**	**1,756,800**	**2,104,200**
Jobs[5]	**8,744**	**9,100**	**7,592**	**3,493**	**9,100**
Other					
Public/Institutional (acres)	204.5	167.4	129.8	167.4	167.4
Parks (acres)	36.4	150.2	137.5	150.2	150.2

Notes:

1. Includes the 476 Shea Homes Sage units currently under construction.
2. Households are estimated as 95 percent of the total housing units, assuming a 5 percent vacancy rate.
3. Population is calculated assuming an average of 2.52 persons per household multifamily household.
4. Non-Residential square feet are rounded to the nearest hundred.
5. Jobs were calculated assuming one job per 225 square feet of Office-Core; one job per 225 square feet of Office; one job per 300 square feet of Business Park; one job per 800 square feet of General Commercial; and one job per 500 square feet of Neighborhood Commercial.

Source: Dyett & Bhatia, 2017.

REDUCED DEVELOPMENT ALTERNATIVE

The Reduced Development Alternative assumes the construction of full BART under ABAG's Plan Bay Area 2040 buildout numbers. Allowed densities, FARs, and building heights are lower than for the Proposed Plan, consistent with the reduced overall buildout anticipated by ABAG. In addition, this alternative assumes the removal of the Neighborhood Commercial Center and Ground Floor Retail/Flex Space overlay, which requires active uses on the ground floor along Main Street, and at both ends of the BART pedestrian bridge over I-580.

ENHANCED PARKING ALTERNATIVE

The Enhanced Parking Alternative assumes that the City would provide an additional 400 to 500-stall parking structure north of I-580 in addition to the BART parking structure south of I-580.[1] This additional structure would be located on the block bound by Gateway Avenue, Isabel Avenue, and Main Street (the Isabel Center block). Of the additional structured spaces, it is anticipated that levels three through six of the parking structure would be reserved for BART users and/or Livermore residents; and the remainder would be for nearby retail uses. In this alternative, the overall development would be the same for the proposed Plan, the Car-Light Alternative, and the DMU Alternative.

CAR-LIGHT ALTERNATIVE

The Car-Light Alternative lowers the required minimum and allowed maximum parking ratios that are assumed for the proposed Plan, as defined in Chapter 3 of the Isabel Neighborhood Plan. Reductions to the required parking ratios are shown below in Table 4.2-2.

[1] See the *Isabel Center Retail and Parking Study* for details on the potential parking structure configuration and management.

Table 4.2-2: Car-Light Alternative Vehicular and Parking Ratios

Land Use		*On-site Vehicle Parking*		*Bicycle Parking Minimum*
		Minimum	*Maximum*	
Isabel Neighborhood Transition and Village Housing (Phase 1 and 2)	Studio/1 Bedroom	1 space/unit	1 space/unit	1 space per unit in secured parking facility, which may include garages for individual units
	2+ Bedroom	1	1.5	
	ADU 1 Bedroom or within ½ mile of station	0	1	
	ADU 2 Bedroom	1	1	
	Visitor Parking	1 space/6 units	1 space/4 units	
Isabel Neighborhood Center and Core Housing (Phase 3)	Studio/SRO	No minimums	0.5 spaces/unit	1 space per 4 bedrooms in a secured, covered parking facility, plus 1 space per 5 units of visitor parking in a publicly accessible location
	1 Bedroom		1	
	2+ Bedroom		1.5	
	Visitor Parking		1 space/8 units; on-street spaces may be counted	

In addition, this alternative assumes several additional policies and programmatic elements that support bus and shuttle service as well as bicycle and pedestrian mobility. This includes:

- Expanded bus service and frequency to the BART drop-off and pick-up areas;
- Expanded shuttle service between BART and major employment centers, such as the Livermore Labs, Sandia National Labs, and Downtown, and residential areas throughout the City;
- Promotion of the pedestrian/bicycle under-crossing east of the BART station bridges over the Arroyo Las Positas;
- Formation of the Transportation Management Association;
- Enhanced Transit Demand Management (TDM) requirements for employers in the Planning Area. This includes include required participation programs such as sponsored transit passes, parking cash-out programs, sponsored rideshare programs, bicycle commuter tax reimbursement, and bikeshare;
- Performance-based parking pricing;
- Carshare pods; and
- Residential mobility packages.

In this alternative, the overall development would be the same for the proposed Plan, the Enhanced Parking Alternative, and the DMU Alternative.

DMU ALTERNATIVE

The DMU Alternative assumes that instead of full BART, a diesel-multiple unit extension of BART would be installed in the I-580 median between the BART terminus and Isabel Avenue. This alternative assumes the same land use plan and buildout as the proposed Plan, the Enhanced Parking Alternative, and the Car-Light Alternative.

NO PROJECT ALTERNATIVE

The No Project Alternative assumes continuation of land use and other policies under the 2004 General Plan and the 2010 Livermore Development Code, and no BART station at Isabel Avenue. The No Project Alternative results in the lowest amount of new development among the alternatives. The buildout potential is compared to the proposed Isabel Neighborhood Plan in Table 4.2-1.

PROPOSED PLAN

The description of the proposed Plan is in Chapter 2: Project Description of this EIR.

4.3 Comparative Impact Analysis of Alternatives

This section compares the environmental impacts of each alternative and the proposed Plan, by resource topic. Alternatives are subject to the same significance criteria. The Enhanced Parking and Car-Light alternatives would generally be subject to the same policies as those defined for the proposed Plan, excluding site-specific polices that would not apply due to differences in planned parking or transit features.

LAND USE, POPULATION, AND HOUSING

Given that none of the alternatives proposes any new linear projects likely to have the effect of physically dividing an established community, all of the alternatives would have less than significant impacts related to this issue, similar to the proposed Plan. At the same time, the Car-Light Alternative would promote the pedestrian/bicycle under-crossing of I-580 east of the BART station over the Arroyo Las Positas and expand bus and shuttle services that connect different parts of the Planning Area. Therefore, the Car-Light Alternative would have the least impact between any of the alternatives and the proposed Plan.

Additionally, the alternatives would have similar less than significant impacts as the proposed Plan related to Plan Bay Area; the City of Livermore General Plan; BART's TOD Policy, Station Access Policy, and Affordable Housing Policy; and the Livermore Municipal Airport Land Use Compatibility Plan (ALUCP). Under the Enhanced Parking Alternative, Car-Light Alternative, DMU Alternative, and proposed Plan the Isabel PDA would support approximately 4,095 new dwelling units, space for approximately 9,100 net new jobs, and retail uses near a major regional transit station. These features are consistent with the goals of Plan Bay Area. While the Reduced Development Alternative would still concentrate growth near the BART station, it would lead to less development in the Isabel PDA than the aforementioned scenarios. This could lead to the growth occurring outside of the Planning Area, further away from transit. Therefore, it could have a greater environmental impact because it does not support Plan Bay Area goals as well as

the proposed Plan. The No Project Alternative would lead to the least development in the Isabel PDA. The General Plan, which would be implemented in the Planning Area under the No Project Alternative, allocates approximately 4,500 dwelling units associated with a BART station in the Greenville Road area. Since adoption of the General Plan in 2004, BART has begun planning for an Isabel station, rather than one at Greenville Road. Since BART is no longer planning for a station in the Greenville Road area, the No Project Alternative would not plan for transit-oriented development as the other alternatives, and would thus be inconsistent with Plan Bay Area and have a significant and unavoidable impact.

Since the BART to Livermore extension would only be part of buildout under the Enhanced Parking Alternative, Car-Light Alternative, and Reduced Development Alternative, as well as the proposed Plan, BART's policy documents would only apply to these alternatives. The Car-Light Alternative would be the most consistent with BART policies because it includes the least parking and most encourages non-auto transportation. Because the Enhanced Parking Alternative would place a multi-story parking garage in the center of the TOD at a key point of pedestrian and bicycle access to the BART station, it would least support pedestrian or bicycle access to the station. Furthermore, the garage would stand between BART and the innovation hub, discouraging workers from taking BART to work and encouraging them to drive to work, particularly if pricing is minimal. Therefore, the Enhanced Parking Alternative would be less consistent with BART's policy documents than the proposed Plan. While the Reduced Development Alternative would still concentrate growth near the BART station, it would lead to less development in the Isabel PDA than the aforementioned scenarios. This would likely lead to less BART ridership and would thus be less consistent with BART policy documents than the proposed Plan. As with the proposed Plan, the Enhanced Parking Alternative, Car-Light Alternative, and Reduced Development Alternative all propose an increase in the City's inclusionary housing requirement from 15 to 20 percent, with a goal of 25 percent affordability throughout the Planning Area. This is consistent with BART's Affordable Housing Policy, which requires that at each station where development is pursued, the cumulative development consist of a number of affordable housing units amounting to no less than 20 percent of the total proposed housing units on the property.

Although each alternative, except for the No Project Alternative, proposes land use designations in conflict with the City of Livermore General Plan, the General Plan and Development Code would be amended to accommodate development resulting from implementing the alternatives. Additionally, the alternatives help fulfill existing General Plan goals. As for consistency with the ALUCP, the Enhanced Parking Alternative, Car-Light Alternative, DMU Alternative, and Reduced Development Alternative would include the proposed Plan's policy that increases resident awareness of proximity to the Livermore Municipal Airport. While the No Project Alternative does not include this policy, it would not conflict with any of the provisions of the ALUCP and therefore would have no impact.

The Enhanced Parking Alternative, Car-Light Alternative, DMU Alternative, and proposed Plan would perform similarly regarding induced growth and displacement. These scenarios would lead to a less than significant impact because they would shift growth that the General Plan anticipates in the Greenville Road TOD area to the Isabel Neighborhood, rather than induce unplanned growth. As with the proposed Plan, the Enhanced Parking Alternative, Car-Light Alternative, and DMU Alternative would also include the growth management mechanisms discussed in Section

3.10, "Land Use, Population, and Housing," that would ensure public infrastructure and services are keeping pace with development under these scenarios and align major policy and land use changes with the BART to Livermore Extension project. The Reduced Development Alternative would also shift growth planned for in the General Plan associated with a BART station from the Greenville Road TOD to the Isabel Neighborhood, and it would also include the growth management mechanisms included in the proposed Plan. However, as the Reduced Development Alternative plans for less development than the proposed Plan, it would lead to a less than significant impact that is less significant than the proposed Plan. The No Project Alternative would implement the current General Plan and would not lead to unplanned growth, and therefore would have a less than significant impact.

Existing residential uses in the Planning Area are not anticipated to undergo substantial land use changes under any of the alternatives. None of the alternatives propose converting established residential areas to non-residential land uses or changing the land use or development character of existing developed residential areas. However, the proposed Plan, along with the BART to Livermore Extension, could increase property values near the Isabel station due to the improved access to the regional transit network and associated investments in the public realm (e.g., enhanced pedestrian and bicycle facilities, landscaping, lighting, new parks, etc.). The increase in land values could drive up housing prices and potentially indirectly contribute to displacement of some existing renters living within and adjacent to the Planning Area. Each alternative, except for the No Project Alternative, proposes an increase in the City's inclusionary housing requirement from 15 to 20 percent, with a goal of 25 percent affordability throughout the Planning Area. They also include policies to preserve mobile home parks and provide a range of housing types to accommodate new growth, including options for students, seniors, low-income families, first-time homebuyers, and people with disabilities that reduce the alternatives' impacts to a less-than-significant level. The No Project Alternative would not include these policies, but it would not lead to an increase in property values or displacement. Therefore, it would have a less than significant impact.

TRAFFIC AND TRANSPORTATION

LOS Analysis

Under the No Project Alternative, traffic volumes at freeway segments and study intersections around the Planning Area are expected to be significantly reduced compared to the full implementation of the proposed Plan. As a result, intersection level of service (LOS) and delay at study intersections improve compared to the proposed Plan. While there are intersection, freeway, and CMP arterial locations at LOS F conditions even without the project, some of the impacts associated with the project would be reduced. Tables 4.3-1 through 4.3-6 below show the comparative results of the alternatives compared to the proposed Plan. Since impacts are determined by comparing LOS and delay to No Project Conditions, the No Project Alternative would result in less than significant impacts.

Under the Reduced Development Alternative, traffic volumes at freeway segments and study intersections around the Planning Area are expected to be reduced compared to the full implementation of the proposed Plan. While some impacts to intersection, freeway, and CMP arterials do remain, LOS and delay generally improve compared to the proposed Plan. Tables 4.3-

1 through 4.3-6 below show the comparative results of the alternatives compared to the proposed Plan.

Since most of the trips under the Enhanced Parking Alternative that access the parking structure would already have been forecasted to the Planning Area, the analysis of this alternative assumed the parking garage would only attract 120 net new vehicle trips to the BART parking portion of the garage. These 120 trips were further split to 50 percent arriving during the peak hour. All trips were assumed inbound during the AM peak, and outbound during the PM peak. The net new trips of 60 vehicles were assigned to the roadway network and study intersections based on trip distribution patterns from the travel demand model. Level of service analysis was conducted on the addition of the new parking trips added to the 2040 Plus Project traffic volumes. The new generated trips would only affect intersections near the Planning Area. As a result, LOS and delay at intersection, freeway, and CMP arterials degrades slightly at some locations compared to the proposed Plan. However, the Enhanced Parking Alternative does not create any new impacts compared to the proposed Plan.

When the transit- and mobility-related policies associated with the Car-Light Alternative are implemented, it is anticipated that car trips within the Planning Area would be reduced by a net of 5 percent compared to the proposed Plan due to an increase in mode split shift from auto trips to transit, walk and bike trips. This reduction in trip making was applied to the 2040 Plus Project results and reductions in freeway and intersection LOS results were identified that reduce traffic on freeways and intersections compared to the proposed Plan. As a result, intersection LOS and delay at intersection, freeway, and CMP arterials improve slightly compared to the proposed Plan. Reducing traffic associated with less parking, in addition to implementing transit and TDM strategies, would contribute to improved traffic levels compared to the proposed Plan.

Traffic under the DMU Alternative increases slightly compared to the proposed Plan. This is due to the lower mode split for transit associated with the DMU over the conventional (full) BART service. As a result, freeway and intersection LOS and delay increases slightly compared to the proposed Plan. As shown in Table 4.3-5, the DMU Alternative creates a new impact compared to the proposed Plan, on Segment #3, because it results in a LOS F while the other alternatives result in LOS E.

Transit ridership at the Isabel station would be less than with conventional (full) BART. The BART to Livermore Extension EIR projected the ridership would change from 4,700 riders to 3,100 riders between conventional BART and DMU. This reduction in ridership translates to an increase in auto trips either accessing the Planning Area or traveling to Dublin/Pleasanton station.

Vehicle Miles Traveled

Table 4.3-1 provides a comparison of the Daily Vehicle Trips, VMT and Per Service Population VMT for all alternatives compared to the proposed Plan. VMT changes between the alternatives generally tracks the associated impacts on intersections, freeway segments, and arterial segments.

Table 4.3-1: 2040 Cumulative Comparative VMT for the Alternatives

Year	*Scenario*	*Daily Vehicle Trips*	*Daily VMT*	*Service Population*[1]	*Per Service Population VMT*
2040	No Project Alternative	111,040	1,048,211	27,270	38.4
2040	Proposed Plan	143,771	1,348,781	36,694	36.8
2040	Reduced Development Alternative	101,847	1,006,443	28,604	35.2
2040	Enhanced Parking Alternative	144,011	1,351,152	36,694	36.8
2040	Car-Light Alternative	136,582	1,281,342	36,694	34.9
2040	DMU Alternative	144,360	1,354,311	36,694	36.9
Compared to Proposed Plan					
2040	No Project Alternative	(32,731)	(300,570)	(9,423)	1.7
2040	Proposed Plan	-	-	-	-
2040	Reduced Development Alternative	(41,924)	(342,338)	(8,090)	(1.6)
2040	Enhanced Parking Alternative	240	2,371	-	0.1
2040	Car-Light Alternative	(7,189)	(67,439)	-	(1.8)
2040	DMU Alternative	589	5,530	-	0.2

Note:

Service population accounts for an area larger than the Planning Area because the traffic model study area includes Traffic Analysis Zones that cover areas outside the Planning Area.

Source: Kittelson and Associates, Inc., 2018.

Intersection Analysis

Comparative results of the alternatives for the study intersections compared to the proposed Plan are shown in Table 4.3-2 and Table 4.3-3 for the AM and PM peak hours respectively.

Table 4.3-2: 2040 Cumulative Comparative Level of Service Results for the Alternatives – AM Peak Hour

#	*Name*	*LOS Standard*	*Alternative*											
			No Project		*Proposed Plan*		*Reduced Development*		*Enhanced Parking*		*Car Light*		*DMU*	
			Delay	*LOS*	*Delay*	*LOS*	*Delay*	*LOS*	*Delay*	*LOS*	*Delay*	*LOS*	*Delay*	*LOS*
1	Isabel Avenue & Airway Boulevard	Exempt*	31.8	C	77.8	E	58.5	E	77.8	E	75.5	E	63.2	E
2	Murrieta Boulevard & Portola Avenue	Mid D	13.6	B	15.2	B	16.0	B	15.3	B	17.0	B	18.2	B
3	Livermore Avenue & Portola Avenue	Mid D	42.3	D	*48.2*	*D*	43.5	D	*48.2*	*D*	*48.0*	*D*	41.1	D
4	I-580 WB Ramps & Isabel Avenue	E	13.7	B	15.2	B	15.0	B	15.7	B	15.1	B	14.9	B
5	I-580 EB Ramps & Isabel Avenue	E	8.8	A	8.0	A	6.0	A	7.9	A	8.0	A	7.5	A
6	I-580 WB Ramps & Airway Boulevard	E	17.1	B	13.5	B	13.2	B	13.5	B	13.2	B	17.9	B
7	I-580 EB Ramps & Airway Boulevard	E	23.2	C	24.4	C	21.6	C	24.4	C	24.3	C	22.7	C
8	Isabel Avenue & Jack London Boulevard	Exempt*	53.3	D	57.4	E	46.2	D	57.4	E	57.2	E	53.0	D
9	Airway Boulevard & North Canyons Parkway	E	80.6	F	60.2	E	53.9	D	60.2	E	59.0	E	96.6	F
10	Collier Canyon Road & North Canyons Parkway	Mid D	20.7	C	33.3	C	23.0	C	33.3	C	32.7	C	35.2	D
11	Isabel Avenue & Portola Avenue	E	28.2	C	28.2	C	27.1	C	28.3	C	28.2	C	28.4	C
12	Rutan Drive & E. Airway Boulevard	Mid D	2.8 (15.6)	A (C)	17.6	B	14.5	B	17.6	B	16.7	B	22.4	C
13	BART Access & E. Airway Boulevard	Mid D	N/A	N/A	24.0	C	20.9	C	24.0	C	22.8	C	28.8	C
14	Isabel Avenue & BART Parking (North)	E	N/A	N/A	34.4	C	31.3	C	37.1	D	32.7	C	39.2	C
15	Portola Avenue & Main Street	Mid D	N/A	N/A	0.1 (8.5)	A (A)	0.1 (8.5)	A (A)	0.1 (8.5)	A (A)	0.1 (8.5)	A (A)	0.1 (8.5)	A (A)

Table 4.3-2: 2040 Cumulative Comparative Level of Service Results for the Alternatives – AM Peak Hour

#	Name	LOS Standard	Alternative											
			No Project		Proposed Plan		Reduced Development		Enhanced Parking		Car Light		DMU	
			Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
16	Sutter Street & E. Airway Boulevard	Mid D	2.0 (12.0)	A (B)	7.4	A	4.3	A	7.4	A	7.0	A	12.2	B
17	Portola Avenue & E. Airway Boulevard	Mid D	2.3 (12.2)	A (B)	14.2	B	11.1	B	14.1	B	13.5	B	19.0	B
18	Stealth Street & E. Airway Boulevard	Mid D	N/A	N/A	13.5	B	10.4	B	13.5	B	12.8	B	18.3	B
19	Isabel Avenue & INP Road	E	N/A	N/A	27.4	C	24.3	C	27.4	C	26.0	C	32.2	C
20	Portola Avenue & Tranquility Circle	Mid D	26.9	C	21.4	C	18.3	C	21.4	C	20.3	C	26.2	C
21	Portola Avenue & Sandalwood Drive	Mid D	0.1 (9.4)	A (A)	0.3 (9.8)	A (A)	0.3 (9.8)	A (A)	0.3 (9.8)	A (A)	0.3 (9.8)	A (A)	0.3 (9.8)	A (A)
22	Portola Avenue & Montage Drive/Road 3	Mid D	N/A	N/A	29.8	C	26.7	C	29.8	C	28.3	C	34.6	
23	Portola Avenue & Road 1	Mid D	N/A	N/A	0.0 (9.1)	A (A)	0.0 (9.1)	A (A)	0.0 (9.1)	A (A)	0.0 (9.1)	A (A)	0.0 (9.1)	A (A)
24	Portola Avenue & Road 2	Mid D	N/A	N/A	28.9	C	25.8	C	28.9	C	27.5	C	33.7	C
25	Portola Avenue & Road 4	Mid D	N/A	N/A	0.0 (8.6)	A (A)	0.0 (8.6)	A (A)	0.0 (8.6)	A (A)	0.0 (8.6)	A (A)	0.0 (8.6)	A (A)
26	Gateway Drive & North Canyons Parkway	Mid D	N/A	N/A	15.5	B	12.4	B	15.4	B	14.7	B	20.3	C

Notes:

* Exempt per Livermore Policy: Goal CIR-5, Objective CIR-5.1 Policy P4, Circulation Element, Amended 2014

Bold text indicates intersection operating beyond standard.

Shaded cell indicates significant impact.

Source: Kittelson & Associates, Inc., 2018.

Table 4.3-3: 2040 Cumulative Comparative Level of Service Results for the Alternatives – PM Peak Hour

#	*Name*	*LOS Standard*	*Alternative*											
			No Project		*Proposed Project*		*Reduced Development*		*Enhanced Parking*		*Car Light*		*DMU*	
			Delay	*LOS*	*Delay*	*LOS*	*Delay*	*LOS*	*Delay*	*LOS*	*Delay*	*LOS*	*Delay*	*LOS*
1	Isabel Avenue & Airway Boulevard	Exempt *	59.8	E	82.3	F	98.1	F	82.3	F	81.2	F	86.2	F
2	Murrieta Boulevard & Portola Avenue	Mid D	25.4	C	30.9	C	29.0	C	31.2	C	43.7	D	34.6	C
3	Livermore Avenue & Portola Avenue	Mid D	55.5	E	***88.2***	***F***	***58.7***	***E***	***88.2***	***F***	***87.0***	***F***	***68.5***	***E***
4	I-580 WB Ramps & Isabel Avenue	E	14.1	B	16.2	B	14.0	B	16.2	B	16.1	B	16.3	B
5	I-580 EB Ramps & Isabel Avenue	E	5.3	A	24.3	C	12.0	B	24.2	C	23.4	C	15.7	B
6	I-580 WB Ramps & Airway Boulevard	E	7.0	A	9.4	A	6.9	A	9.4	A	9.3	A	9.3	A
7	I-580 EB Ramps & Airway Boulevard	E	37.4	D	38.0	D	26.5	C	38.0	D	38.0	D	28.4	C
8	Isabel Avenue & Jack London Boulevard	Exempt *	73.6	E	82.2	F	65.7	E	82.2	F	81.8	F	78.1	E
9	Airway Boulevard & North Canyons Parkway	E	24.5	C	24.5	C	24.1	C	24.5	C	24.5	C	24.2	C
10	Collier Canyon Road & North Canyons Parkway	Mid D	22.5	C	26.8	C	20.6	C	26.8	C	26.6	C	23.4	C
11	Isabel Avenue & Portola Avenue	E	33.5	C	45.4	D	30.2	C	45.4	D	44.8	D	43.9	D
12	Rutan Drive & E. Airway Boulevard	Mid D	1.9 (17.9)	A (C)	16.1	B	19.0	B	16.1	B	15.3	B	23.0	C
13	BART Access & E. Airway Boulevard	Mid D	N/A	N/A	42.7	D	45.6	D	42.7	D	40.6	D	49.6	C
14	Isabel Avenue & BART Parking (North)	E	N/A	N/A	52.1	D	55.0	D	56.1	E	49.5	D	59.0	C

Table 4.3-3: 2040 Cumulative Comparative Level of Service Results for the Alternatives – PM Peak Hour

#	Name	LOS Standard	Alternative											
			No Project		Proposed Project		Reduced Development		Enhanced Parking		Car Light		DMU	
			Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
15	Portola Avenue & Main Street	Mid D	N/A	N/A	0.6 (9.5)	A (A)	0.6 (9.5)	A (A)	0.6 (9.5)	A (A)	0.6 (9.5)	A (A)	0.6 (9.5)	A (A)
16	Sutter Street & E. Airway Boulevard	Mid D	1.2 (12.1)	A (B)	5.0	A	7.9	A	5.0	A	4.8	A	11.9	B
17	Portola Avenue & E. Airway Boulevard	Mid D	23.2 (125.3)	C (F)	29.7	C	32.6	C	29.8	C	28.2	C	36.6	B
18	Stealth Street & E. Airway Boulevard	Mid D	N/A	N/A	8.1	A	11.0	A	8.1	A	7.7	A	15.0	B
19	Isabel Avenue & INP Road	E	N/A	N/A	52.0	D	54.9	D	52.0	D	49.4	D	58.9	C
20	Portola Avenue & Tranquility Circle	Mid D	37.5	D	34.1	C	37.0	C	34.4	C	32.4	C	41.0	C
21	Portola Avenue & Sandalwood Drive	Mid D	0.1 (9.4)	A (A)	0.3 (10.5)	A (B)	0.3 (10.5)	A (B)	0.3 (10.5)	A (B)	0.3 (10.5)	A (B)	0.3 (10.5)	A (B)
22	Portola Avenue & Montage Drive/Road 3	Mid D	N/A	N/A	21.0	C	23.9	C	21.0	C	20.0	C	27.9	
23	Portola Avenue & Road 1	Mid D	N/A	N/A	0.5 (9.0)	A (A)	0.5 (9.0)	A (A)	0.5 (9.0)	A (A)	0.5 (9.0)	A (A)	0.5 (9.0)	A (A)
24	Portola Avenue & Road 2	Mid D	N/A	N/A	25.2	C	28.1	C	25.2	C	23.9	C	32.1	C
25	Portola Avenue & Road 4	Mid D	N/A	N/A	0.2 (9.1)	A (A)	0.2 (9.1)	A (A)	0.2 (9.1)	A (A)	0.2 (9.1)	A (A)	0.2 (9.1)	A (A)
26	Gateway Drive & North Canyons Parkway	Mid D	N/A	N/A	19.1	B	22.0	B	19.2	B	18.1	B	26.0	C

Notes:
* Exempt per Livermore Policy: Goal CIR-5, Objective CIR-5.1 Policy P4, Circulation Element, Amended 2014
Bold text indicates intersection operating beyond standard.
Shaded cell indicates significant impact.

Source: Kittelson & Associates, Inc., 2018.

Freeway Analysis

Comparative results of the alternatives for the freeway segments compared to the proposed Plan are shown in Table 4.3-4 and Table 4.3-5 for the AM and PM peak hours respectively.

Arterials Analysis

Comparative results of the alternatives for the CMP arterial segments compared to the proposed Plan are shown in Table 4.3-6 for the AM and PM peak hours.

Table 4.3-4: 2040 Cumulative Comparative Freeway Results for the Alternatives – Westbound- AM Peak Hour

Segment	*To*	*From*	*Alternative*											
			No Project		*Proposed Plan*		*Reduced Development*		*Enhanced Parking*		*Car Light*		*DMU*	
			LOS	*V/C*	*LOS*	*V/C*	*LOS*	*V/C*	*LOS*	*V/C*	*LOS*	*V/C*	*LOS*	*V/C*
1	Tassajara Road/Santa Rita Road	Fallon Road/ El Charro Road	F	1.020	**F**	1.011	**F**	1.020	**F**	1.011	**F**	1.020	**F**	1.013
2	Fallon Road/ El Charro Road	Airway Boulevard	E	0.995	E	0.967	E	0.995	E	0.967	E	0.995	E	0.979
3	Airway Boulevard	Isabel Avenue	**F**	1.064	**F**	1.027	**F**	1.064	**F**	1.027	**F**	1.064	**F**	1.050
4	Isabel Avenue	Livermore Avenue	**F**	1.103	**F**	**1.166**	**F**	**1.150**	**F**	**1.166**	**F**	**1.163**	**F**	**1.157**
5	Livermore Avenue	Springtown Boulevard/ First Street	**F**	1.026	**F**	**1.086**	**F**	**1.071**	**F**	**1.086**	**F**	**1.083**	**F**	**1.065**
6	Springtown Boulevard/ First Street	Vasco Road	**F**	1.037	**F**	**1.092**	**F**	**1.078**	**F**	**1.092**	**F**	**1.089**	**F**	**1.072**

Notes:
Eastbound in the AM Peak had no impacts
Bold text indicates intersection operating beyond standard.
Shaded cell indicates significant impact.

Source: Kittelson & Associates, Inc., 2018.

Table 4.3-5: 2040 Cumulative Comparative Freeway Results for the Alternatives – Eastbound -PM Peak Hour

Segment	To	From	Alternative											
			No Project		Proposed Plan		Reduced Development		Enhanced Parking		Car Light		DMU	
			LOS	V/C	LOS	V/C	LOS	V/C	LOS	V/C	LOS	V/C	LOS	V/C
1	Tassajara Road/Santa Rita Road	Fallon Road/ El Charro Road	E	0.976	E	0.976	E	0.976	E	0.976	E	0.976	E	0.976
2	Fallon Road/ El Charro Road	Airway Boulevard	E	0.97	E	0.974	E	0.973	E	0.974	E	0.974	E	0.974
3	Airway Boulevard	Isabel Avenue	E	0.992	E	0.995	E	0.994	E	0.995	E	0.995	**F**	**1.008**
4	Isabel Avenue	Livermore Avenue	**F**	1.083	**F**	**1.145**	**F**	**1.130**	**F**	**1.166**	**F**	**1.142**	**F**	**1.150**
5	Livermore Avenue	Springtown Boulevard/ First Street	**F**	1.013	**F**	**1.057**	**F**	**1.046**	**F**	**1.086**	**F**	**1.055**	**F**	**1.075**
6	Springtown Boulevard/ First Street	Vasco Road	**F**	1.016	**F**	**1.06**	**F**	**1.049**	**F**	**1.092**	**F**	**1.058**	**F**	**1.073**

Note:
Westbound in the PM Peak had no impacts
Bold text indicates intersection operating beyond standard.
Shaded cell indicates significant impact.

Source: Kittelson & Associates, Inc., 2018.

Table 4.3-6: 2040 Cumulative Comparative CMP Arterial Results for the Alternatives – AM and PM Peak Hour

#	*Segment*	*Volume/ V/C*	*No Project Alternative*		*Proposed Plan*		*Reduced Development Alternative*		*Enhanced Parking Alternative*		*Car-Light Alternative*		*DMU Alternative*	
			AM	*PM*	*AM*	*PM*	*AM*	*PM*	*AM*	*PM*	*AM*	*PM*	*AM*	*PM*
	Northbound/Eastbound													
1	Isabel Ave - North of Airway Blvd	Volume	978	1,019	926	1,418	926	1,321	946	1,418	926	1,398	926	1,418
		LOS	C	C	C	D	C	D	C	D	C	D	C	D
		V/C change			-0.05	0.39	-0.05	0.30	-0.03	0.39	-0.05	0.37	-0.05	0.39
2	N. Livermore Ave - North of Portola Ave	Volume	1,125	2,069	1,215	2,059	1,193	2,059	1,215	2,059	1,211	2,059	1,215	2,059
		LOS	C	**F**	D	**F**	D	**F**	D	**F**	D	**F**	D	**F**
		V/C change			0.08	-0.01	0.06	-0.01	0.08	-0.01	0.08	-0.01	0.08	-0.01
3	Airway Blvd - West of Isabel Ave	Volume	234	985	658	1,027	555	1,017	658	1,027	637	1,025	658	1,027
		LOS	C	**F**	C	**F**	C	**F**	C	**F**	C	**F**	C	**F**
		V/C change			1.81	0.04	1.37	0.03	1.81	0.04	1.71	0.04	1.81	0.04
4	Airway Blvd - East of Isabel Ave	Volume	131	487	627	789	507	716	627	789	603	774	627	789
		LOS	C	D	D	E	D	E	D	E	D	E	D	E
		V/C change			0.26	-0.13	0.17	-0.18	0.26	-0.13	0.24	-0.14	0.26	-0.13
5	Stanley Blvd - West of Isabel Ave	Volume	279	2,838	286	2,786	284	2,786	286	2,786	285	2,786	286	2,786
		LOS	C	**F**	C	**F**	C	F	C	**F**	C	**F**	C	**F**
		V/C change			0.03	-0.02	0.02	-0.02	0.03	-0.02	0.02	-0.02	0.03	-0.02
6	Isabel Ave - South of Stanley Blvd	Volume	2,344	1,794	2,474	1,689	2,443	1,689	2,474	1,689	2,468	1,689	2,474	1,689
		LOS	**F**	**F**	**F**	E	**F**	E	**F**	E	**F**	E	**F**	E

Table 4.3-6: 2040 Cumulative Comparative CMP Arterial Results for the Alternatives – AM and PM Peak Hour

#	*Segment*	*Volume/ V/C*	*No Project Alternative*		*Proposed Plan*		*Reduced Development Alternative*		*Enhanced Parking Alternative*		*Car-Light Alternative*		*DMU Alternative*	
			AM	*PM*	*AM*	*PM*	*AM*	*PM*	*AM*	*PM*	*AM*	*PM*	*AM*	*PM*
		V/C change			0.06	-0.06	0.04	-0.06	0.06	-0.06	0.05	-0.06	0.06	-0.06
	Southbound/Westbound													
1	Isabel Ave - North of Airway Blvd	Volume	981	1,012	946	1,300	946	1,230	946	1,320	946	1,286	946	1,300
		LOS	C	C	C	D	C	D	C	D	C	D	C	D
		V/C change			-0.04	0.29	-0.04	0.22	-0.04	0.30	-0.04	0.27	-0.04	0.29
2	N. Livermore Ave - North of Portola Ave	Volume	934	2,028	993	2,166	979	2,132	993	2,166	990	2,159	993	2,166
		LOS	C	**E**	C	**E**	C	E	C	E	C	E	C	E
		V/C change			0.06	0.07	0.05	0.05	0.06	0.07	0.06	0.06	0.06	0.07
3	Airway Blvd - West of Isabel Ave	Volume	880	709	**932**	**851**	**920**	**817**	**932**	**851**	**930**	**844**	**932**	**851**
		LOS	**F**	D	**F**	**F**	**F**	**F**	**F**	**F**	**F**	**F**	**F**	**F**
		V/C change			**0.06**	**0.20**	**0.04**	**0.15**	**0.06**	**0.20**	**0.06**	**0.19**	**0.06**	**0.20**
4	Airway Blvd - East of Isabel Ave	Volume	328	268	581	767	519	646	581	767	568	742	581	767
		LOS	C	C	D	E	D	E	D	E	D	E	D	E
		V/C change			-0.05	0.16	0.58	1.41	-0.05	0.16	-0.06	0.15	-0.05	0.16
5	Stanley Blvd - West of Isabel Ave	Volume	2,824	509	2,920	563	2,897	550	2,920	563	2,915	561	2,920	563
		LOS	**F**	D	**F**	D	F	D	F	D	F	D	F	D
		V/C change			0.03	0.11	0.03	0.08	0.03	0.11	0.03	0.10	0.03	0.11

Table 4.3-6: 2040 Cumulative Comparative CMP Arterial Results for the Alternatives – AM and PM Peak Hour

#	Segment	Volume/ V/C	No Project Alternative		Proposed Plan		Reduced Development Alternative		Enhanced Parking Alternative		Car-Light Alternative		DMU Alternative	
			AM	*PM*	*AM*	*PM*	*AM*	*PM*	*AM*	*PM*	*AM*	*PM*	*AM*	*PM*
6	Isabel Ave - South of Stanley Blvd	Volume	1,124	2,629	1,091	**2,799**	1,091	**2,758**	1,091	**2,799**	1,091	**2,791**	1,091	**2,799**
		LOS	D	**F**	D	**F**	D	**F**	D	**F**	D	**F**	D	**F**
		V/C change			-0.03	**0.06**	-0.03	**0.05**	-0.03	**0.06**	-0.03	**0.06**	-0.03	**0.06**

Notes:

Bold text indicates intersection operating beyond standard.

Shaded cell indicates significant impact.

Source: Kittelson & Associates, Inc., 2018.

Other Traffic and Transportation Impacts

The Livermore Municipal Airport is located just southwest of the Planning Area. The Enhanced Parking Alternative, Car-Light Alternative, DMU Alternative, Reduced Development Alternative, and proposed Plan have the potential to create land uses that may not be compatible with the airport use. However, given the nature of these alternatives and the nature of services provided at the Livermore Municipal Airport, they are not expected to result in any changes to air traffic patterns or safety. Under the No Project Alternative, no changes to air traffic patterns or safety are expected as the land use designations would remain unchanged. Therefore, there is no impact under any of the Alternatives.

Implementation of the proposed Plan would increase traffic levels in the study area and introduce new intersections and traffic signals to the existing street system. However, these new roadways and traffic signals would be designed to City Design standards and therefore should not substantially increase hazards due to a design feature. Similar to the proposed Plan, the Reduced Development Alternative, the Enhanced Parking Alternative, the Car-Light Alternative, and the DMU Alternative all emphasize multimodal circulation, accommodating vehicular through traffic, but at a slow pace that substantially improves safety for pedestrians and cyclists compared to traditional higher-speed roadway systems, as well as minimizing conflicts between vehicular traffic and non-motorized transportation users at intersections. Therefore, impacts would be less than significant for all alternatives. Given that Livermore's current General Plan contains a variety of Complete Streets and pedestrian and cyclist safety policies, impacts resulting from the No Project Alternative would also be less than significant.

Under implementation of the proposed Plan, the Reduced Development Alternative, the Enhanced Parking Alternative, the Car-Light Alternative, and the DMU Alternative, new roadways and intersections would be designed to City Design standards that account for emergency access and therefore should not result in inadequate emergency access. Therefore, impacts would be less than significant. Given that no new roadways and intersections would be anticipated under the No Project Alternative, it may have less of an impact than the other alternatives.

Each alternative promotes pedestrian, bicycle, and transit access and would have a less than significant impact related to multi-modal mobility. However, given the access to BART, or a DMU transit system under the DMU Alternative, and expanded bicycle and pedestrian facilities under the proposed Plan, the Reduced Development Alternative, the Enhanced Parking Alternative, the Car-Light Alternative, and the DMU Alternative, these alternatives would be more beneficial to pedestrian, bicycle and transit access than the No Project Alternative. Nevertheless, given that no new roadways and intersections would be anticipated under the No Project Alternative, the No Project Alternative should not result in any impacts. As the Car-Light Alternative assumes enhanced shuttle and bus service and TDM requirements for employers in the Planning Area such as sponsored transit passes, bicycle commuter tax reimbursement, and bikeshare, it would be the most beneficial of all the alternatives.

AIR QUALITY

Reduced Development Alternative

Under the Reduced Development Alternative, a reduction of 993 housing units, 943 households, 347,500 square feet of non-residential development, 5,655 jobs, and 2,377 persons in the population would occur in the Planning Area when compared to the proposed Plan. Because the Reduced Development Alternative assumes the construction of full BART under ABAG's Plan Bay Area 2040 buildout numbers, development under this alternative would still support transit-oriented development in the Planning Area that would alleviate traffic congestion on I-580, improve air quality, and reduce GHGs and other pollutant emissions associated with automobile use, similar to the proposed Plan. However, the overall reduction in allowable development densities, FARs, and building heights under this alternative would render it less effective at achieving dense transit-oriented development than the proposed Plan, which would locate a greater density of land uses in proximity to the future BART station, reducing the severity of growth-oriented criteria pollutants. Nonetheless, implementation of the Reduced Development Alternative would remain generally consistent with the primary goals of BAAQMD's 2017 Clean Air Plan to attain air quality standards, reduce population exposure and protect public health in the Bay Area, and reduce GHG emissions and protect the climate. Thus, because this alternative would support the primary goals of the 2017 Clean Air Plan, include applicable control measures from the plan (i.e., transit-oriented development), and would not hinder implementation of the plan's control measures, this impact would be less than significant, but it would have a greater impact than the proposed Plan.

As with the proposed Plan, construction and operation of new development projects in the Planning Area would generate criteria pollutant emissions that could exceed the Bay Area Air Quality Management District's (BAAQMD's) significance thresholds. Although the Reduced Density Alternative would result in lower density development being constructed in the Planning Area, there would remain scenarios where the concurrent construction of a multitude of individual development projects at any one time in the Planning Area would generate combined criteria pollutant emissions on a daily basis that would exceed BAAQMD's project-level thresholds. Additionally, depending on the size and scale of an individual development project, along with its construction schedule and other parameters, there may also be instances where the daily construction emissions generated by a single development project in the Planning Area under this alternative could also exceed BAAQMD's criteria pollutant thresholds. As such, this alternative would result in similar construction air quality impacts as the proposed Plan, and would similarly reduce construction-related emissions to a less than significant level with implementation of Mitigation Measures AQ-1 through AQ-3

With regard to operational emissions, the overall reduction in development under the Reduced Development Alternative would result in lower operational emissions at buildout than the proposed Plan. However, compared to existing conditions, the Reduced Development Alternative would still result in a net new development of 3,102 housing units and 1,756,800 square feet of non-residential development in the Planning Area. Given this amount of net new development, it is likely that the net increase in PM10 and PM2.5 emissions generated under this alternative would remain in exceedance of BAAQMD's project-level thresholds for these two criteria pollutants, similar to that of the proposed Plan although to a lesser degree. As the vast majority of these PM10 and PM2.5 emissions would be generated from passenger vehicles that are not

regulated by the City, no feasible mitigation measures are available that can be implemented by the City to reduce these PM10 and PM2.5 emissions, and this impact would remain significant and unavoidable under this alternative.

Similar to the proposed Plan, the development of new land use projects associated with the Reduced Development Alternative would expose new and existing sensitive receptors within the Planning Area to significant health risks from exposure to ambient toxic air contaminants (TACs), including construction- and operational-related diesel particulate matter (DPM) emissions. However, the degree to which new and existing sensitive receptors would be exposed to health risks from TACs would be less than under the proposed Plan, as the Reduced Development Alternative would result in less overall development in the Planning Area, thereby reducing the total number of these exposure incidences. Construction-related emissions would be reduced through implementation of Mitigation Measures AQ-1, AQ-2, and AQ-4, and operational emissions would be reduced through implementation of environmental policies in the proposed Plan. Nonetheless, because there may be instances where project-specific conditions preclude the reduction of health risks below adopted thresholds, development under the Reduced Development Alternative would result in significant and unavoidable impacts, albeit to a lesser degree than the proposed Plan.

As under the proposed Plan, receptor exposure to operational carbon monoxide (CO), asbestos, and odors would be less than significant under the Reduced Development Alternative. CO modeling for the proposed Plan showed that no new localized violations of the 1-hour or 8-hour ambient air quality standards would occur, and the same conclusion would also apply for this alternative, which results in less overall development and consequently a decrease in overall VMT (1,006,443 instead of 1,348,781 daily VMT under the Plan). All projects requiring demolition would be required to comply with BAAQMD Regulation XI, Rule 11-2, which controls emissions of asbestos to the atmosphere and establishes appropriate waste disposal procedures. Odor emissions during construction and operation would not result in nuisance violations since no new odor generating facilities would be constructed.

Enhanced Parking Alternative

The Enhanced Parking Alternative would result in the same amount of overall development in the Planning Area as compared to the proposed Plan, with the addition of a 400- to 500-stall parking structure north of I-580. Because the Enhanced Parking Alternative would encompass the same sustainability policies and mixed-use and transit-oriented development patterns as the proposed Plan, this alternative would also support the primary goals of the 2017 Clean Air Plan, include policies and design standards that incorporate the primary purpose of each control measure from the plan, and would not disrupt or hinder implementation of the plan's control measures. This impact for the Enhanced Parking Alternative would be the same as the proposed Plan, and would be less than significant.

Given that overall development under the Enhanced Parking Alternative would be similar to the proposed Plan with the exception of an additional parking structure north of I-580, the construction and operation of new development projects in the Planning Area would result in the similar pollutant emission impacts as the proposed Plan. Both construction and operational emissions associated with new development projects in the Planning Area under this alternative would generate criteria pollutant emissions that could exceed BAAQMD's significance

thresholds. In the case of construction-related emissions, there would be scenarios where the construction of a single development project or the concurrent construction of a multitude of individual development projects at any one time in the Planning Area would generate combined criteria pollutant emissions on a daily basis that would exceed BAAQMD's criteria pollutant thresholds and result in significant impacts. Similar to the proposed Plan, implementation of Mitigation Measures AQ-1 through AQ-3 would reduce construction-related emissions to a less than significant level.

With regards to operational emissions, the same overall amount of land use development under the Enhanced Parking Alternative would result in relatively the same amount of operational emissions at buildout as the proposed Plan. This alternative would result in an additional 240 daily trips, and an additional 2,371 daily VMT, as compared to the proposed Plan. As such, similar to that of the proposed Plan, operational emissions of both PM10 and PM2.5 would be in exceedance of BAAQMD's project-level thresholds. As the vast majority of these PM10 and PM2.5 emissions would be generated from passenger vehicles that are not regulated by the City, no feasible mitigation measures are available that can be implemented by the City to reduce these PM10 and PM2.5 emissions, and this impact would be significant and unavoidable.

Similar to the proposed Plan, the development of new land use projects associated with the Enhanced Parking Alternative would expose new and existing sensitive receptors within the Planning Area to significant health risks from exposure to ambient TACs, including DPM from construction- and operational-related sources. As the same overall amount of land use development would occur under this alternative as the proposed Plan, impacts associated with exposure to TACs would also be similar. Construction-related emissions would be reduced through implementation of Mitigation Measures AQ-1, AQ-2, and AQ-4, and operational emissions would be reduced through implementation of environmental policies in the proposed Plan. Nonetheless, because there may be instances where project-specific conditions preclude the reduction of health risks below adopted thresholds, development under the Enhanced Parking Alternative would, similar to the proposed Plan, result in significant and unavoidable impacts.

Similar to the proposed Plan, receptor exposure to operational CO, asbestos, and odors would be less than significant under the Enhanced Parking Alternative. CO modeling for the proposed Plan showed that no new localized violations of the 1-hour or 8-hour ambient air quality standards would occur, and the same conclusion would also apply for this alternative, which results in the same overall development and consequently the a very similar overall VMT (1,351,152 instead of 1,348,781 daily VMT under the proposed Plan). All projects requiring demolition would be required to comply with BAAQMD Regulation XI, Rule 11-2, which controls emissions of asbestos to the atmosphere and establishes appropriate waste disposal procedures. Odor emissions during construction and operation would not result in nuisance violations since no new odor generating facilities would be constructed.

Car-Light Alternative

The Car-Light Alternative lowers the required minimum and allowed maximum parking ratios that are assumed for the proposed Plan and includes additional policies and programmatic elements that support bus and shuttle service as well as bicycle and pedestrian mobility. While the Car-Light Alternative would result in the same amount of overall development in the Planning Area as compared to the proposed Plan, the implementation of additional policies to further

enhance bus and shuttle service and promote bicycle and pedestrian mobility are anticipated to result in a reduction in vehicle travel and consequently mobile emissions. Because the Car-Light Alternative would encompass the same sustainability policies and mixed-use and transit-oriented development patterns as the proposed Plan, this alternative would also support the primary goals of the 2017 Clean Air Plan, include policies and design standards that incorporate the primary purpose of each control measure from the plan, and would not disrupt or hinder implementation of the plan's control measures. The additional reduction in vehicle emissions that is expected under this alternative when compared to the proposed Plan would further support the 2017 Clean Air Plan's primary goals of attaining air quality standards, reducing population exposure and protect public health in the Bay Area, and reducing GHG emissions and protecting the climate. The impact associated with consistency with the 2017 Clean Air Plan for the Car-Light Alternative would be less than significant, and would be of less magnitude than the proposed Plan.

Given that overall development under the Car-Light Alternative would be similar to the proposed Plan, impacts associated with pollutant emissions generated from the construction of new development projects in the Planning Area would be similar to the proposed Plan. There would be scenarios where the construction of a single development project or the concurrent construction of a multitude of individual development projects at any one time in the Planning Area would generate combined criteria pollutant emissions on a daily basis that would exceed BAAQMD's criteria pollutant thresholds and result in significant impacts. Similar to the proposed Plan, implementation of Mitigation Measures AQ-1 through AQ-3 would reduce construction-related emissions to a less-than-significant level.

With regards to operational emissions, although the same overall amount of land use development would occur in the Planning Area under the Car-Light Alternative as under the proposed Plan, the Car-Light Alternative would include additional policies and programmatic elements that support bus and shuttle service as well as bicycle and pedestrian mobility. As these additional policies under this alternative are anticipated to reduce vehicle emissions when compared to the proposed Plan, the overall operational emissions are expected to less than that of the proposed Plan. This alternative would result in 7,189 fewer daily trips, and a 67,439 reduction in daily VMT, as compared to the Plan. However, even with these fewer vehicle trips, given the high emission levels of PM10 and PM2.5 generated under the proposed Plan, the additional policies under the Car-Light Alternative would not be able to reduce operational PM10 and PM2.5 emission levels to below BAAQMD's pollutant thresholds. Consequently, operational emissions of both PM10 and PM2.5 would still be in exceedance of BAAQMD's project-level thresholds. As the vast majority of these PM10 and PM2.5 emissions would be generated from passenger vehicles that are not regulated by the City, no feasible mitigation measures are available that can be implemented by the City to reduce these PM10 and PM2.5 emissions. Although overall operational emissions under this alternative would be less than proposed Plan, this impact would remain significant and unavoidable.

Similar to the proposed Plan, the development of new land use projects associated with the Car-Light Alternative would expose new and existing sensitive receptors within the Planning Area to significant health risks from exposure to ambient TACs, including DPM from construction- and operational-related sources. As the same overall amount of land use development would occur under this alternative as the proposed Plan, impacts associated with exposure to TACs would also

be similar. Construction-related emissions would be reduced through implementation of Mitigation Measures AQ-1, AQ-2, and AQ-4, and operational emissions would be reduced through implementation of environmental policies in the proposed Plan. Nonetheless, because there may be instances where project-specific conditions preclude the reduction of health risks below adopted thresholds, development under the Enhanced Parking Alternative would, similar to the proposed Plan, result in significant and unavoidable impacts.

Similar to the proposed Plan, receptor exposure to operational CO, asbestos, and odors would be less than significant under the Car-Light Alternative. CO modeling for the proposed Plan showed that no new localized violations of the 1-hour or 8-hour ambient air quality standards would occur, and the same conclusion would also apply for this alternative, which has the same overall development but with a reduction in vehicle trips due to additional policies that further enhance bus and shuttle service and promote bicycle and pedestrian mobility in the Planning Area (1,281,342 VMT instead of 1,348,781 VMT under the proposed Plan). All projects requiring demolition would be required to comply with BAAQMD Regulation XI, Rule 11-2, which controls emissions of asbestos to the atmosphere and establishes appropriate waste disposal procedures. Odor emissions during construction and operation would not result in nuisance violations since no new odor generating facilities would be constructed.

DMU Alternative

The DMU Alternative, which assumes a diesel-multiple unit extension of BART would be installed in the I-580 median between the BART terminus and Isabel Avenue instead of full BART, would include the same overall amount of development in the Planning Area as the proposed Plan. Because the DMU Alternative would encompass the same sustainability policies and mixed-use and transit-oriented development patterns as the proposed Plan, this alternative would also support the primary goals of the 2017 Clean Air Plan, include policies and design standards that incorporate the primary purpose of each control measure from the plan, and would not disrupt or hinder implementation of the plan's control measures. This impact for the DMU Alternative would be the same as the proposed Plan, and would be less than significant.

Given that overall development under the DMU Alternative would be similar to the proposed Plan, the construction and operation of new development projects in the Planning Area would result in similar pollutant emission impacts as the proposed Plan. Both construction and operational emissions associated with new development projects in the Planning Area under this alternative would generate criteria pollutant emissions that could exceed BAAQMD's significance thresholds. In the case of construction-related emissions, there would be scenarios where the construction of a single development project or the concurrent construction of a multitude of individual development projects at any one time in the Planning Area would generate combined criteria pollutant emissions on a daily basis that would exceed BAAQMD's criteria pollutant thresholds and result in significant impacts. Similar to the proposed Plan, implementation of Mitigation Measures AQ-1 through AQ-3 would reduce construction-related emissions to a less-than-significant level. With regards to operational emissions, the same overall amount of land use development under the Enhanced Parking Alternative would result in relatively the same amount of operational emissions at buildout as the proposed Plan. As such, similar to that of the proposed Plan, operational emissions of both PM10 and PM2.5 would be in exceedance of BAAQMD's project-level thresholds. As the vast majority of these PM10 and PM2.5 emissions would be generated from passenger vehicles that are not regulated by the City, no feasible mitigation

measures are available that can be implemented by the City to reduce these PM10 and PM2.5 emissions, and this impact would be significant and unavoidable.

Similar to the proposed Plan, the development of new land use projects associated with the DMU Alternative would expose new and existing sensitive receptors within the Planning Area to significant health risks from exposure to ambient TACs, including DPM from construction- and operational-related sources. While the same overall amount of land use development occurring under this alternative as the proposed Plan would result in similar TAC emissions, this alternative would also include DPM emissions from the DMU vehicles. As such, the DMU Alternative would introduce an additional source of DPM emissions in the Planning Area when compared to the proposed Plan. As with the proposed Plan, construction-related emissions generated under this alternative would be reduced through implementation of Mitigation Measures AQ-1, AQ-2, and AQ-4, and operational emissions associated with this alternative would be reduced through implementation of environmental policies in the proposed Plan. Nonetheless, because there may be instances where project-specific conditions preclude the reduction of health risks below adopted thresholds, development under the DMU Alternative would result in significant and unavoidable impacts. Given the additional DPM emissions source that would be introduced into the Planning area under this alternative, this significant and unavoidable impact would be of greater magnitude than the proposed Plan.

Similar to the proposed Plan, receptor exposure to operational carbon monoxide, asbestos, and odors would be less than significant under the DMU Alternative. CO modeling for the proposed Plan showed that no new localized violations of the 1-hour or 8-hour ambient air quality standards would occur, and the same conclusion would also apply for this alternative, which results in similar overall development and consequently the similar overall VMT (1,354,311 VMT instead of 1,348,781 VMT under the proposed Plan). All projects requiring demolition would be required to comply with BAAQMD Regulation XI, Rule 11-2, which controls emissions of asbestos to the atmosphere and establishes appropriate waste disposal procedures.

Odor emissions during construction and operation would not result in nuisance violations since no new odor generating facilities would be constructed. While odors associated with diesel combustion from operation of the DMU vehicles would be generated, there would be a limited number of DMU-powered vehicles (six married pairs) and diesel odors from these operations would only incrementally increase the existing diesel and gasoline odors associated with vehicles on I-580 and nearby arterials. In addition, according to the BART to Livermore Extension Project EIR, the DMU Alternative would use trains with diesel engines that are compliant with the EPA's Tier 4 Final standards, resulting in emissions that would have substantially reduced odors compared to engines from prior standards. With respect to the operation of buses, there would be an average of 217 net new bus trips per day, and diesel odors from these operations would be minor additions to the existing diesel and gasoline odors associated with vehicles on I-580 and nearby arterials. Thus, odor impacts from DMU vehicles would be less than significant.

No Project Alternative

The types of air quality impacts that would occur under the No Project Alternative would generally be similar to those under the proposed Plan. By virtue of its continuation of land use and other policies under the City's existing 2004 General Plan and the 2010 Livermore Development Code, implementation of the No Project Alternative would not inherently conflict

with the BAAQMD's 2017 Clean Air Plan as future growth occurring under the existing City General Plan have been accounted for in the plan's emissions projections. As such, this impact would be less than significant. However, because no BART station would occur at Isabel Avenue, this alternative would not be able to achieve the transit-oriented development patterns in the Planning Area that would occur under the proposed Plan. As such, the No Project Alternative would not be as effective as the proposed Plan in promoting the primary goals of the 2017 Clean Air Plan, which is to attain air quality standards, reduce population exposure and protect public health in the Bay Area, and reduce GHG emissions and protect the climate.

As with the proposed Plan, construction and operation of new development projects in the Planning Area under the No Project Alternative would generate criteria pollutant emissions that could exceed BAAQMD's significance thresholds. Although the No Project Alternative would result in fewer development projects being constructed in the Planning Area, there would remain scenarios where construction of a single development project or the concurrent construction of a multitude of individual development projects at any one time in the Planning Area would generate criteria pollutant emissions on a daily basis that would exceed BAAQMD's criteria pollutant thresholds. The No Project Alternative would be required to comply with all State and local rules and regulations to control criteria pollutant emissions. Additionally, construction emissions from future development projects in the Planning Area would be reduced through best available control technologies identified in mitigation measures in project-specific environmental documents. However, there may be instances where implementation of best available control technologies would not be sufficient to reduce emissions to below BAAQMD's pollutant thresholds. While the proposed Plan includes Mitigation Measure AQ-3 that involves the purchase of emissions offsets to mitigate potential air quality impacts, it is uncertain whether such mitigation will be implemented for development projects under the No Project Alternative. As such, air quality impacts related to construction emissions under the No Project Alternative could potentially be significant and unavoidable compared to the proposed Plan's less than significant impacts with mitigation.

With regards to operational emissions, the overall reduction in development under the No Project Alternative would result in lower operational emissions at buildout than the proposed Plan. However, compared to existing conditions, the No Project Alternative would still result in a net new development of 910 housing units and 3,818,300 square feet of non-residential development in the Planning Area. Given this amount of net new development, it is likely that the net increase in PM10 and PM2.5 emissions generated under this alternative would remain in exceedance of BAAQMD's project-level thresholds for these two criteria pollutants, similar to that of the proposed Plan although to a lesser degree. As the vast majority of these PM10 and PM2.5 emissions would be generated from passenger vehicles that are not regulated by the City, no feasible mitigation measures are available that can be implemented by the City to reduce these PM10 and PM2.5 emissions, and this impact would remain significant and unavoidable.

Similar to the proposed Plan, the development of new land use projects associated with the No Project Alternative would expose new and existing sensitive receptors within the Planning Area to significant health risks from exposure to ambient TACs, including construction- and operational-related DPM emissions. However, the degree to which new and existing sensitive receptors would be exposed to health risks from TACs would be less than the proposed Plan as the No Project Alternative would result in less overall development in the Planning Area, thereby reducing the

total number of these exposure incidences. Emissions would be reduced through best available control technologies identified in mitigation measures in project-specific environmental documents, but would nonetheless remain significant and unavoidable.

As under the proposed Plan, receptor exposure to operational carbon monoxide, asbestos, and odors would be less than significant under the No Project Alternative. CO modeling for the proposed Plan showed that no new localized violations of the 1-hour or 8-hour ambient air quality standards would occur, and the same conclusion would also apply for this alternative, which results in less overall development and consequently a decrease in overall VMT. All projects requiring demolition would be required to comply with BAAQMD Regulation XI, Rule 11-2, which controls emissions of asbestos to the atmosphere and establishes appropriate waste disposal procedures. Odor emissions during construction and operation would not result in nuisance violations since no new odor generating facilities would be constructed.

ENERGY, GREENHOUSE GASES, AND CLIMATE CHANGE

Reduced Development Alternative

Under the Reduced Development Alternative, energy impacts associated with construction and operational activities would be of a lesser magnitude than the proposed Plan due to the overall reduction in residential and non-residential development. The proposed Plan policies designed to reduce air quality impacts during construction would also be implemented under this alternative, which would often achieve complementary reductions in construction-related energy use. As the Reduced Development Alternative would implement the same sustainability policies and mixed-use and transit-oriented development patterns as the proposed Plan, a decrease in per capita[2] energy consumption would occur under this alternative when compared against existing (2013) conditions. Thus, both construction and operational activities occurring under the Reduced Development Alternative would not result in a wasteful, inefficient, and unnecessary usage of direct or indirect energy. Impacts would be less than significant, and would be of a lesser magnitude than the proposed Plan.

GHG impacts under the Reduced Development Alternative would be of a lesser magnitude than those under the proposed Plan. Similar to criteria air pollutant emissions, construction and operational GHG emissions associated with the Reduced Development Alternative would be lower than those estimated for the proposed Plan since overall VMT would be lower and less construction would occur. Similar to the proposed Plan, implementation of Mitigation Measures AQ-1 and environmental policies in the proposed Plan would ensure that construction-related GHG emissions would be less than significant. Similar to the proposed Plan, the transit-oriented development and mixed-use design in the Planning Area resulting from buildout under the Reduced Development Alternative is also expected to result in net emissions per service population in both 2025 and 2040 that would be lower than the per service population emissions associated with existing (2013) conditions. Additionally, Mitigation Measure GHG-1 would ensure that the net operational GHG emissions generated under this alternative at buildout would

[2] While, the GHG emissions analysis evaluated emissions per service population, the energy analysis evaluated energy use per capita.

be less than the 2040 "substantial progress" efficiency metric. As such, impacts related to the operational GHG emissions generated under the Reduced Development Alternative would be less than significant and, given the reduction in overall development in the Planning Area, would be of a lesser magnitude than the proposed Plan. Furthermore, because the Reduced Development Alternative would include the same sustainability policies and mixed-use and transit-oriented development patterns as the proposed Plan, development under this alternative would not conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions, such as the City's Climate Action Plan (CAP), Assembly Bill (AB) 32, Senate Bill (SB) 32, and Executive Order (EO) S-3-05, and like the proposed Plan, this impact would be less than significant.

Enhanced Parking Alternative

Under the Enhanced Parking Alternative, energy impacts associated with construction and operational activities would be similar to those under the proposed Plan, as the same amount of overall development would occur in the Planning Area, with the addition of a single 400- to 500-stall parking structure north of I-580. The proposed Plan policies designed to reduce air quality impacts during construction would also be implemented under this alternative, which would often achieve complementary reductions in construction-related energy use. Because the Enhanced Parking Alternative would encompass the same sustainability policies and mixed-use and transit-oriented development patterns as the proposed Plan, a decrease in per capita energy consumption would occur under this alternative when compared against existing (2013) conditions. Thus, both construction and operational activities occurring under the Enhanced Parking Alternative would not result in a wasteful, inefficient, and unnecessary usage of direct or indirect energy. Similar to the proposed Plan, impacts would be less than significant.

Given that overall development under the Enhanced Parking Alternative would be the same as the proposed Plan with the exception of an additional parking structure north of I-580, the construction and operation of new development projects in the Planning Area would result in the similar GHG emission impacts as the proposed Plan. With regards to construction emissions, implementation of Mitigation Measures AQ-1 and environmental policies in the proposed Plan would ensure that construction-related GHG emissions would be less than significant. This alternative would result in 1,351,152 daily VMT as compared to the proposed Plan's 1,348,781 daily VMT, an increase of only 2,371 VMT. Therefore, with regards to operational GHG emissions, the transit-oriented development and mixed-use design in the Planning Area resulting from buildout under the Enhanced Parking Alternative would, similar to the proposed Plan, result in net emissions per service population in both 2025 and 2040 that would be lower than the per service population emissions associated with existing (2013) conditions. Additionally, implementation of Mitigation Measure GHG-1 would ensure that the net operational GHG emissions generated under this alternative at buildout would be less than the 2040 "substantial progress" efficiency metric. As such, impacts related to the operational GHG emissions generated under the Enhanced Parking Alternative would be less than significant. Furthermore, because the Enhanced Parking Alternative would include the same sustainability policies and mixed-use and transit-oriented development patterns as the proposed Plan, development under this alternative would not conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions, such as the City's CAP, AB 32, SB 32, and EO S-3-05, and this impact would be less than significant.

Car-Light Alternative

Under the Car-Light Alternative, the same amount of overall development would occur in the Planning Area when compared to the proposed Plan. However, because this alternative would lower the required minimum and allowed maximum parking ratios that are assumed for the proposed Plan and includes additional policies and programmatic elements that support bus and shuttle service as well as bicycle and pedestrian mobility, a reduction in overall vehicle travel and consequently mobile emissions is anticipated. As such, while energy impacts associated with construction activities would be the same as the proposed Plan, energy impacts associated with operational activities are expected be of a lesser magnitude than the proposed Plan due to an overall reduction in vehicle travel and consequently vehicle fuel consumption. The proposed Plan policies designed to reduce air quality impacts during construction would be implemented under the Car-Light Alternative, which would often achieve complementary reductions in construction-related energy use. The Car-Light Alternative would implement the same sustainability policies and mixed-use and transit-oriented development patterns as the proposed Plan, which would result in a decrease in per capita energy consumption would occur under this alternative when compared against existing (2013) conditions. Thus, both construction and operational activities occurring under the Car-Light Alternative would not result in a wasteful, inefficient, and unnecessary usage of direct or indirect energy. Impacts would be less than significant, and would be of a lesser magnitude than the proposed Plan.

With respect to GHG impacts, the Car-Light Alternative would have the same impacts as the proposed Plan with regards to construction emissions, and implementation of Mitigation Measures AQ-1 and GHG-1, along with adherence to environmental policies in the proposed Plan, would ensure that these emissions would be less than significant. However, operational GHG emissions associated with the Car-Light Alternative would be lower than those estimated for the proposed Plan since an overall reduction in vehicle travel is expected under this alternative. The overall reduction in vehicle-related GHG emissions along with implementation of the same transit-oriented development and mixed-use design in the Planning Area as the proposed Plan will also result in net emissions per service population in both 2025 and 2040 that would be lower than the per service population emissions associated with existing (2013) conditions. Additionally, implementation Measure GHG-1 would ensure that the net operational GHG emissions generated under the Car-Light Alternative at buildout would be less than the 2040 "substantial progress" efficiency metric. As such, impacts related to the operational GHG emissions generated under the Car-Light Alternative would be less than significant and, given the additional reduction in vehicle-related GHG emissions (67,439 fewer daily VMT as compared to the Plan), would be of a lesser magnitude than the proposed Plan. Furthermore, because the Car-Light Alternative would include the same sustainability policies and mixed-use and transit-oriented development patterns as the proposed Plan, development under this alternative would not conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions, such as the City's CAP, AB 32, SB 32, and EO S-3-05, and this impact would be less than significant.

DMU Alternative

The DMU Alternative, which assumes a diesel-multiple unit extension of BART would be installed in the I-580 median between the BART terminus and Isabel Avenue instead of full BART, would have the same overall amount of development in the Planning Area as the proposed

Plan. As such, energy impacts associated with construction and operational activities would be relatively similar to the proposed Plan. The proposed Plan policies designed to reduce air quality impacts during construction would also be implemented under this alternative, which would often achieve complementary reductions in construction-related energy use. Because the DMU Alternative would encompass the same sustainability policies and mixed-use and transit-oriented development patterns as the proposed Plan, a decrease in per capita energy consumption would occur under this alternative when compared against existing (2013) conditions. Thus, both construction and operational activities occurring under the DMU Alternative would not result in a wasteful, inefficient, and unnecessary usage of direct or indirect energy. Similar to the proposed Plan, impacts would be less than significant.

Given that overall development under the DMU Alternative would be similar to the proposed Plan, the construction and operation of new development projects in the Planning Area would result in the similar GHG emission impacts as the proposed Plan. With regards to construction emissions, implementation of Mitigation Measures AQ-1 and environmental policies in the proposed Plan would ensure that construction-related GHG emissions would be less than significant. Further, this alternative would result in 1,354,311 daily VMT as compared to the proposed Plan's 1,348,781 daily VMT, an increase of only 5,530 VMT. Therefore, with regards to operational GHG emissions, the transit-oriented development and mixed-use design in the Planning Area resulting from buildout under the DMU Alternative would, similar to the proposed Plan, result in net emissions per service population in both 2025 and 2040 that would be lower than the per service population emissions associated with existing (2013) conditions. Additionally, implementation Measure GHG-1 would ensure that the net operational GHG emissions generated under this alternative at buildout would be less than the 2040 "substantial progress" efficiency metric. As such, impacts related to the operational GHG emissions generated under the DMU Alternative would be less than significant. Furthermore, because the DMU Alternative would include the same sustainability policies and mixed-use and transit-oriented development patterns as the proposed Plan, development under this alternative would not conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions, such as the City's CAP, AB 32, SB 32, and EO S-3-05, and this impact would be less than significant.

No Project Alternative

The No Project Alternative results in the lowest amount of new development among the alternatives. As such, energy consumption associated with construction and operational activities would be lower than the proposed Plan due to the reduction in overall development. However, although energy- and resource-conserving measures would most likely be utilized under the No Project Alternative, it is not assumed that measures under this alternative would match the energy-saving policies incorporated in the proposed Plan. Additionally, the No Project Alternative would not introduce transit-oriented development in proximity to a future BART station at Isabel Avenue in the Planning Area, which was an important component that resulted in a decrease in the per capita energy consumption under the proposed Plan when compared against existing (2013) conditions. Therefore, energy conservation would not be incorporated into the No Project Alternative to the same extent as for the proposed Plan, making the impact greater, although the impact would still be less than significant since all new development would still comply with State and local energy conservation measures.

Although the No Project Alternative would not include the range of sustainability policies from the proposed Plan that would reduce GHG emissions, it would result in less growth than the proposed Plan. Accordingly, overall GHG emissions generated under this alternative would be less than that of the proposed Plan. However, since the No Project Alternative would not include policies that support smart growth or promote infill and transit-oriented development, growth under the No Project Alternative would conflict with SB 375 and the land use goals of Plan Bay Area, resulting in a significant GHG impact.

AESTHETICS

The Planning Area's scenic views consist primarily of views of the hillsides and ridgelines to the north and south seen from the I-580 freeway, as shown in Figure 3.5-1. Since the buildout of the Enhanced Parking, Car-light, DMU Alternatives would be the same as that of the proposed Plan, these three alternatives would also have a significant and unavoidable impact on these scenic vistas. While the No Project Alternative would not include any of the proposed modifications to the existing scenic corridor policies, the existing building height limit exemption within the 1,000-foot radius of the Isabel Avenue interchange north of I-580 would apply, also resulting in significant and unavoidable impacts. With lower densities and FARs, as well as building height limits modified per the proposed Plan, the impact of the Reduced Development Alternative on scenic vistas would be lower than that of the proposed Plan, though still significant and unavoidable.

Other scenic resources within the Planning Area include existing vegetation and trees along the highway and waterways. For the Enhanced Parking, Car-light, DMU, and Reduced Development alternatives, changes to the vegetation along the highway corridor as well as policies regarding tree plantings are the same as for the proposed Plan, resulting in less than significant impacts to these scenic resources. The No Project Alternative would not lead to changes to vegetation along the highway corridor, minimizing overall impacts to these scenic resources.

As with the proposed Plan, the Enhanced Parking Alternative, the Car-Light Alternative, and the DMU Alternative all enhance the existing aesthetic value of the Planning Area and foster a sense of place by establishing a mixed-use, pedestrian-scaled, transit-oriented neighborhood. Although the Reduced Development Alternative and No Project Alternative would not foster a sense of place to the extent the other alternatives would, they do not allow for development that would degrade visual character or quality of the Planning Area. Thus, each of the alternatives' impacts on the existing visual character of the Planning Area would be less than significant.

New development could generate additional light and glare in the Planning Area. The Enhanced Parking Alternative, Car-Light Alternative, and DMU Alternative would lead to similar, less than significant light and glare impacts as the proposed Plan as they plan for the same amount of development as the proposed Plan. As the Reduced Development Alternative would allow for less development than the aforementioned scenarios, it would lead to less new sources of substantial light and glare. As the No Project Alternative would allow for the least development, it would result in the least new sources of substantial light and glare of all the scenarios.

NOISE AND VIBRATION

Reduced Development Alternative

The Reduced Development Alternative would result in a smaller amount of overall development as compared to the proposed Plan. Although development under the Reduced Density Alternative would be less dense than under the proposed Plan, this alternative would result in similar construction noise impacts as the proposed Plan. This is because the type of noise-generating activities that would occur would be similar to those under the proposed Plan, and the construction noise levels on any given day would not be expected to be reduced under this alternative. That is, the same general levels of construction related noise shown in Table 3.6-10 in Section 3.6 of this EIR, Noise and Vibration, would be expected to occur for this alternative, because the type of construction activities (i.e. excavation, building construction, etc.) would be comparable to the proposed Plan. The duration of construction (e.g., the amount of time it takes to build out this alternative as compared to the proposed Plan) may be shorter given the reduced density of development, but this would not change the overall significance conclusion because the significance of construction related noise impacts is based on noise that would occur on any given day.

As with the proposed Plan, under the Reduced Development Alternative, construction that complies with the time-of-day restrictions for construction activities would result in less than significant noise impacts with regard to the generation of noise in excess of thresholds. Further, if a future project receives authorization to deviate from the allowable hours for construction, then it would still be in compliance with the City Noise Ordinance. Therefore, under this alternative (as with the proposed Plan), all future development projects would either comply with the hourly restrictions for construction activities, or receive approval from the City to deviate from these limitations, and would result in less-than-significant impacts related to construction noise.

As with the proposed Plan, the Reduced Development Alternative would result in increases in ambient noise levels due to traffic noise as compared to without project conditions, and would result in some existing noise sensitive receptors being exposed to excessive noise.

Under the Reduced Development Alternative, traffic volumes along freeway segments and at study intersections around the Planning Area are expected to be reduced compared to implementation of the proposed Plan. As shown in Table 4.3-1, daily vehicle trips under the Reduced Development Alternative would be reduced from 143,771 daily trips to 101,847 daily trips, which is an approximately 29 percent decrease in daily trips from what would occur under the proposed Plan.

As a result of this reduction in daily trips, some roadway segments under the Reduced Development Alternative would be expected to have smaller overall daily traffic volumes, and as a result, traffic-related noise levels along some segments could be reduced as compared to the proposed Plan. However, it is unknown which segments would have smaller volumes, and how large segment-by-segment decreases in peak-hour traffic would be under this alternative. To estimate where associated traffic-related noise could be reduced under this alternative, modeling was conducted for the following three segments shown to have potential impacts under the proposed Plan:

- Portola between Sandalwood Drive and Isabel Avenue

- East Airway Boulevard east of Sutter Street and west of Via Mateo (around the mobile home development)
- East Airway Boulevard east of Via Mateo and West/N of Portola Avenue (around the mobile home development)

Modeling of potential impacts from the Reduced Development Alternative (assuming a 29 percent reduction of ADT along all segments) indicates that along one of these three segments (Portola between Sandalwood Drive and Isabel Avenue) the impact could be reduced to a less-than-significant level under this alternative.

Portola between Sandalwood Drive and Isabel Avenue would still have with-project noise levels in excess of the applicable compatibility standard, but the project-related increase would only be approximately 1.8 dB (below the 3-dB threshold for allowable increases in noise). Based on this rough model (which assumed a blanket 29 percent traffic reduction on all segments), noise levels along this segment could be less than significant under this alternative. East Airway Boulevard east of Sutter Street and west of Via Mateo would also still have with-project noise levels in excess of the threshold, and would still have a potentially significant 3.6-dB increase attributable to implementation of this alternative. In addition, East Airway Boulevard east of Via Mateo and West/N of Portola Avenue Mateo would similarly still have with-project noise levels in excess of the threshold, and would still have a potentially significant 3.4-dB increase attributable to implementation of this alternative.

While it is unlikely that all roadway segments would experience the same percent decrease in traffic, it is likely that, as demonstrated by the roadway segment modeling result, future Year 2040 with-Project traffic under this alternative would be similar to the proposed Plan, as it would be expected to result in noise levels at sensitive land uses exceeding the applicable compatibility standard, and would be expected to contribute a perceptible (3 dB) increase in some of these areas. It is possible that one of the potentially significant impacts identified for the proposed Plan could be reduced to less than significant levels under this alternative (based on this general 29-percent reduction modeling approach). However, traffic noise impacts to existing noise-sensitive land uses under the Reduced Development Alternative would still be in excess of thresholds at two segments. Even with implementation of Mitigation Measure NOI-1 (Implement Traffic Noise Reduction Measures at Existing Sensitive Receptors), it would not be possible to ensure less-than-significant impacts at all noise-sensitive receptors in the Plan area. Therefore, as with the proposed Plan, traffic noise impacts to existing noise-sensitive receptors would be significant and unavoidable under this alternative.

As with the proposed Plan, some future noise-sensitive land uses in the Planning Area under the Reduced Development Alternative are proposed in areas where the Year 2040 with-project noise levels would exceed the applicable noise compatibility standard. Noise-related policies in the proposed Plan would help reduce the potential impacts; for example, by reducing exterior noise levels at new land uses under the proposed Plan and under the Reduced Development Alternative by ensuring that a detailed acoustical analysis of the noise environment is conducted in areas where noise is predicted to exceed compatibility standards. The analysis should determine whether noise insulation or protection features are required to achieve consistency with the applicable exterior and interior noise compatibility standards. Project applicants shall then be required to implement measures to ensure exterior noise compatibility with the applicable

standards, where feasible. However, as it may not be possible to reduce exterior noise to compatible levels in all instances, traffic noise impacts to future land uses developed under the Reduced Development Alternative would remain significant and unavoidable even with implementation of proposed Plan policies.

As with the proposed Plan, noise from BART operations is not expected to result in significant noise impacts to future development associated with the Reduced Development Alternative. Impacts to proposed Plan noise-sensitive land uses from BART trains would be less than significant.

Similarly, potential special events under the Reduced Development Alternative (as would be the case with the proposed Plan) would need to obtain a permit and demonstrate that they would comply with the local applicable noise standards. Therefore, noise impacts related to special events occurring in the Planning Area under the Reduced Development Alternative would be less than significant.

Although construction activities could generate excessive vibration, affecting sensitive receptors in the Planning area, proposed vibration-related policies would help to reduce potential vibration effects by requiring construction contractors to implement measures to help reduce potential vibration levels. However, as with the proposed Plan, it is not possible to determine with a reasonable degree of certainty that it would be feasible for all future development in the Planning Area to reduce vibration from construction to less-than-significant levels under the Reduced Development Alternative. Construction vibration under the Reduced Development Alternative, would therefore be significant and unavoidable even with implementation of proposed Plan policies.

As with the proposed Plan, implementation of the Reduced Development Alternative would not directly result in an increase of operational sources of vibration in the Planning Area. Because implementation of the Reduced Density Alterative would not directly increase sources of vibration in the Planning Area, stationary source vibration impacts associated with implementation of the Reduced Development Alternative would be less than significant, as would be the case for the proposed Plan.

As the Reduced Development Alternative would not bring any sensitive land uses closer to the BART alignment than would the proposed Plan, vibration impacts from BART operations to the proposed development under this alternative would be less than significant.

The Reduced Development Alternative would also not bring any noise-sensitive receptors closer to the Livermore Municipal Airport than the proposed Plan. As such, and as with the proposed Plan, all proposed land uses associated with the Reduced Development Alternative would be located in areas where they would be compatible with the noise from the Livermore Municipal Airport. Impacts related to the exposure of people residing or working in the Planning Area to excessive noise levels from aircraft at a public airport would be less than significant. In addition, policies included in the proposed Plan, described in Section 3.6, would help to further reduce any annoyance associated with occasional overflight noise.

Enhanced Parking Alternative

The Enhanced Parking Alternative would result in the same amount of overall development as compared to the proposed Plan, with the addition of a 400 to 500-stall parking structure north of I-580. The Enhanced Parking Alternative would include the development of approximately the same 4,095 housing units proposed under the Plan, and the net new population expected under the Enhanced Parking Alternative would also be 9,803 individuals, as expected under the proposed Plan. In addition, the total non-residential square footage would be the same as the square footage proposed under the Plan.

Because the Enhanced Parking Alternative would result in the construction of approximately the same amount of structures as under the proposed Plan, this alternative would result in the same construction noise impacts as the proposed Plan. The type of noise-generating activities that would occur would be essentially the same as those under the proposed Plan, and construction noise levels on any given day would not be expected to be reduced under this alternative. Therefore, the same levels of noise shown in Table 3.6-10 in Section 3.6 of this EIR, Noise and Vibration, would be expected to occur for this alternative, because the type of construction activities (i.e. excavation, building construction, etc.) would be comparable to the proposed Plan.

As with the proposed Plan, under the Enhanced Parking Alternative, construction that complies with the time-of-day restrictions for construction activities would result in less-than-significant noise impacts with regard to the generation of noise in excess of thresholds. Further, if a future project receives authorization to deviate from the allowable hours for construction, then it would still be in compliance with the City Noise Ordinance. Therefore, under this alternative (as with the proposed Plan), all future development projects would either comply with the hourly restrictions for construction activities, or receive approval from the City to deviate from these limitations, and would result in less-than-significant impacts related to construction noise.

As with the proposed Plan, the Enhanced Parking Alternative would result in an increase in ambient noise levels due to traffic noise as compared to without-project conditions, and would result in some existing noise sensitive receptors being exposed to excessive noise. The Planning Area roadway segments under the Enhanced Parking Alternative would be expected to have very similar volumes, as the proposed total development for this alternative is the same as under the proposed Plan.

As this alternative includes the development of an additional 400 to 500-stall parking structure north of I-580 in addition to the BART parking structure south of I-580, it is possible that AM and PM peak-hour trips could increase slightly. According to Table 4.3-1, the Enhanced Parking Alternative would result in 240 additional daily trips. Some of these may occur during the AM and PM peak hours. However, it is unlikely that this change would result in any meaningful differences in noise as compared to the analysis conducted for the proposed Plan.

Because future Year 2040 with-project traffic under this alternative (as with the proposed Plan) would be expected to similarly result in noise levels at sensitive land uses exceeding the applicable compatibility standard, and as the proposed Enhanced Parking Alternative may contribute a perceptible (3 dB) increase in some of these areas, traffic noise impacts to existing noise-sensitive land uses under the Enhanced Parking Alternative would be similar to those under the proposed Plan. Even with implementation of Mitigation Measure NOI-1 (Implement Traffic Noise

Reduction Measures at Existing Sensitive Receptors), it would not be possible to ensure less-than-significant impacts at all noise-sensitive receptors. Therefore, as with the proposed Plan, traffic noise impacts to existing noise-sensitive receptors under this alternative would be significant and unavoidable**.**

As with the proposed Plan, some future noise-sensitive INP land uses in the Planning Area under the Enhanced Parking Alternative are proposed in areas where the Year 2040 with-project noise levels would exceed the applicable noise compatibility standard. Noise-related polices included in the proposed Plan would help reduce the potential impacts; for example, by reducing exterior noise levels at new land uses under the proposed Plan and under the Enhanced Parking Alternative by ensuring that a detailed acoustical analysis of the noise environment is conducted in areas where noise is predicted to exceed compatibility standards. The analysis should determine whether noise insulation or protection features are required to achieve consistency with the applicable exterior and interior noise compatibility standards. Project applicants shall then be required to implement measures to ensure exterior noise compatibility with the applicable standards, where feasible. However, as it may not be possible to reduce exterior noise to compatible levels in all instances, traffic noise impacts to future land uses developed under the Enhanced Parking Alternative, as under the proposed Plan, would remain significant and unavoidable even with implementation of proposed Plan policies.

As with the proposed Plan, noise from BART operations is not expected to result in significant noise impacts to future development associated with the Enhanced Parking Alternative. Impacts to proposed Plan noise-sensitive land uses from BART trains would be less than significant.

Similarly, potential special events under the Enhanced Parking Alternative (as would be the case with the proposed Plan) would need to obtain a permit and demonstrate that they would comply with the local applicable noise standards. Therefore, noise impacts related to special events occurring in the Planning Area under the Enhanced Parking Alternative would be less than significant.

Although construction activities could generate excessive vibration at sensitive receptors in the Plan area, vibration-related policies in the proposed Plan would help to reduce potential vibration effects under this alternative by requiring construction contractors to implement measure to help reduce potential vibration levels. However, as with the proposed Plan, it is not possible to determine with a reasonable degree of certainty that it would be feasible for all future development in the Planning Area to reduce vibration from construction to less than significant levels under the Enhanced Parking Alternative. Construction vibration under the Enhanced Parking Alternative would therefore be significant and unavoidable even with implementation of proposed Plan policies.

Implementation of the Enhanced Parking Alternative would not directly result in an increase of operational sources of vibration in the city (as would be the case with the proposed Plan). Therefore, as with the proposed Plan, stationary source vibration impacts associated with implementation of the Enhanced Parking Alternative would be less than significant.

As the Enhanced Parking Alternative would not bring any sensitive land uses closer to the BART alignment than the proposed Plan, vibration impacts from BART operations would be less than significant.

The Enhanced Parking Alternative would also not bring any noise-sensitive receptors closer to the Livermore Municipal Airport than the proposed Plan. As such, and as with the proposed Plan, all proposed land uses associated with the Enhanced Parking Alternative would be located in areas where they would be compatible with the noise from the Livermore Municipal Airport. Impacts related to the exposure of people residing or working in the Planning Area to excessive noise levels from aircraft at a public airport would be less than significant. In addition, policies included in the proposed Plan, described in Section 3.6: Noise and Vibration, would help to further reduce any annoyance associated with occasional overflight noise.

Car-Light Alternative

The Car-Light Alternative would include the development of the same number of housing units as under the Plan, and the population expected under the Car-Light Alternative would also be the same as under the proposed Plan. In addition, the total non-residential square foot would be the same as the square footage proposed under the Plan. However, although the Car-Light Alternative would result in the same amount of overall development as compared to the proposed Plan, it is expected that fewer vehicle trips would be generated under this alternative, given that it would decrease vehicle traffic impacts by promoting alternative modes of transportation.

Because the Car-Light Alternative would result in approximately the same amount of construction and result in the same population and job growth as the proposed Plan, this alternative would result in the same construction noise impacts as the proposed Plan. The type of noise-generating activities that would occur would be essentially the same as those under the proposed Plan, and construction noise levels on any given day would not be expected to be reduced under this alternative. Therefore, the same levels of noise shown in Table 3.6-10 in Section 3.6 of this EIR, Noise and Vibration, would be expected to occur for this alternative, because the type of construction activities (i.e. excavation, building construction, etc.) would be comparable to the proposed Plan.

As with the proposed Plan, under the Car-Light Alternative, construction that complies with the time-of-day restrictions for construction activities would result in less-than-significant noise impacts with regard to the generation of noise in excess of thresholds. Further, if a future project receives authorization to deviate from the allowable hours for construction, then it would still be in compliance with the City Noise Ordinance. Therefore, under this alternative (as under the proposed Plan), all future development projects would either comply with the hourly restrictions for construction activities, or receive approval from the City to deviate from these limitations, and would result in less-than-significant impacts related to construction noise.

As with the proposed Plan, the Car-Light Alternative would result in increases in ambient noise levels due to traffic noise as compared to without-project conditions, and would result in some existing noise sensitive receptors being exposed to excessive noise. However, the Planning Area roadway segments under the Car-Light Alternative would be expected to generate smaller increases in traffic volumes due to the reduced parking and incentives to use alternative modes of transportation under this alternative. Therefore, although the proposed total development for this

alternative would be the same as under the proposed Plan, the proposed policies and programmatic elements that support bus and shuttle service as well as bicycle and pedestrian mobility would reduce vehicle trips, and could slightly reduce associated traffic noise, as compared to the proposed Plan.

According to Table 4.3-1, the Car-Light Alternative would result in approximately 7,189 fewer daily trips than the proposed Plan. Although this alternative does result in fewer overall trips, this change constitutes an only five percent difference in daily ADT. This 5-percent change corresponds to a 0.3-dB change, and is therefore unlikely to result in any substantial differences in noise along segments in the Plan vicinity under this alternative, as compared to the proposed Plan.

Since total traffic volumes would only be expected to decrease by approximately 5 percent under this alternative as compared to the proposed Plan, future Year 2040 with-project traffic under this alternative may similarly result in excessive noise levels at sensitive land uses. As the proposed Car-Light Alternative may contribute a perceptible (3 dB) increase in some of these areas, traffic noise impacts to existing noise-sensitive land uses under the Car-Light Alternative would be expected to be similar to those under the proposed Plan. Even with implementation of Mitigation Measure NOI-1 (Implement Traffic Noise Reduction Measures at Existing Sensitive Receptors), it would not be possible to ensure less than significant impacts at all noise-sensitive receptors. Traffic noise impacts to existing noise-sensitive receptors would be significant and unavoidable**.**

As with the proposed Plan, some future noise-sensitive INP land uses in the Planning Area under the Car-Light Alternative are proposed in areas where the Year 2040 with-project noise levels would exceed the applicable noise compatibility standard under the proposed Plan. Traffic noise levels would be expected to be similar under the Car-Light Alternative, with only a 5-percent reduction in overall daily trips. Noise-related policies included in the proposed Plan would help reduce the potential impacts; for example, by reducing exterior noise levels at new land uses under the proposed Plan and under the Car-Light Alternative by ensuring that a detailed acoustical analysis of the noise environment is conducted in areas where noise is predicted to exceed compatibility standards. The analysis should determine whether noise insulation or protection features are required to achieve consistency with the applicable exterior and interior noise compatibility standards. Project applicants shall then be required to implement measures to ensure exterior noise compatibility with the applicable standards, where feasible. However, as it may not be possible to reduce exterior noise to compatible levels in all instances, traffic noise impacts to future land uses developed under this alternative would remain significant and unavoidable even with implementation of proposed Plan policies.

As with the proposed Plan, noise from BART operations is not expected to result in significant noise impacts to future development associated with the Car-Light Alternative. Impacts to proposed Plan noise-sensitive land uses from BART trains would be less than significant.

As with the proposed Plan, potential special events under the Car-Light Alternative would need to obtain a permit and demonstrate that they would comply with the local applicable noise standards. Therefore, noise impacts related to special events occurring in the Planning Area under the Car-Light Alternative would be less than significant.

Although construction activities could generate excessive vibration at sensitive receptors in the Planning Area under this alternative, vibration-related policies in the proposed Plan would help to reduce potential vibration effects by requiring construction contractors to implement measure to help reduce potential vibration levels. However, as with the proposed Plan, it is not possible to determine with a reasonable degree of certainty that it would be feasible for all future development in the Planning Area to reduce vibration from construction to less-than-significant levels under the Car-Light Alternative. Therefore, as with the proposed Plan, construction vibration under the Car-Light Alternative, would be significant and unavoidable.

As would occur under the proposed Plan, implementation of the Car-Light Alternative would not directly result in an increase of operational sources of vibration in the Planning Area. Stationary source vibration impacts associated with implementation of the Car-Light Alternative therefore would be less than significant, as would be the case for the proposed Plan.

As the Car-Light Alternative would not bring any sensitive land uses closer to the BART alignment than the proposed Plan, vibration impacts from BART operations to the proposed INP development under this alternative would be less than significant.

The Car-Light Alternative would also not bring any noise-sensitive receptors closer to the Livermore Municipal Airport than the proposed Plan. As such, and as with the proposed Plan, all proposed land uses associated with the Car-Light Alternative would be located in areas where they would be compatible with the noise from the Livermore Municipal Airport. Impacts related to the exposure of people residing or working in the Planning Area to excessive noise levels from aircraft at a public airport would be less than significant. In addition, policies included in the proposed Plan, described in Section 3.6, would help to further reduce any annoyance associated with occasional overflight noise.

DMU Alternative

The DMU Alternative assumes that instead of full BART, a diesel-multiple unit extension of BART would be installed in the I-580 median between the BART terminus and Isabel Avenue. Because the DMU Alternative would result in the construction of the same amount of structures and result in the same population and job growth as the proposed Plan, this alternative would result in the same construction noise impacts as the proposed Plan. The type of noise-generating activities that would occur would be essentially the same as those under the proposed Plan, and construction noise levels on any given day would not be expected to be reduced under this alternative. Therefore, the same levels of noise shown in Table 3.6-10 in Section 3.6 of this EIR, Noise and Vibration, would be expected to occur for this alternative, because the type of construction activities (i.e. excavation, building construction, etc.) would be comparable to the proposed Plan.

As with the proposed Plan, under the DMU Alternative, construction that complies with the time-of-day restrictions for construction activities would result in less-than-significant noise impacts with regard to the generation of noise in excess of thresholds. Further, if a future project receives authorization to deviate from the allowable hours for construction, then it would still be in compliance with the City Noise Ordinance. Therefore, under this alternative (as with the proposed Plan), all future development projects would either comply with the hourly restrictions

for construction activities, or receive approval from the City to deviate from these limitations, and would result in less-than-significant impacts related to construction noise.

As with the proposed Plan, the DMU Alternative would result in increases in ambient noise levels due to traffic noise as compared to without-project conditions, and would result in some existing noise sensitive receptors being exposed to excessive noise. The Planning Area roadway segments under the DMU Alternative would be expected to have very similar volumes, as the proposed total development for this alternative is the same as under the proposed Plan.

Overall project-related traffic volumes would be similar under this alternative, with an increase in overall daily trips of only 589 trips. This increase constitutes a less than 0.5-percent increase in vehicle trips, which would not be expected to result in any substantial changes in noise along any roadway segments in the Planning Area under this alternative, as compared to the proposed Plan. Because future Year 2040 with-project traffic under this alternative (as with the Plan) would similarly be expected to result in noise levels at sensitive land uses exceeding the applicable compatibility standard, and as the proposed DMU Alternative may contribute a perceptible (3 dB) increase in some of these areas, traffic noise impacts to existing noise-sensitive land uses under the DMU Alternative would be similar to those under the proposed Plan. Even with implementation of Mitigation Measure NOI-1 (Implement Traffic Noise Reduction Measures at Existing Sensitive Receptors), it would not be possible to ensure less than significant impacts at all noise-sensitive receptors. Therefore, traffic noise impacts to existing noise-sensitive receptors under this alternative, as with the proposed Plan, would be significant and unavoidable**.**

As with the proposed Plan, some future noise-sensitive INP land uses in the Planning Area under the DMU Alternative are proposed in areas where the Year 2040 with-project noise levels would exceed the applicable noise compatibility standard. Noise-related policies included in the proposed Plan would help reduce the potential impacts; for example, by reducing exterior noise levels at new land uses under the proposed Plan and under the DMU Alternative by ensuring that a detailed acoustical analysis of the noise environment is conducted in areas where noise is predicted to exceed compatibility standards. The analysis should determine whether noise insulation or protection features are required to achieve consistency with the applicable exterior and interior noise compatibility standards. Project applicants shall then be required to implement measures to ensure exterior noise compatibility with the applicable standards, where feasible. However, as it may not be possible to reduce exterior noise to compatible levels in all instances, traffic noise impacts to future land uses developed under this alternative would remain significant and unavoidable even with implementation of proposed Plan policies.

As with the proposed Plan, noise from BART operations is not expected to result in significant noise impacts to future development associated with the DMU Alternative. According to Table 3.J-19 from the BART to Livermore Extension Project EIR (San Francisco Bay Area Rapid Transit District, 2017), the noise level from conventional BART operations at the nearest analyzed receptor (located 170 feet from the tracks, just south of I-580 between Santa Rita Road and El Charro Road) was predicted to be 54 Ldn with the BART to Livermore project (which included 5 dB of reduction due to shielding from an existing sound wall). As shown in Table 3.J-21 from the BART to Livermore Extension Project EIR (San Francisco Bay Area Rapid Transit District, 2017), the noise level from BART operations under the DMU Alterative at this receptor was predicted to

be 56 Ldn. This indicates that noise levels from BART under the DMU Alternative will generally be 2 dB higher than noise levels under conventional BART.

The DMU alternative, as with the proposed Plan, would not locate any residential land uses closer than approximately 500 feet from the tracks. Noise would be almost 5 dB quieter at this distance than at the receptor located 170 feet from the tracks. Noise from BART would not be expected to exceed applicable thresholds at residential land uses under the INP, or under the DMU alternative. Therefore, as was the case for the proposed Plan, impacts to proposed Plan noise-sensitive land uses from BART trains would be less than significant.

Similarly, potential special events under the DMU Alternative (as was the case with the proposed Plan) would need to obtain a permit and demonstrate that they would comply with the local applicable noise standards. Therefore, noise impacts related to special events occurring in the Planning Area under the DMU Alternative would be less than significant.

Although construction activities could generate excessive vibration at sensitive receptors in the Planning Area, vibration-related policies from the proposed Plan would help to reduce potential vibration effects by requiring construction contractors to implement measures to help reduce potential vibration levels. However, as with the proposed Plan, it is not possible to determine with a reasonable degree of certainty that it would be feasible for all future development in the Planning Area to reduce vibration from construction to less-than-significant levels under the DMU Alternative. Construction vibration under the DMU Alternative would therefore be significant and unavoidable even with implementation of proposed Plan policies.

Implementation of the DMU Alternative instead of the proposed Plan would not result in the project directly increasing stationary sources of operational vibration in the city (as was the case with the proposed Plan), as the types of uses proposed are the same under this alternative as under the proposed Plan. Therefore, stationary source vibration impacts associated with implementation of the DMU Alternative would be less than significant, as would be the case for the proposed Plan.

The DMU Alternative would not bring any sensitive land uses closer to the BART alignment than would the proposed Plan. According to Table 3.J-10 from the BART to Livermore Extension Project EIR (San Francisco Bay Area Rapid Transit District, 2017), the screening distances for operational vibration assessment for rail rapid transit (conventional BART) and conventional commuter railroads (DMU Alternative) are the same.

As discussed in the analysis for the proposed Plan, no Category 2 or Category 3 land uses would be located within the FTA screening distances from the BART tracks (for both conventional BART and the DMU Alternative). In addition, no Category 1 land uses would be located within the applicable screening distance (600 feet) of the BART or DMU tracks. Therefore, vibration impacts from BART operations under the DMU Alternative would be the same as under the proposed Plan, and would be less than significant.

The DMU Alternative would also not bring any noise-sensitive receptors closer to the Livermore Municipal Airport than would the proposed Plan. As such, and as with the proposed Plan, all proposed land uses associated with the DMU Alternative would be located in areas where they would be compatible with the noise from the Livermore Municipal Airport. Impacts related to the

exposure of people residing or working in the Planning Area to excessive noise levels from aircraft at a public airport would be less than significant. In addition, policies included in the proposed Plan, described in Section 3.6, would help to further reduce any annoyance associated with occasional overflight noise.

No Project Alternative

The No Project Alternative assumes continuation of land use and other policies under the 2004 General Plan and the 2010 Livermore Development Code, and no BART station at Isabel Avenue.

The types of noise impacts that would occur under the No Project Alternative would generally be similar, although somewhat reduced, compared to those under the proposed Plan. Construction noise impacts would be expected to be similar, as the Planning Area would be built out under the General Plan and similar types of construction activities would be expected to occur. Therefore, construction noise impacts under the No Project Alternative would be similar to, but somewhat less significant than under the proposed Plan. As with the proposed Plan, under the No Project Alternative, construction that complies with the time-of-day restrictions for construction activities would result in less-than-significant noise impacts with regard to the generation of noise in excess of thresholds. Further, if a future project receives authorization to deviate from the allowable hours for construction, then it would still be in compliance with the City Noise Ordinance. Therefore, under this alternative (as with the proposed Plan), all future development projects would either comply with the hourly restrictions for construction activities, or receive approval from the City to deviate from these limitations, and would result in less-than-significant impacts related to construction noise.

As with the proposed Plan, the No Project Alternative would result in increases in ambient noise levels due to traffic noise as compared to without-project conditions, and would result in some existing noise-sensitive receptors being exposed to excessive noise. However, as fewer overall daily trips are expected under the No Project Alternative (111,040 trips as compared to 143,771 trips), it is likely that some impacts may be reduced or eliminated under this alternative. However, it is likely that some roadway segments would still experience significant noise impacts under this scenario. Further, Mitigation Measure NOI-1 under the proposed Plan (Implement Traffic Noise Reduction Measures at Existing Sensitive Receptors) would not be implemented under the No Project Alternative. Therefore, traffic noise impacts to existing noise-sensitive receptors under this alternative, as with the proposed Plan, would be significant and unavoidable.

As with the proposed Plan, and as discussed in the BART to Livermore Extension Project EIR (San Francisco Bay Area Rapid Transit District, 2017), noise from BART operations are not expected to result in significant noise impacts to future development in the Planning Area (including under the No Project Alternative). Therefore, as was the case for the proposed Plan, BART train noise impacts to noise-sensitive land uses would be expected to be less than significant.

Similarly, potential special events under the No Project Alternative (as was the case with the proposed Plan) would need to obtain a permit and demonstrate that they would comply with the local applicable noise standards. Therefore, noise impacts related to special events occurring in the Planning Area under the No Project Alternative would be less than significant.

Construction activities could generate excessive vibration at sensitive receptors in the Planning Area. Construction activities under the proposed Plan would be expected to result in potentially significant vibration impacts, and the types of development and associated construction activities under the No Project Alternative would be similar. Stationary source vibration impacts under the No Project Alternative would be similar to those under the proposed Plan, as similar uses are proposed under both scenarios. This impact would therefore be less than significant, as was the case for the proposed Plan.

The No Project Alternative would not bring any sensitive land uses closer to the BART alignment than would the proposed Plan. According to Table 3.J-10 from the BART to Livermore Extension Project EIR (San Francisco Bay Area Rapid Transit District, 2017), the screening distances for operational vibration assessment for rail rapid transit (conventional BART) and conventional commuter railroads (DMU alternative) are the same. Therefore, as with the proposed Plan, vibration impacts from BART operations under the No Project Alternative would be less than significant.

The No Project Alternative would also not bring any noise-sensitive receptors closer to the Livermore Municipal Airport than would the proposed Plan. As such, impacts related to the exposure of people residing or working in the Planning Area to excessive noise levels from aircraft at a public airport would be expected to be less than significant.

BIOLOGICAL RESOURCES

The Enhanced Parking Alternative, Car-Light Alternative, and DMU Alternative have development footprints similar to the proposed Plan. The aforementioned alternatives would include the same policies for the protection of special-status species, sensitive habitats, wetlands, and riparian corridors; and for the compensation of trees during construction—consistent with the City of Livermore's Street Tree and Tree Preservation Ordinance. The mitigation measures in Section 3.7 of this EIR, Biological Resources, protecting biological resources would also apply under these alternatives. Therefore, impacts from implementation of these alternatives on special-status species, sensitive habitats (including riparian habitats), wetlands, wildlife corridors, would all be similar to those of the proposed Plan and thus less than significant. As there are currently no adopted conservation plans protecting biological resources in the Planning Area, there would be no impact from the Enhanced Parking Alternative, Car-Light Alternative, and DMU Alternative, similar to the proposed Plan.

The Reduced Development Alternative would include the same policies for the protection of special-status species, sensitive habitats, wetlands, and riparian corridors as the proposed Plan, as well as the mitigation measures in Section 3.7 protecting biological resources. At the same time, allowed densities, FARs, and building heights are lower than for the Proposed Plan. Because development would occur to a lesser extent under the Reduced Development Alternative while keeping the same policies and mitigation measures to protect biological resources, this alternative would have a smaller impact on biological resources than the proposed Plan.

The No Project Alternative includes some policies to protect biological resources, but not the full range included in the proposed Plan and other alternatives. In particular, it would not include the proposed Plan environmental policies that establish a riparian buffer along creeks in the Planning Area to ensure that sensitive species and habitats, and wildlife corridors are not impacted by future development; require new development to pursue a special-species avoidance strategy

based on an inventory of sensitive resources found at a project site; and require consistency with the City's Street Tree and Tree Preservation Ordinance. The No Project Alternative also would not include the mitigation measures found in Section 3.7 that avoid special-status species' habitats during construction or require compensation of habitat removal. However, because of the City's standard project review process, some of these standards may be applied on a case-by-case basis.

Although the No Project Alternative would lead to the least development in the Planning Area, it would not include the policies and mitigation measures referenced above. Therefore, this alternative could result in significant and unavoidable impacts to special-status species and sensitive habitats, and would have a greater impact than the proposed Plan or other alternatives. As with the proposed Plan and other alternatives, the No Project Alternative would have no impact regarding adopted conservation plans protecting biological resources.

HAZARDS AND HAZARDOUS MATERIALS

The Enhanced Parking Alternative, Car-Light Alternative, DMU Alternative, and Reduced Development Alternative would propose the same land use designations as the proposed Plan. The intensity of land uses would generally be similar as well, except for the Reduced Development Alternative, which would lead to less development. Therefore, the Reduced Development Alternative would have a lower potential for hazardous materials transport, use, and/or disposal needs than the aforementioned alternatives, and the least impact. While the other alternatives would not include industrial land use designations, the No Project Alternative would. The industrial uses could be assumed to have a higher incidence of hazardous materials transport, use, and/or disposal needs than residential development. Therefore, the No Project Alternative would have the greatest impact. However, as with the proposed Plan, existing regulations regarding the management of hazardous materials would apply to all future development and land use activities in the Planning Area. With such regulations, all of the alternatives would have a less than significant impact related to the routine transport, use, disposal, and potential upset of hazardous materials. Therefore, all of the alternatives, including the No Project Alternative, would also have a less than significant impact related to the routine transport, use, disposal, and potential upset of hazardous materials.

As with the proposed Plan, the Enhanced Parking Alternative, Car-Light Alternative, DMU Alternative, and Reduced Development Alternative propose a school overlay in the Planning Area, at the former Charter School site in the northwestern portion of the Planning Area. These alternatives could allow for the development of land uses, such as a gas station or light manufacturing, within a quarter-mile of future schools in this overlay that could be reasonably expected to handle hazardous materials or generate hazardous emissions. However, these alternatives would be subject to the same regulations and policies that would lead to a less-than-significant impact. The No Project Alternative does not propose a school overlay in the Planning Area. Therefore, it would have no impact.

As with the proposed Plan, existing regulations and programs would help to reduce potential impacts of development on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5. The alternatives would be subject to the same regulations and programs as the proposed Plan that would reduce potential impacts to less than significant, similar to the proposed Plan.

Each alternative, except for the No Project Alternative, would exempt development in the Planning Area from a City Development Code policy limiting building height to 40 feet within 5,000 feet of an airport runway. However, instead of this Development Code provision, new development resulting from these alternatives would be subject to ALUCP height limits and regulations on airspace protection. This would lead to a less-than-significant impact. The No Project Alternative would not conflict with any of the provisions of the ALUCP and therefore would have no impact.

There are no private airstrips within the Planning Area. Therefore, implementation of the land use changes and policies consistent with the proposed Plan, the Enhanced Parking Alternative, Car-Light Alternative, DMU Alternative, Reduced Development Alternative, and No Project Alternative would have no impact related to the safety hazard for people residing or working in the vicinity of a private airstrip.

Given that the proposed Plan, the Enhanced Parking Alternative, Car-Light Alternative, DMU Alternative, and Reduced Development Alternative would result in new development and population growth, implementation of the LHMP and the proposed Tri-Valley Hazard Mitigation Plan could be affected. However, policies to ensure that emergency response plans are maintained and updated, in addition to other policies that maintain and improve emergency preparedness in the city, would be included under these alternatives, as under the proposed Plan. Based on these policies, as well as existing local programs and regulations, the impacts are less than significant for all alternatives as well as for the proposed Plan. However, because the No Project Alternative would not include the full range of policies included in the proposed Plan, the Enhanced Parking Alternative, Car-Light Alternative, DMU Alternative, and Reduced Development Alternative, it could potentially have a greater impact.

As discussed in Section 3.8 of this EIR, Hazards and Hazardous Materials, no portion of the Planning Area constitutes a very high fire hazard. While all of the alternatives would require new development to be consistent with Livermore's Fire Code and standards included in the California Building Code pertaining to sprinkler systems and fire alarms, the proposed Plan includes additional policies that address emergency access and fire-fighting facilities and services. The same policies would be included in the Enhanced Parking Alternative, Car-Light Alternative, DMU Alternative, and Reduced Development Alternative. Therefore, while the impacts are less than significant under all five alternatives and the proposed Plan, the No Project Alternative may have a greater impact.

HYDROLOGY AND WATER QUALITY

Urban development can bring about an increase in impervious surfaces that could lead to increased run-off rates and flooding in downstream areas, as well as a deterioration in water quality. As with the proposed Plan, development under the alternatives would be subject to local plans, existing State and federal regulations, and the applicable NPDES permit requirements, and thus would not violate any federal, State, or local water quality standards or waste discharge requirements. Related impacts would be less than significant and similar to the proposed Plan.

The Enhanced Parking Alternative, Car-Light Alternative, and DMU Alternative would have the same amount of development and, thus, the same water demands as the proposed Plan. Therefore, they would have the same groundwater demands and similar, less than significant

impacts to aquifer volume as the proposed Plan. Because the Reduced Development Alternative would lead to less water demands, it would have a lower impact on groundwater supplies than the aforementioned alternatives and the proposed Plan. The No Project Alternative, with the lowest amount of development and thus the least water demand, would be expected to have the lowest impact.

Similar to the proposed Plan, all of the alternatives would allow for additional development that would increase the amount of impervious surface in the Planning Area, and could therefore impact drainage or increase the amount of runoff and associated pollutants during both construction and operation. The Enhanced Parking Alternative, Car-Light Alternative, and DMU Alternative would have the same amount of development and, thus, the same amount of impervious surface and construction-related runoff as the proposed Plan. Because the Reduced Development Alternative would lead to less development, it would have a lower impact on drainage and surface runoff than the aforementioned alternatives and the proposed Plan. Impacts related to drainage and surface runoff would be less than significant for all of the aforementioned alternatives, similar to the proposed Plan.

The No Project Alternative would result in the least amount of development, and would likely result in the least impervious surface area and lower levels of construction activity associated with development. However, it would not benefit from proposed Plan policies that allow the use of rainwater harvesting systems that would reduce stormwater runoff, require drainage studies for new development, and require new development to incorporate low impact landscape design that protects natural drainage systems and improves groundwater recharge. These policies reduce runoff impacts in the other alternatives to a less than significant level. Therefore, impacts related to surface runoff under the No Project Alternative would be significant and unavoidable. These policies are not necessary to reduce drainage impacts in the other alternatives. Therefore, impacts related to drainage would be less than significant under the No Project Alternative, similar to the proposed Plan and other alternatives.

With compliance with existing federal, State, and local water quality regulations, including the NPDES program and County LID Standards Manual, impacts related to water quality would be less than significant. However, because the Enhanced Parking Alternative, Car-Light Alternative, and DMU Alternative, Reduced Development Alternative, and proposed Plan would include a wider range of policies that are worded more specifically to address different aspects of water quality protection than the No Project Alternative, they would likely have less of an impact than the No Project Alternative.

Under the Enhanced Parking Alternative, Car-Light Alternative, DMU Alternative, Reduced Development Alternative, and No Project Alternative, as under the proposed Plan, no housing is proposed within Floodplain zones. However, other types of development could occur within these zones in portions of the Planning Area situated within the vicinity of Arroyo Las Positas. Proposed Plan design guidelines, which would apply under these alternatives, reference Chapter 11 of the City's Design Guidelines, which require that new developments adjacent to arroyos be responsible for making necessary flood control improvements. The City's Design Guidelines also stipulate that development in a floodplain is not allowed without significant modification to the site or the building, and that development of buildings or landscaping within the vicinity of floodplains should be done in coordination with jurisdictional agencies, including the Army

Corps of Engineers and the Zone 7 Water Agency. Therefore, flood hazards under all alternatives would be similarly less than significant as under the proposed Plan.

Lake Del Valle is located south of the Planning Area, and Patterson Reservoir is located east of the Planning Area. However, according to dam failure inundation maps, although portions of the city are within the Del Valle and Patterson Dam inundation zones, the Planning Area is not located within a dam inundation zone (City of Livermore, 2014). There are no levees within or around the Planning Area. Therefore, as with the proposed Plan, none of the alternatives would expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam.

As with the proposed Plan, there is no risk of inundation by seiche or tsunami for any of the alternatives, but mudflow hazards could be present in an area of landslide deposits to the north of Portola Avenue and northwest of the Planning Area. Most of this area is designated Open Space under the existing General Plan (the steepest hills are just outside the Plan area), and a portion is already developed with residential use (Shea Montage Homes, Vineyard Terrace and Copper Hill). Compliance with the CBC and existing regulations related to flooding and geologic hazards would serve to reduce impacts under all of the alternatives to less than significant.

UTILITIES AND SERVICE SYSTEMS

The City of Livermore Water Reclamation Plant (WRP) has the capacity to treat 8.5 million gallons per day (MGD) and is currently treating only 6 MGD, a difference of 2.5 MGD between capacity and current treatment level. According to the Isabel Neighborhood Plan Sewer System Evaluation, additional development resulting from implementation of the proposed Plan would require treatment of an additional 0.42 MGD of Average Dry Weather Flow, less than one-fifth the of the surplus capacity (West Yost Associates, 2017a). As with the proposed Plan, the Enhanced Parking Alternative, Car-Light Alternative, and DMU Alternative, would require the same amount of water treatment because they would lead to the same amount of development. Therefore, they would have the same, less than significant impact on wastewater treatment requirements as the proposed Plan. The Reduced Development Alternative would result in less development and less wastewater generation. Thus, it will lead to less impacts on wastewater treatment requirements than the proposed Plan. The No Project Alternative would result in the least development, wastewater generation, and impacts on wastewater treatment requirements.

Development resulting from implementation of the proposed Plan would lead to an additional potable water demand of 0.53 MGD. However, the 2017 Potable Water System Evaluation determined no upgrades to pumping infrastructure are recommended as a result of the additional demands from the Planning Area. Additionally, the City's available water storage capacity is determined to be sufficient enough to meet the Planning Area's demands with a surplus of 0.26 million gallons (West Yost Associates, 2017b). As with the proposed Plan, the Enhanced Parking Alternative, Car-Light Alternative, and DMU Alternative, would require the same amount of potable water because they would lead to the same amount of development. Therefore, they would have the same, less than significant impact on water supply and facilities as the proposed Plan. The Reduced Development Alternative would result in less development and less water demand. Thus, it will lead to less impacts on water supply and facilities than the proposed Plan. The No Project Alternative would result in the least development, water demand, and impacts on water supply and facilities.

City of Livermore Standard Conditions and Zone 7 regulations require all development projects to meet hydromodification requirements that limit storm runoff from new construction to the pre-project flow levels. Therefore, as with the proposed Plan, the Enhanced Parking Alternative, Car-Light Alternative, DMU Alternative, and No Project Alternative would result in a net-zero increase in stormwater drainage flowing to and through the existing drainage infrastructure. Therefore, they would have the same, less than significant impact on stormwater facilities as the proposed Plan.

Vasco Road Sanitary Landfill and Altamont Landfill have capacity to accommodate about 5,534,000 and 10,204,000 additional tons respectively,[3] for a combined total of 15.7 million tons. Considering the amount of solid waste generated in Livermore as a whole in 2016 was 66,000 tons, the difference in the projected solid waste generation between each alternative is marginal in the context of the Vasco Road Sanitary Landfill and Altamont Landfill's capacities. However, because the Reduced Development Alternative would lead to less development, it would generate less solid waste and have a smaller impact on landfill capacity than the Enhanced Parking Alternative, Car-Light Alternative, DMU Alternative, and proposed Plan. The No Project Alternative would result in the least development and impacts on landfill capacity. Furthermore, the conclusion that the impacts related to landfill capacity are less than significant for the proposed Plan is also valid for all of the alternatives.

Development under all of the alternatives would be required to comply with federal, State, and local statutes and regulations related to solid waste, including Chapter 8.08 of the Livermore Municipal Code, which establishes requirements for recycling to facilitate compliance with State recycling mandates. Therefore, all of the alternatives would have a less than significant impact regarding compliance.

PUBLIC SERVICES AND RECREATION

As with the proposed Plan, development under the Enhanced Parking Alternative, Car-Light Alternative, DMU Alternative, Reduced Development Alternative, and No Project Alternative would increase population within the Planning Area, thereby increasing the use of neighborhood and regional parks or other recreational facilities. The Enhanced Parking Alternative, Car-Light Alternative, and DMU Alternative would have the same amount of development, including the same population increase and Public/Institutional and Open Space uses, as the proposed Plan. Therefore, they would have the same demand for parks and recreational facilities and similar, less than significant impacts to the physical deterioration of such facilities as the proposed Plan. The Enhanced Parking Alternative, Car-Light Alternative, and DMU Alternative would provide 38.4 acres of parks and plazas, below the generated demand for approximately 40 acres of parks for 9,800 new residents, based on LARPD service level standards. The Reduced Development Alternative provides for the same 38.4 acres of parks, but with only 7,426 new residents, this alternative exceeds the generated demand for new parks (approximately 30 acres). The No Project Alternative would lead to less development, resulting in a smaller population. However, three community parks, totaling 7.4 acres, included in the Proposed Plan would not be constructed.

[3] Based on a density of in-landfill mixed solid waste of 0.75 tons per cubic yard (CalRecycle, 2013).

The No Project Alternative satisfies the demand for community parks based on existing parks within the Planning Area but would not satisfy the demand for neighborhood parks upon buildout. However, the actual acreage and number of parks under the No Project Alternative could be greater than specified in the General Plan due to Planned Development Districts that may include park space. All five alternatives meet the demand for Regional Parklands and Special Use Parklands. Although parks and recreational facilities would have different levels of use under different alternatives, policies in the General Plan and for each alternative aside from the No Project Alternative would ensure that use would not result in substantial physical deterioration. While all of the alternatives would have a less than significant impact, the Reduced Development alternative would have the least impact on the physical condition of parks and recreational facilities since it exceeds the generated demand for new park space.

The Enhanced Parking Alternative, Car-Light Alternative, DMU Alternative, and Reduced Development Alternative include three new neighborhood parks and additional community-oriented recreation facilities. The No Project Alternative also includes the construction of new parks, trailways, and recreation areas, though fewer than in the Proposed Plan. The development of new recreational facilities would be subject to existing building and construction regulations that would ensure that construction activities have a minimal effect on the surrounding environment. Policies in the City's General Plan and additional plan policies for the Enhanced Parking Alternative, Car-Light Alternative, DMU Alternative, and Reduced Development Alternative would serve to reduce potential impacts of new development on environmental resources. Impacts would be less than significant for all alternatives; however, the No Project Alternative includes the least amount of new development, and would therefore have the least impact.

Given that the growth called for in all alternatives is accounted for under the existing General Plan, implementation would not require the new construction or expansion of school or fire department facilities. It is anticipated that additional police officers would be required to maintain the current level of service within the Planning Area. Similar to the proposed Plan, it is estimated that a total of approximately 23 to 25 new officers would be required for the Enhanced Parking Alternative, Car-Light Alternative, and DMU Alternative to meet the demand of the increased population and commercial, retail, and office activity centered around the BART extension. Due to the lower development intensity in the Reduced Development Alternative, fewer new officers would be required. Given the need for additional police services in each of these alternatives and the distance to the main Police Station, the Livermore Police Department anticipates the need for a small police substation in the Isabel Neighborhood for internal police use only (not for the public). The construction of such a facility would comply with proposed Plan policies to reduce environmental impacts. Thus, impacts from construction would be less than significant, as in the proposed Plan. The increase in population under the No Project Alternative would also require new police officers but with less development intensity as a result of land use classifications and the exclusion of the BART extension, a new substation would likely not be required. Therefore, the No Project Alternative would have the least adverse impacts as a result of construction or alteration of government facilities.

GEOLOGY, SOILS, AND SEISMICITY

As discussed in Section 3.6 of this EIR, Geology and Soils, the potential for exposure of people or structures to fault rupture are low. Any potential risk from seismic hazards would be related to

groundshaking, liquefaction, or landslides. As with the proposed Plan, development under all of the alternatives would be subject to the requirements of the California Building Code (CBC), which would minimize potential impacts related to groundshaking, liquefaction, and landslides. However, as the No Project Alternative does not specifically establish a riparian buffer along creeks in the Planning Area, as would be the case under the proposed Plan, Enhanced Parking Alternative, Car-Light Alternative, DMU Alternative, or Reduced Development Alternative, it may not fully guarantee that future development would not occur along creeks, where there is a greater potential for liquefaction. Additionally, the No Project Alternative includes Business and Commercial Park and Business and Commercial Park/Urban High Residential land use designations in areas in the landslide-susceptible, directly east and north of Cayetano Park, with slopes over 20 percent, where the proposed Plan and other alternatives designate open space. This would lead to higher potential landslide-related impacts under the No Project Alternative. As the Reduced Development Alternative is projected to result in a lower residential buildout population than and includes the same policies as the proposed Plan, Enhanced Parking Alternative, Car-Light Alternative, and DMU Alternative, it can be assumed to expose a lower number of people to any potential seismic hazards.

Therefore, although potential adverse effects related to seismic hazards are unlikely to be substantial given CBC requirements and impacts related to exposure to seismic hazards could be considered less than significant, the No Project Alternative would have a greater impact than the proposed Plan. The Enhanced Parking Alternative, Car-Light Alternative, DMU Alternative would have an equivalent impact as the proposed Plan. And the Reduced Development Alternative would have lower impact than the proposed Plan.

As with the proposed Plan, new development under the Enhanced Parking Alternative, Car-Light Alternative, DMU Alternative, Reduced Development Alternative, and No Project Alternative would likely include earthwork activities that could lead to erosion or topsoil loss. In general, development under any alternative would be subject to the same regulations – such as the National Pollutant Discharge Elimination System permit and local stormwater pollution prevention plan requirements. The Enhanced Parking Alternative, Car-Light Alternative, DMU Alternative, and Reduced Development Alternative would include the same riparian buffer policy and drainage system conservation policies as the proposed Plan, which would help reduce potential impacts. The No Project Alternative would not include these policies, so it may have a greater, though still less-than-significant, impact.

Under all the alternatives, potential hazards of expansive or unstable soils would be addressed through compliance with State and local building codes and the integration of geotechnical information into the planning and design process for future projects within the Planning Area; therefore, potential impacts would be less than significant, similar to the proposed Plan. Since all new construction resulting from the implementation of any of the alternatives would be tied into the City's existing wastewater collection system, there would be no impact related to septic systems, similar to the proposed Plan.

CULTURAL AND TRIBAL RESOURCES

The comparison of impacts to historic, archaeological, paleontological, and Native American tribal cultural resources as well as human remains from the alternatives is based on the degree and location of new development proposed within each alternative. The Reduced Development

Alternative, Enhanced Parking Alternative, Car-Light Alternative, and DMU Alternative have development footprints similar to the proposed Plan.

As with the proposed Plan, implementation of the Reduced Development Alternative, Enhanced Parking Alternative, Car-Light Alternative, and DMU Alternative would cause a significant and unavoidable change to the Gandolfo Ranch historic district, a property that was identified as eligible for listing in the National Register of Historic Properties (NRHP) under Criteria A and C[4] by requiring the parcel to be subdivided into separate lots and roads and developed.

Historical resources in the city are subject to the Community Character Element of the Livermore General Plan, which includes policies for the identification, protection, and interpretation of cultural resources. The proposed Plan has included policies to avoid or minimize impacts to historic resources and any other resource that is subsequently identified as eligible or listed on local, State, or national registries by requiring the protection, preservation, interpretation, and documentation of such resources. These policies would also be present in the Reduced Development Alternative, Enhanced Parking Alternative, Car-Light Alternative, and DMU Alternative. However, even with implementation, a substantial change to the significance of the Gandolfo Ranch historical resource would likely occur under these alternatives, and no known feasible policies and mitigation measures are available to reduce the impact to a less than significant level. Therefore, this impact would remain significant and unavoidable. Conversely, under the No Project Alternative no impacts to this historical resource would be anticipated given that the parcel would retain its limited agriculture land use. However, impacts to other historical resources could be significant.

A single historic archaeological site and five prehistoric sites have been recorded in the Planning Area, as discussed in Section 3.13: Cultural Resources. Potentially unrecorded archaeological resources may also exist in the Planning Area, particularly along Arroyo Las Positas. Implementation of the Reduced Development Alternative, Enhanced Parking Alternative, Car-Light Alternative, and DMU Alternative would not cause a substantial adverse change in the significance of an archaeological resource, though future development projects allowed under the proposed Plan may involve grading, excavation, or other ground-disturbing activities, which could disturb or damage unknown archaeological resources. Implementation of a policy under the above alternatives requiring the protection and preservation of such resources through the inclusion of a professional archaeological evaluation in environmental reviews of new projects would result in less than significant impacts to archaeological resources. Absent this policy, the No Project Alternative and its corresponding General Plan archaeological resources policies could not guarantee that impacts on unknown archaeological resources would be less than significant.

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[4] NRHP listing criteria for evaluation states: "The quality of significance in American history, architecture, archeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association and a) that are associated with events that have made a significant contribution to the broad patterns of our history; or…c) that embody distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction…" (http://www.achp.gov/nrcriteria.html).

Therefore, the No Project Alternative would have a greater, potentially significant, impact on archaeological resources than the proposed Plan, the Reduced Development Alternative, Enhanced Parking Alternative, Car-Light Alternative, and DMU Alternative.

The Planning Area was found to be highly sensitive for paleontological resources. Proposed Plan policies requiring future project proponents to engage a qualified paleontologist to monitor for discovery of paleontological resources, evaluate found resources, and prepare and follow a recovery plan if necessary that are also present in the Reduced Development Alternative, Enhanced Parking Alternative, Car-Light Alternative, and DMU Alternative would ensure that any potential impacts to paleontological resources are less than significant under these alternatives. The No Project Alternative includes policies to preserve paleontological resources when they are found, but they are less robust in that they do not require that a qualified paleontologist to monitor and evaluate for the discovery of paleontological resources. Therefore, the No Project Alternative could not guarantee that impacts on archaeological and paleontological cultural resources could be reduced below a level of significance, having a greater, potentially significant, impact than the proposed Plan, the Reduced Development Alternative, Enhanced Parking Alternative, Car-Light Alternative, and DMU Alternative.

Future development projects allowed under the proposed Plan would involve grading, excavation, or other ground-disturbing activities, which could disturb or damage unknown locations of human remains. Implementation of a policy under the proposed Plan would minimize or avoid impacts by requiring the protection and preservation of any human remains discovered during future project activities as per State regulations. Current State regulations, however, are sufficient to reduce the potential impacts to human remains of all five alternatives, including the No Project Alternative.

With regards to tribal cultural resources, the NAHC and seven Native American tribes were contacted, pursuant to AB 52 and SB 18. To date, no response has been received from the tribes, and a sacred lands file search by the NAHC did not indicate the presence of additional Native American cultural resources within the Planning Area. Future projects under any of the Alternatives would continue to be subject to the provisions of AB 52 and SB 18 to consult with local tribes. Therefore, none of the alternatives is expected to have an impact on Native American tribal cultural resources.

AGRICULTURAL RESOURCES

On the Unique Farmland and Farmland of Statewide Importance located along the northwestern edge of the Planning Area, at northern end of Constitution Drive and the northernmost portion of the proposed Transition land use, as for the proposed Plan, the Enhanced Parking Alternative, Car-Light Alternative, DMU Alternative, and Reduced Development Alternative propose Educational/Institutional, Business Park, or Transition land uses. These alternatives, like the proposed Plan, include a policy that requires prioritization of open space preservation along conservation easements. This policy would not be included under the No Project Alternative, which designates these areas as Business and Commercial Park and Urban High Residential. Therefore, the No Project Alternative could have a significant impact by converting this farmland to non-agricultural uses.

On parts of the Prime Farmland and Unique Farmland in the southern portion of the Planning Area, west of East Airway Boulevard, the Enhanced Parking Alternative, Car-Light Alternative, DMU Alternative, and Reduced Development Alternative propose the same parking structure as the proposed Plan. This significant and unavoidable conversion of agricultural lands to parking would be equivalent under all these alternatives. In this same part of the Planning Area, parts of this Prime Farmland and Unique Farmland could be developed as Low Intensity Industrial under the No Project Alternative. While this is a significant impact, it is a smaller area than the parking structure and less severe of an impact than the parking structure planned under the other alternatives.

On the Prime Farmland and Unique Farmland in the unincorporated county area, as in the proposed Plan, the Enhanced Parking Alternative, Car-Light Alternative, DMU Alternative, and Reduced Development Alternative propose a range of urban uses. This conversion of agricultural lands to urban uses would be considered significant and unavoidable. Under the No Project Alternative, this Prime Farmland would be designated as Limited Agriculture and thereby preserved. Overall, the No Project Alternative would lead to the least impact to agricultural resources through conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. The other alternatives would lead to equivalent impacts to the proposed Plan.

There is one zoning district, PDR-01-001, in the Planning Area that allows for agriculture. The district, located in the north of the Planning Area, allows for two principal permitted uses, one on each included parcel. On the northern parcel, the zoning district permits agricultural plantings including vineyards and orchards, while condominium uses are permitted on the southern parcel. As for the proposed Plan, the Enhanced Parking Alternative, Car-Light Alternative, DMU Alternative, and Reduced Development Alternative would designate both parcels as Transition Residential, which does not allow for agricultural uses. Thus, because these alternatives' land use designation would conflict with the existing zoning to permit only agricultural plantings on the northern parcel, there would be a significant and unavoidable impact related to zoning for agricultural use. For the No Project Alternative, there would be no impact.

There are no existing Williamson Act contracts in the Planning Area (California Department of Conservation, 2015). Therefore, buildout of any of the alternatives would not result in any impacts to Williamson contracts.

As with the proposed Plan, implementation of the alternatives could lead to changes in the environment that could indirectly result in the conversion of farmland to non-agricultural uses. Under the Enhanced Parking Alternative, Car-Light Alternative, DMU Alternative, and Reduced Development Alternative, the areas of Unique Farmland and Farmland of Statewide Importance in the periphery of the northwestern part of the Planning Area are located immediately north of proposed Business Park land uses and Transition land uses, land uses where development can occur and where people live and work. Similarly, under the No Project Alternative, these farmland areas would be located immediately north of Business and Commercial Park land uses and Urban High Residential land uses. Under all scenarios, these urban land use designations are located where there are existing townhomes and condominiums, offices, business parks, and industrial uses. These existing land uses are places where people already live and work. Furthermore, Chapter 8.16 of the Livermore Municipal Code would reduce the likelihood of

conflicts between agricultural operations and adjacent uses. Therefore, this impact would be less than significant under all the alternatives.

4.4 Environmentally Superior Alternative

CEQA Guidelines (Section 15126.6) require the identification of an environmentally superior alternative among the alternatives analyzed. Table 4.4-1 summarizes the Alternatives' overall environmental impacts for each topic presented in Section 4.3. For the Reduced Development Alternative, Enhanced Parking Alternative, Car-Light Alternative, and DMU Alternative, 12 impacts were expected to be significant and unavoidable, 53 impacts were expected to be less than significant, and nine were found to be no impact, the same as the proposed Plan. For the No Project Alternative, 16 impacts were expected to be significant and unavoidable, three impacts were found to be potentially significant, 42 impacts were expected to be less than significant, 12 were found to be no impact, and one was not determined. Because the No Project Alternative has the most significant and unavoidable impacts and the least impacts found to be either less than significant or no impact, it would not be the environmentally superior alternative. At first glance, because all of the other alternatives and the proposed Plan were found to have the same number of potentially significant, significant and unavoidable, and no impact outcomes, they might be considered environmentally equivalent. However, considering the analyses in Section 4.3 above, compared to the other alternatives, the Car-Light Alternative is considered the environmentally superior alternative, as it would:

- Be the least likely to divide an established community, by promoting the pedestrian/bicycle under-crossing of I-580 east of the BART station over the Arroyo Las Positas and expanding bus and shuttle services that connect different parts of the Planning Area;
- Be the most consistent with Plan Bay Area goals and BART TOD policies;
- Result in the least VMT per service population (see Table 4.3-1), and therefore the least criteria air pollutant and GHG emissions per service population from transportation;
- Most benefit pedestrian, bicycle, and transit access;
- Be the most consistent with the 2017 Clean Air Plan; and
- Be the most consistent with the City's CAP and with CARB's 2017 Scoping Plan.

Table 4.4-1: Summary of Impacts for Alternatives

Impact	*Level of Significance*					
	Reduced Development Alternative	*Enhanced Parking Alternative*	*Car-Light Alternative*	*DMU Alternative*	*No Project Alternative*	*Proposed Plan*
Land Use, Population, and Housing						
Division of a Community	LTS	LTS	LTS	LTS	LTS	LTS
Conflict with Land Use Plan	LTS	LTS	LTS	LTS	SU	LTS
Growth Inducement	LTS	LTS	LTS	LTS	LTS	LTS
Displacement	LTS	LTS	LTS	LTS	LTS	LTS
Traffic and Transportation						
Local Intersection Levels of Service	SU	SU	SU	SU	LTS	SU
Congestion Management Plan	SU	SU	SU	SU	LTS	SU
Air Traffic	NI	NI	NI	NI	NI	NI
Traffic Hazards	LTS	LTS	LTS	LTS	LTS	LTS
Emergency Access	LTS	LTS	LTS	LTS	LTS	LTS
Transit, Bike, and Pedestrian Facilities	NI	NI	NI	NI	NI	NI
Air Quality						
Air Quality Plan	LTS	LTS	LTS	LTS	LTS	LTS
Air Quality Standard	SU	SU	SU	SU	SU	SU
Criteria Pollutants	SU	SU	SU	SU	SU	SU
Sensitive Receptors	SU	SU	SU	SU	SU	SU
Odors	LTS	LTS	LTS	LTS	LTS	LTS
Energy, Greenhouse Gases, and Climate Change						
Wasteful Energy Consumption and Energy Efficiency Standards	LTS	LTS	LTS	LTS	LTS	LTS
Impact on Environment	LTS	LTS	LTS	LTS	ND[1]	LTS
GHG Plan, Policy, or Regulation	LTS	LTS	LTS	LTS	SU	LTS

Aesthetics						
Scenic Vistas	SU	SU	SU	SU	SU	SU
Scenic Resources	LTS	LTS	LTS	LTS	LTS	LTS
Visual Character	LTS	LTS	LTS	LTS	LTS	LTS
Light and Glare	LTS	LTS	LTS	LTS	LTS	LTS
Noise and Vibration						
Noise Standards	SU	SU	SU	SU	SU	SU
Vibration	SU	SU	SU	SU	SU	SU
Permanent Ambient Noise Increase	SU	SU	SU	SU	SU	SU
Temporary Ambient Noise Increase	LTS	LTS	LTS	LTS	LTS	LTS
Airport Noise	LTS	LTS	LTS	LTS	LTS	LTS
Airstrip	NI	NI	NI	NI	NI	NI
Biological Resources						
Special-Status Species	LTS	LTS	LTS	LTS	SU	LTS
Sensitive Habitat	LTS	LTS	LTS	LTS	SU	LTS
Wildlife Corridors	LTS	LTS	LTS	LTS	SU	LTS
Wetlands	LTS	LTS	LTS	LTS	SU	LTS
Habitat Conservation Plans	NI	NI	NI	NI	NI	NI
Local Policies and Ordinances	LTS	LTS	LTS	LTS	SU	LTS
Hazards and Hazardous Materials						
Transport, Use, or Disposal	LTS	LTS	LTS	LTS	LTS	LTS
Accidental Release	LTS	LTS	LTS	LTS	LTS	LTS
Quarter-Mile of Schools	LTS	LTS	LTS	LTS	NI	LTS
Location on Hazardous Materials Site	LTS	LTS	LTS	LTS	LTS	LTS
Airport Hazards	LTS	LTS	LTS	LTS	NI	LTS
Airstrip	NI	NI	NI	NI	NI	NI

Emergency Response	LTS	LTS	LTS	LTS	LTS	LTS
Wildland Fires	LTS	LTS	LTS	LTS	LTS	LTS
Hydrology and Water Quality						
Water Quality Standards	LTS	LTS	LTS	LTS	LTS	LTS
Groundwater	LTS	LTS	LTS	LTS	LTS	LTS
Drainage	LTS	LTS	LTS	LTS	LTS	LTS
Runoff	LTS	LTS	LTS	LTS	SU	LTS
Water Quality Degradation	LTS	LTS	LTS	LTS	LTS	LTS
Housing in Flood Zones	LTS	LTS	LTS	LTS	LTS	LTS
Structures in Flood Zone	LTS	LTS	LTS	LTS	LTS	LTS
Levees or Dams	NI	NI	NI	NI	NI	NI
Seiche, Tsunami, and Mudflows	NI	NI	NI	NI	NI	NI
Utilities and Service Systems						
Wastewater Requirements	LTS	LTS	LTS	LTS	LTS	LTS
Water or Wastewater Facilities	LTS	LTS	LTS	LTS	LTS	LTS
Stormwater Capacity	LTS	LTS	LTS	LTS	LTS	LTS
Water Supply	LTS	LTS	LTS	LTS	LTS	LTS
Wastewater Capacity	LTS	LTS	LTS	LTS	LTS	LTS
Landfill Capacity	LTS	LTS	LTS	LTS	LTS	LTS
Solid Waste Regulations	LTS	LTS	LTS	LTS	LTS	LTS
Public Services and Recreation						
Degradation of Parks	LTS	LTS	LTS	LTS	LTS	LTS
Construction or Expansion of Parks	LTS	LTS	LTS	LTS	LTS	LTS
Fire, Police, Schools, Parks, and Public Facilities	LTS	LTS	LTS	LTS	LTS	LTS

Geology, Soils, and Seismicity						
Seismic Hazards	LTS	LTS	LTS	LTS	LTS	LTS
Soil Erosion	LTS	LTS	LTS	LTS	LTS	LTS
Unstable Soils	LTS	LTS	LTS	LTS	LTS	LTS
Expansive Soils	LTS	LTS	LTS	LTS	LTS	LTS
Septic Systems	NI	NI	NI	NI	NI	NI
Cultural and Tribal Resources						
Historical Resources	SU	SU	SU	SU	PS	SU
Archaeological Resources	LTS	LTS	LTS	LTS	PS	LTS
Paleontological Resources	LTS	LTS	LTS	LTS	PS	LTS
Human Remains	LTS	LTS	LTS	LTS	LTS	LTS
Tribal Cultural Resources	NI	NI	NI	NI	NI	NI
Agriculture						
Farmland Conversion	SU	SU	SU	SU	SU	SU
Agricultural Zoning/Williamson Act	SU	SU	SU	SU	NI	SU
Indirect Impacts	LTS	LTS	LTS	LTS	LTS	LTS

Notes:

LTS = Less than Significant

ND = Not Determined

NI = No Impact

PS = Potentially Significant

SU = Significant and Unavoidable

1. Because of the qualitative nature of the GHG analysis, it cannot be determined whether the No Project Alternative would exceed the "substantial progress" efficiency metrics. However, we do know that transportation emissions per service population would be higher than under the proposed Plan because the VMT per service population is the highest of any scenario, as shown in Table 4.3-1 above.