

CHAPTER 4 OTHER CEQA CONSIDERATIONS

A. INTRODUCTION

This section provides the additional analyses required under the CEQA, in accordance with Section 15126 of the CEQA Guidelines. These analyses include a summary of significant project-level and cumulative impacts resulting from implementation of the Proposed Project or Build Alternatives that cannot be mitigated to a less-than-significant level, irreversible and irretrievable commitment of resources, and growth-inducing impacts.

B. SIGNIFICANT UNAVOIDABLE ADVERSE IMPACTS

Chapter 3, Environmental Analysis, of this EIR identifies impacts that are considered significant and mitigation measures to reduce those impacts to a less-than-significant level. In accordance with Sections 15126(b) and 15126.2(b) of the CEQA Guidelines, the purpose of this section is to identify project-related environmental impacts that could not be eliminated or reduced to a less-than-significant level with the implementation of all identified mitigation measures. The findings in this chapter are subject to final determination by the BART Board of Directors as part of its certification of this EIR. The significant impacts of the Proposed Project and/or Build Alternative(s) that cannot be mitigated to a less-than-significant level pertain to the following environmental resource topics:

- Transportation (Proposed Project, DMU Alternative/EMU Option, Express Bus/BRT Alternative)
- Land Use and Agricultural Resources (Proposed Project and DMU Alternative/EMU Option)
- Visual Quality (Proposed Project, DMU Alternative/EMU Option, Express Bus/BRT Alternative)
- Energy (Enhanced Bus Alternative)

C. SIGNIFICANT CUMULATIVE IMPACTS

Cumulative impacts are those effects resulting from future growth and other probable future projects in combination with the effects identified for the Proposed Project or an Alternative. Chapter 3, Environmental Analysis, provides a cumulative analysis for each

environmental resource topic addressed in this EIR and Section 3.A, Introduction to Environmental Analysis, describes the cumulative projects and plans considered in this analysis.

The contribution of the Proposed Project and Build Alternatives to cumulative impacts would not be cumulatively considerable for the following resource topics: Population and Housing; Geology, Soils, Seismicity, Mineral and Paleontological Resources; Hydrology and Water Quality; Noise and Vibration; Greenhouse Gas Emissions; Energy; Public Health and Safety; Community Services; and Utilities.

No significant cumulative impacts that could be reduced to a less-than-significant level after the implementation of mitigation measures were identified in Chapter 3 of this EIR.

Significant cumulative impacts that would be significant and unavoidable, even with the implementation of mitigation measures, were identified in Chapter 3 of this EIR for the following resource topics:

- Transportation (Proposed Project, DMU Alternative/EMU Option, Express Bus/BRT Alternative, and Enhanced Bus Alternative)
- Land Use and Agricultural Resources (Proposed Project and DMU Alternative/EMU Option)
- Visual Quality (Proposed Project, DMU Alternative/EMU Option, Express Bus/BRT Alternative)
- Cultural Resources (Proposed Project, DMU Alternative/EMU Option, Express Bus/BRT Alternative, and Enhanced Bus Alternative)
- Biological Resources (Proposed Project and DMU Alternative/EMU Option)
- Air Quality (Proposed Project, DMU Alternative/EMU Option, and Express Bus/BRT Alternative)

D. SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES

In accordance with CEQA Guidelines Section 15126.2(c), the purpose of this section is to identify significant irreversible environmental changes that would be caused by implementation of the Proposed Project or Build Alternatives. Irreversible commitment of resources must be evaluated to ensure that current consumption is justified. Changes that may be considered significant and irreversible include the following:

- Use of nonrenewable resources (e.g., land, energy, and construction materials) during the construction and operational phase of a proposed project (because a large commitment of such resources makes removal or non-use thereafter unlikely)

- Primary impacts, and particularly secondary impacts, that will commit future generations to similar use
- Irreversible damage due to environmental accidents

1. Commitment of Nonrenewable Resources

Construction and operation of the Proposed Project and Build Alternatives would require the one-time commitment of nonrenewable energy and materials for construction and the ongoing commitment of energy and materials for operation. This subsection describes the types of commitments related to construction, followed by the types of commitments related to operations.

a. Construction

Construction of infrastructure and transit facilities under the Proposed Project and Build Alternatives would require a substantial commitment of construction materials such as steel, cement, asphalt, and fabricated materials for various project components. The project components would include the following types of elements for the Proposed Project and Build Alternatives:

- Proposed Project – Extension of rail tracks, proposed Isabel BART Station (hereinafter referred to as the Isabel Station), other support structures, parking facility, a storage and maintenance facility, and limited infrastructure improvements for the feeder buses, including bus bulbs, bus shelters, signage
- DMU Alternative – Generally similar to the components described for the Proposed project above, with the addition of a DMU transfer platform at the existing Dublin/Pleasanton BART Station (hereinafter referred to as the Dublin/Pleasanton Station) and extension of BART storage track at the station, as well as a smaller parking structure at the proposed Isabel Station and a smaller storage and maintenance facility than the Proposed Project
- Express Bus/BRT Alternative – Improvements at the existing Dublin/Pleasanton Station, including bus transfer platforms, extension of BART storage track, and replacement parking lot or garage as well as a surface parking lot at Laughlin Road and limited improvements for the feeder buses similar to those described for the Proposed Project
- Enhanced Bus Alternative – Limited bus infrastructure improvements, including bus bulbs, bus shelters, and signage

In addition to the materials required for construction, the Proposed Project and Build Alternatives would require the one-time, short-term consumption of energy for

construction—consisting of electricity, diesel, and gasoline. Total energy used during construction is estimated in Section 3.M, Energy, as follows:

- Proposed Project: 159,023 million British thermal units (MMBTU)
- DMU Alternative/EMU Option: 135,245 MMBTU
- Express Bus/BRT Alternative: 43,491 MMBTU
- Enhanced Bus Alternative: 4,025 MMBTU

The anticipated amount of energy that would be consumed during construction of the Proposed Project and Build Alternatives would not result in long-term depletion of non-renewable energy resources and would not permanently increase reliance on non-renewable energy resources. Furthermore, as described below, operation of the Proposed Project and Build Alternatives—with the exception of the Enhanced Bus Alternative—would result in a yearly decrease in energy consumption. Therefore, the one-time expenditure of energy during construction would be offset by the operational decrease in energy consumption for the Proposed Project, DMU Alternative/EMU Option, and Express Bus/BRT Alternative.

b. Operation

In addition to the commitment of non-renewable resources during construction, operation of the Proposed Project and Build Alternatives would require the consumption of energy sources (electricity, diesel, and gasoline). The types of activities requiring energy consumption would vary under the Proposed Project and Build Alternatives. The types of activities would include the following, as described in detail in Section 3.M, Energy:

- Transit operations (including BART, DMU/ EMU, and bus)
- Station and maintenance operations (including BART car maintenance, DMU/EMU car maintenance, station operations, emergency generators, water use and wastewater treatment, and other activities associated with the storage and maintenance facility such as trucks and forklifts)

To the extent that biodiesel or another biologically derived renewable diesel would be used as fuel, consumption of diesel would not be an irretrievable commitment of resources. However, if conventional petroleum-based diesel fuel were used to operate the DMU engines, emergency generators, maintenance trucks, storage and maintenance facility shuttle vans, and buses, this would constitute the use of a nonrenewable resource. The use of electricity for the Proposed Project and Build Alternatives would be an irretrievable commitment of resources to the extent that it would be supplied from nonrenewable sources such as natural gas. However, approximately 90 percent of BART's electricity portfolio needs are met from low-carbon and zero-carbon sources. Furthermore, by 2040, the Proposed Project and all of the Alternatives except for the Enhanced Bus Alternative would result in reductions in energy consumption when all energy sources

(electricity, diesel, and gasoline) are taken into account. The reduction in fossil fuel consumption would primarily occur due to commuters taking the Proposed Project, DMU Alternative/ EMU Option, or Express Bus/BRT Alternative to arrive at their destination instead of driving. Total energy consumption from operation of the Proposed Project and DMU Alternative (as well as the EMU Option) would be offset by (1) a net reduction in passenger vehicle trips, as more people take transit; and (2) the generation of renewable energy via a solar photovoltaic system that would be installed at the proposed Isabel Station. Energy consumption from the Express Bus/BRT Alternative would be offset by a net reduction in passenger vehicle trips. Under the Enhanced Bus Alternative, however, energy consumption would increase both in 2025 and 2040.

Net annual energy use for the Proposed Project and Build Alternatives would be as shown below. The net reduction in passenger vehicle trips would be substantially greater for the Proposed Project than for any of the Build Alternatives, especially in 2040, thus resulting in a greater reduction in net annual energy use for the Proposed Project.

- Proposed Project
 - Decrease by 73,163 MMBTU in 2025
 - Decrease by 130,788 MMBTU in 2040
- DMU Alternative
 - Decrease by 34,179 MMBTU in 2025
 - Decrease by 35,011 MMBTU in 2040
- EMU Option
 - Decrease by 62,525 MMBTU in 2025
 - Decrease by 66,538 MMBTU in 2040
- Express Bus/BRT Alternative
 - Decrease by 28,816 MMBTU in 2025
 - Decrease by 56,803 MMBTU in 2040
- Enhanced Bus Alternative
 - Increase by 18,031 MMBTU in 2025
 - Increase by 8,173 MMBTU in 2040

2. Commitment of Land Resources and Land Uses

The Proposed Project and Build Alternatives would result in an irreversible commitment of land resources for the development of various project components. As shown in Table 2-1 in Chapter 2, Project Description, a large proportion of the collective footprint is already committed to transportation uses, namely the Interstate Highway (I-) 580 right-of-way (ROW) and other roadways. Furthermore, the bus routes and bus infrastructure improvements under the Enhanced Bus Alternative—similar to those included under the Proposed Project and other Build Alternatives—are anticipated to extend along existing

streets and within the street ROWs, and would not affect any land resources or land uses that are not already committed to transportation. Therefore, the analysis below focuses on land uses that would be displaced by BART due to acquisition of land needed for the collective footprint.

As described in Section 3.C, Land Use and Agricultural Resources, the majority of the 147 acres affected under the Proposed Project would consist of agricultural uses (approximately 69 percent), with other uses (commercial/office, government/public property, industrial, residential, undeveloped, and other uses) each accounting for approximately 1 to 10 percent. For the DMU Alternative and EMU Option, approximately 54 percent of the 102 acres that would be affected are in agricultural use, 10 percent are government/public property; each of the remaining uses account for approximately 1 to 18 percent. Of the 10 acres that would be affected by the Express Bus/BRT Alternative, approximately 56 percent are government/public property and 42 percent are commercial and office.

Irreversible land use changes are generally considered to entail the conversion of open space, agricultural lands, or land having soil characteristics that qualify them to be suitable for agricultural activities, or containing valuable mineral resources. The Proposed Project and DMU Alternative would entail the conversion of such lands to transportation uses. As described in Section 3.C, Land Use and Agricultural Resources, the Proposed Project and DMU Alternative would directly convert approximately 6.3 acres of Prime Farmland and approximately 5.5 acres of Unique Farmland currently in agricultural uses, and approximately 0.2 acre of Prime Farmland currently used as a parking lot in the Isabel South Area.

Furthermore, the tail tracks and storage and maintenance facility would cover land zoned for agricultural use in the Cayetano Creek Area—approximately 104 acres under the Proposed Project and approximately 56 acres under the DMU Alternative. If BART is unable to acquire only the needed portions of the parcels within the footprint, and instead acquires the entire parcels, additional acreage could be removed from agricultural use.

In addition, the Proposed Project and DMU Alternative could indirectly accelerate the conversion of G&M Farms, a 20-acre parcel of Prime Farmland, to non-agricultural uses. This parcel could experience development pressure because the Proposed Project and DMU Alternative are intended to promote transit-oriented development; however, as detailed in Section 3.C, Land Use and Agricultural Resources, this land is already within the Urban Growth Boundary (UGB) and has been pre-zoned by the City of Livermore as Planned Development, a designation “applied to areas of the city appropriate for

residential, commercial, and industrial planned development projects that require more flexible design standards.”¹

There are no known mineral resources that would be of value to the region and the residents of the state or a locally important mineral resource recovery site within the footprints of the Proposed Project or DMU Alternative. While the Cayetano Creek Area extends into an area underlain by Livermore Gravel, which could be a source of aggregate, it is not designated as an area with known mineral resources by the California Geological Survey. Additionally, as described in Section 3.C, Land Use and Agricultural Resources, this area is zoned for agricultural uses.

3. Environmental Accidents

Limited quantities of hazardous materials are normally required for the operation and maintenance of transit systems and vehicles. As described in Section 3.N, Public Health and Safety, the Proposed Project and DMU Alternative would entail the use of limited quantities of hazardous materials that are typical of maintenance shops. On the other hand, the Express Bus/BRT Alternative and Enhanced Bus Alternative would only use small quantities of common hazardous materials.

BART follows standard operating procedures for the transport, use, and disposal of hazardous materials and for emergency response activities in the event of an accidental release. These procedures include development of communication and response protocols with the local emergency response teams. Furthermore, compliance with existing federal, State of California (State), and local hazardous materials regulations for handling, disposal, and transport, as well as emergency response protocols, would ensure the containment of accidental releases and quick and coordinated responses in the event of environmental accidents. Environmental accidents stemming from the inadvertent release of these materials are not considered to be significant because of the minimal volumes and concentrations that would be used by the Proposed Project and DMU Alternative and the existing regulations that govern the use and accidental release of hazardous materials.

Furthermore, to minimize the possibility of a potential public health or environmental hazard during construction, mitigation measures have been identified that would require the following: preparation of a Phase I Environmental Site Assessment and, if necessary, a Phase II Environmental Site Assessment; preparation of a Soil Management Plan; a hazardous materials and waste management plan; procedures for fueling during construction; and an emergency response/contingency plan. Thus, the Proposed Project

¹ City of Livermore, 2010. Livermore Development Code § 3.04.030

and Build Alternatives would not result in irreversible damage to the public or the environment.

E. GROWTH-INDUCING IMPACTS

In accordance with CEQA Guidelines Section 15126.2(d), this section describes the potential for the BART to Livermore Extension Project to have growth-inducing impacts. A project is considered growth inducing if it has the potential to directly or indirectly foster economic or population growth or the construction of additional housing. For example, factors that contribute to growth inducement include the extension of public services or transportation facilities into previously unserved or underserved areas, or the removal of other obstacles to growth and development. Growth can occur as development of greenfields (i.e., previously undeveloped land) with housing, or as increased density (i.e., infill development) that results in a greater concentration of housing or jobs.

This analysis (1) evaluates whether the Proposed Project and Build Alternatives would directly or indirectly induce economic, population, or housing growth adjacent to the project corridor; and (2) describes the potential of the Proposed Project and Build Alternatives to redistribute regional population growth in a more efficient and compact manner, consistent with smart growth principles, described further below. See Section 3.D, Population and Housing, for additional discussion.

The study area for growth-inducing impacts encompasses the cities of Dublin, Pleasanton, and Livermore, as well as Alameda County as a whole. In addition, while outside of the study area, San Joaquin County is also examined due to its location directly east of Alameda County and the nature of the BART to Livermore Extension Project, which would extend transit access farther east.

The analysis below concludes that the Proposed Project and Build Alternatives would not result in the following:

- Directly cause population, housing, or economic growth
- Indirectly and adversely result in potential growth-related impacts in the project corridor
- Adversely affect overall growth in the San Francisco Bay Area (Bay Area)

The analysis has determined that the Proposed Project and Build Alternatives would result in the following:

- Indirectly and positively contribute to efficient land use development patterns in the project corridor

1. Relationship of Land Use and Transportation to Growth

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

Transportation is one of several types of infrastructure that can have a wide range of growth-inducing effects. A transportation project may hasten growth in certain areas, slow it in others, intensify development in certain locations, or shift growth from one locality to another. However, generally, transportation improvements support or accommodate growth—in contrast to land use development projects, which generate new uses (i.e., growth) and increase travel demand, thereby contributing to the need for new transportation capacity.

Other factors, particularly local planning and community standards or environmental initiatives, may also direct the location and timing of transportation investments. An example of this is the UGB of the City of Livermore and of the East County Area of Alameda County that limits encroachment of urban development into open spaces and agricultural lands, as described in Section 3.C, Land Use and Agricultural Resources. The goal of the UGB is to focus urban development in or near existing cities, where it will be efficiently served by existing facilities.² Future modifications to the Livermore UGB require approval through a citywide vote; this requirement was established to ensure that future expansion of urban uses would be carefully considered to protect resources and growth management.

2. Analysis

a. Overview of Growth Trends

As described in the Program EIR for the BART to Livermore Extension Program, BART's original vision was to shape regional economic growth on a large-scale, areawide basis.³ An explicit goal was to encourage and support large economic and redevelopment plans in the downtown areas of San Francisco and Oakland and in suburban centers along major

² Alameda County, 2000. East County Area Plan. November.

³ San Francisco Bay Area Rapid Transit District (BART), 2009. BART to Livermore Extension Draft Program Environmental Impact Report. State Clearinghouse No. 2008062026. November.

corridors—effectively becoming an integrated transit system that the Bay Area needed. The original economic focus of Bay Area rail investment has largely succeeded; San Francisco and Oakland’s central business districts added millions of square feet of office uses during the 1970s and 1980s and continue to grow. However, the expectation for growth in more-suburban areas did not occur until recently.

As development of mixed-use projects became standard practice in the mid-1980s, commercial and employment-oriented development occurred more frequently around several suburban centers, notably Concord, Hayward, and Walnut Creek. As the Bay Area’s chronic housing shortage worsened, and given that many BART stations exist in redevelopment areas, more multi-family housing, especially affordable housing, began to be included near BART stations.

A large number of general plan updates and redevelopment plan amendments occurred in cities around the Bay Area during the mid-to-late 1990s, some of which had not been substantially revised for decades. With the refinement of smart growth principles in urban design and planning, the focus shifted to transit-oriented development with higher employment and housing densities within walking distance of rail stations. The late 1990s economic boom led to the creation of many transit-oriented development plans, which ultimately were adopted into updated general plans.

The BART to Livermore Extension Project is designed to serve the current and planned growth in population, housing, and employment in Alameda County over the next 25 years, as well as the travel demand between the Bay Area and the Central Valley through Altamont Pass. The BART to Livermore Extension Project would provide a key segment in the Bay Area’s regional rail transportation network.

b. Regional Growth Inducement Outside Alameda County

Growth in San Joaquin County is anticipated to occur at a faster pace than in the Bay Area. Specifically, projections for San Joaquin County anticipate growth from about 742,781 residents in 2015 to 1,070,486 in 2040 (an increase of 44 percent).⁴ This is substantially higher than the 27 percent population growth forecast through 2040 for the nine-county Bay Area and 26 percent growth forecast for Alameda County.^{5,6}

The growth would occur in part because of the relative affordability and greater supply of housing in San Joaquin County compared to the Bay Area. For example, in April 2017, the

⁴ San Joaquin Council of Governments, 2014. Regional Transportation Plan, Sustainable Communities Strategy. Available at: <http://www.sjcog.org/278/Adopted-2014-RTPSCS>.

⁵ United States Census Bureau, 2014. 2010-2014 American Community Survey 5-Year Estimates. Available at: <https://factfinder.census.gov>.

⁶ Association of Bay Area Governments (ABAG), 2013. Plan Bay Area Projections 2013.

median sale price of a single-family home was \$895,490 in the Bay Area as a whole, \$875,000 in Alameda County, and \$340,000 in San Joaquin County.⁷ Further, according to the Association of Bay Area Governments, between 2007 and 2014, the regional housing needs assessment allocation for the Bay Area was 214,500 units and the housing production was 123,098 units, resulting in an unmet housing need of 91,402 units. During the same time period, Alameda County had a regional housing needs assessment allocation of 44,937, housing production of 19,615 units, and an unmet housing need of 25,322 units.⁸

Conversely, the Bay Area has a more abundant supply of jobs compared to San Joaquin County. Jobs-housing balance is often measured using an index based on the ratio of jobs to employed residents in the area, with an index of 1.0 indicating a jobs-housing balance.⁹ As of 2010, this index was 1.04 for both the Bay Area and for Alameda County, and 0.89 for San Joaquin County, indicating that the Bay Area, including Alameda County is job-rich, whereas San Joaquin County is housing-rich.

Given the more abundant housing supply in San Joaquin County and greater availability of jobs in the Bay Area, many San Joaquin County residents travel long distances to the Bay Area for employment. According to the 2010 United States Census, at 31.5 miles one-way, the San Joaquin region is in the top 10 in the country for average work trip length.¹⁰ Between 2006 and 2010, approximately 26 percent of the workers in San Joaquin County (68,401 workers) commuted out of San Joaquin County, and approximately 10 percent (26,121 workers) commuted to Alameda County.¹¹ More workers from San Joaquin County commuted to Alameda County than to any other county. As a result, commute travel over Altamont Pass has become even more congested. As of 2011, residents in San Joaquin County who commuted to the Bay Area spent an average of 1.37 hours one-way daily along the I-205/Altamont Pass and I-580 corridors.¹²

While housing in San Joaquin County may be less expensive than in the Bay Area, the job locations of the employed residents and the commute times affect the number of

⁷ California Association of Realtors, 2017. Current Sales & Price Statistics. April. Available at: <http://www.car.org/marketdata/data/countysalesactivity/>, accessed June 8, 2017.

⁸ Association of Bay Area Governments (ABAG), 2015. San Francisco Bay Area Progress in Meeting 2007-2014 Regional Housing Need Allocation. September.

⁹ An index above 1.0 indicates there are more jobs than employed residents and may suggest that many employees are commuting in from outside the community. An index below 1.0 indicates that there are more employed residents than jobs and may suggest that many residents are commuting to jobs located outside the community.

¹⁰ San Joaquin Council of Governments, 2014. Regional Transportation Plan, Sustainable Communities Strategy. Available at: <http://www.sjcog.org/278/Adopted-2014-RTPSCS>

¹¹ California Employment Development Department (EDD), 2015. San Joaquin County to County Commuting Estimates. March.

¹² San Joaquin Council of Governments (SJCOCG), 2011. Regional Transportation Plan. Available at www.sjcog-rcmp.org/_literature_158662/2011_Regional_Transportation_Plan.

households willing to relocate. A decrease in commute times or a positively perceived change in other subjective factors such as the quality of a commute (e.g., commuting by rail versus driving) could act as an incentive for relocation.

While an extension of BART service to Livermore could reduce the driving commute to and from San Joaquin County by approximately 5.5 miles, this would not substantially reduce commute times from San Joaquin County and would not be anticipated to induce growth beyond that already anticipated in regional plans. Any potential additional growth caused by the BART to Livermore Extension Project would be minor in the context of the substantial projected growth.

c. Direct Growth Inducement in Study Area

As described in detail in Section 3.D, Population and Housing, the BART to Livermore Extension Project would not directly induce substantial population, housing, or economic growth. Limited direct job growth could result from the Proposed Project and Build Alternatives—i.e., approximately 20 to 135 full-time-equivalent jobs, including train operators, maintenance personnel, and bus operators. In addition, the construction workforce for the Proposed Project and DMU Alternative would be several hundred workers per day over the course of approximately 5 years, with fewer workers for the Express Bus/BRT Alternative and Enhanced Bus Alternative. These jobs would likely be filled by persons within the study area or the greater Bay Area, and would not represent substantial population growth. Furthermore, even if all of these new employees required a housing unit within the study area, this demand could be accommodated within the existing housing stock (Alameda County has a vacancy rate of 6 percent, which represents approximately 35,224 vacant housing units). Therefore, the BART to Livermore Extension Project would not directly foster substantial direct population or housing growth.

d. Indirect Growth Inducement in Study Area

Association of Bay Area Governments projections for the next 20 years show substantial population, housing and employment growth in Dublin, Pleasanton, and Livermore even without implementation of the Proposed Project or Build Alternatives, as described in Section 3.D, Population and Housing. Population and housing growth is forecast to range between 24 to 49 percent over this time period.^{13, 14} While the BART to Livermore Extension Project occurs in a corridor that is largely urbanized, there are areas that could accommodate new development, particularly north of I-580 and east of Isabel Avenue, the location of the Shea Homes – Sage Project (currently under construction). Furthermore, the

¹³ United States Census Bureau, 2014. 2010-2014 American Community Survey 5-Year Estimates. Available at: <https://factfinder.census.gov/>.

¹⁴ Association of Bay Area Governments (ABAG), 2013. Plan Bay Area Projections 2013.

Livermore General Plan anticipates new residential and retail development in the proposed Isabel Station area.

As described above, new travel demand and the need for new transportation capacity are generated by land use development, while transportation projects in a developed corridor (such as the Proposed Project and Build Alternatives) tend to respond to and accommodate, rather than induce, new growth. The Proposed Project would enhance the region's ability to accommodate the existing and projected population and employment growth and transportation demand described above.

While the BART to Livermore Extension Project would largely serve existing demand and support forecasted growth, it would also improve transit services, foster accessibility to BART's regional transit system, and provide a viable alternative to driving on I-580, which is forecast to become even more congested in the future. It is reasonable to assume that the Proposed Project or DMU Alternative would encourage new development, primarily around the proposed Isabel Station area. While population growth, economic growth, and new housing would occur regardless of the BART to Livermore Extension Project, the location and intensity of growth would likely shift to take advantage of increased transit services provided by the Proposed Project or DMU Alternative. Furthermore, there could also be growth in proximity to new or modified bus routes under the Express Bus/BRT Alternative and Enhanced Bus Alternative, although any such growth would be limited due to the considerably lower ridership increases forecast for the bus alternatives, compared to the Proposed Project and DMU Alternative.

This indirect growth effect is not considered adverse under CEQA definitions, because the principal effect is increased accessibility and density, reducing urban sprawl and associated environmental impacts, as discussed below. Projected growth that is redistributed in proximity to the Isabel Station, to take advantage of the regional accessibility afforded by BART, would be consistent with existing City of Livermore land use policies that anticipate a BART to Livermore extension. Additionally, changes in land use designations that are currently being initiated and proposed by the City of Livermore in the area around the Isabel Station would allow for more mixed-use development and would directly encourage denser growth.

Nevertheless, while the indirect growth caused by the BART to Livermore Extension Project would not be adverse in itself, it could cause indirect adverse growth-related impacts associated with the construction and implementation of new development projects in the vicinity (i.e., air and noise impacts from construction of new housing or other development). The Proposed Project or DMU Alternative could also indirectly encourage development on open space and agricultural land in the vicinity of the proposed Isabel Station. Development and densification of land within the UGB, particularly next to existing or proposed transit hubs, would satisfy Livermore General Plan objectives, even if

some isolated pockets of agricultural or open space land could be developed in the process.

One of the requirements of BART's System Expansion Policy is for one or more ridership development plans to be developed for proposed projects that would expand the existing BART system. These plans seek to increase ridership to support the proposed BART extension through local measures such as transit-supportive land uses and investment in access programs and projects. This requirement would be fulfilled by the Isabel Neighborhood Plan (INP)—a specific plan under preparation by the City of Livermore. For the purpose of this EIR, it is assumed that the INP would be implemented under the Proposed Project or DMU Alternative, but not under the Express Bus/BRT Alternative or Enhanced Bus Alternative. While the amount of new growth surrounding the proposed Isabel Station could be substantial, it is being addressed through the INP planning process by the City of Livermore, which will increase the amount of allowable development around the proposed Isabel Station to accommodate growth in a more compact, transit-oriented configuration, which is considered smart growth. Furthermore, while the growth anticipated under the INP would account for greater densities at the Livermore Isabel Avenue BART Station PDA, the overall amount of growth anticipated in Livermore would be consistent with the General Plan.

e. Indirect Positive Contribution to Smart Growth Patterns in the Local Study Area

To the extent that improved transit systems encourage development by removing obstacles to mobility or improving access in the region, the Proposed Project and Build Alternatives could have an indirect growth-inducing effect by accelerating planned growth in a more compact, transit-oriented form, in and around the proposed station area. As described in Chapter 1, Introduction, a major objective of the BART to Livermore Extension Project is to provide an affordable and effective intermodal link of the existing BART system to the inter-regional rail network, as well as a series of priority development areas (PDAs)—including the Livermore Isabel Avenue BART Station PDA, Livermore Downtown PDA, and Livermore East Side PDA—identified by the City of Livermore and the Metropolitan Transportation Commission.

As described above, under the Proposed Project and DMU Alternative, new development around the Isabel Station Area would be guided by a ridership development plan—the INP in this instance—which would allow for more pedestrian-oriented, compact, mixed-use development. The access plans of the Proposed Project and Build Alternatives providing multi-modal access to regional rail emphasize public space and infrastructure improvements that are designed to encourage private-sector developers, who increasingly specialize in transit-oriented projects around BART and other rail stations. The Isabel Station would become a catalyst supporting local development plans promoted by the City of Livermore.

The Proposed Project and Build Alternatives would help to achieve goals set forth by the California Sustainable Communities and Climate Protection Act of 2008 (Senate Bill 375). This law requires many of California's metropolitan areas, including the Bay Area, to create Sustainable Communities Strategies that promote smart growth principles such as compact, mixed-use commercial and residential development and transit-oriented development to reduce greenhouse gas emissions, as further described in Section 3.C, Land Use and Agricultural Resources. Proximity to the Isabel Station could attract businesses, entertainment, commercial/retail, and other employment-generating land uses, and provide opportunities to achieve the local housing needs. While development may occur without the Proposed Project and Build Alternatives, it would most likely be automobile-oriented due to the lack of a connection to a large-scale transit system. Therefore, it would not be considered smart growth and would not help achieve the region's consistency with Plan Bay Area—the region's Sustainable Communities Strategy. The environmental benefits of smart growth, to which the Proposed Project and Build Alternatives contribute, will be assessed and facilitated through these separate planning efforts.

F. ENVIRONMENTALLY SUPERIOR ALTERNATIVE

The CEQA Guidelines (Section 15126.6(a) and 15126.6(e)(2)) require that an EIR's analysis of alternatives identify the environmentally superior alternative among all of those considered. In addition, if the No Project Alternative (or No Build Alternative) is identified as the environmentally superior alternative, the EIR must also identify the environmentally superior alternative among the other alternatives (CEQA Guidelines Section 15126.6(e)(2)). Under CEQA, the goal of identifying the environmentally superior alternative is to assist decision-makers in considering project approval. CEQA does not require an agency to select the environmentally superior alternative (CEQA Guidelines Section 15042-15043).

In general, the environmentally superior alternative is defined as the alternative with the least adverse impacts. Based on the evaluation presented in Chapter 3, Environmental Analysis, the No Project Alternative would be the environmentally superior alternative. Under the No Project Alternative, the BART to Livermore Extension Project would not be implemented and there would be no physical changes in the environment associated with construction or operation of the Proposed Project or any of the Build Alternatives. Therefore, the No Project Alternative would avoid impacts associated with land acquisition, and changes to the viewshed as seen from I-580 and locally designated scenic routes.

Furthermore, the No Project Alternative would also avoid the following transportation-related impacts of the Proposed Project. The Proposed Project would cause traffic to be redistributed, as some of the existing BART passengers currently driving to the

Dublin/Pleasanton Station would instead drive to and park at the proposed Isabel Station. Parking facilities at the Dublin/Pleasanton Station have unmet demand for parking; with fewer drivers originating from the east, the freed station parking capacity would attract drivers from the north and south of the Dublin/Pleasanton Station. In addition, new auto trips would be generated east of the Isabel Station by people driving to the Isabel Station from San Joaquin County and from within Livermore. As a result, traffic volumes would decrease between the Dublin/Pleasanton Station and the Isabel Station within I-580 segments and parallel local roadways, while increasing within I-580 segments and local roadways east of the proposed Isabel Station, as well on local roadways north and south of the Dublin/Pleasanton Station (Dougherty Road and Hopyard Road).

However, the No Project Alternative would forego the benefits of the Proposed Project, DMU Alternative, Express Bus/BRT Alternative, and to a lesser extent, the Enhanced Bus Alternative. The No Project Alternative would not support SB 375's mandate to reduce GHG emissions through increasing density, reducing passenger vehicle miles traveled (VMT), or promoting transit-oriented development. Overall, the No Project Alternative would have six significant impacts, as shown in Table 4-1, and no beneficial impacts.

Pursuant to CEQA, this EIR also identifies an environmentally superior alternative from among the Build Alternatives. The Enhanced Bus Alternative is considered the environmentally superior alternative as it would avoid the majority of the adverse impacts of the Proposed Project. Overall, the Enhanced Bus Alternative would have four significant and unavoidable impacts and seven significant impacts that would be reduced to less than significant with mitigation, as shown in Table 4-1, as well as six beneficial impacts, as shown in Table 4-2.¹⁵ The Enhanced Bus Alternative would have a much smaller area of ground disturbance during construction than the Proposed Project or other Build Alternatives, resulting in fewer impacts to archaeological resources, human remains, and paleontological resources. In addition, the storage and maintenance facility in the Cayetano Creek Area would not be constructed under this alternative, thereby avoiding impacts related to agricultural resources and biological resources. Similarly, this alternative would avoid impacts in the Isabel South Area related to visual quality and agricultural conversion, as no station or parking facility would be constructed there. In addition, the Enhanced Bus Alternative would also avoid the some construction-related air quality impacts as it would have a much shorter duration and substantially less intensity of activity (approximately 2 months instead of 5 years).

¹⁵ Table 4-2 does not include the benefits of increased systemwide BART ridership and reduction in total vehicle miles traveled described in Section 3.B, Transportation, as these benefits are not associated with a particular impact statement. See Chapter 5, Project Merits, for additional discussion of these benefits, which would occur under the Proposed Project and each Build Alternative to varying degrees.

However, similar to the No Project Alternative, the Enhanced Bus Alternative would forego some of the benefits of the Proposed Project, DMU Alternative, and Express Bus/BRT Alternative—related to reduced GHG emissions and energy use. The Enhanced Bus Alternative would only result in GHG emissions and energy consumption reductions under cumulative conditions, and these would be significantly smaller than the equivalent reductions under the Proposed Project and other Build Alternatives. The Enhanced Bus Alternative would not support SB 375's mandate to reduce GHG emissions by increasing density, reducing passenger VMT, or promoting transit-oriented development.

After the Enhanced Bus Alternative, the Express Bus/BRT Alternative would have the second fewest adverse environmental impacts. The Express Bus/BRT Alternative would have 7 significant and unavoidable impacts and 28 significant impacts that would be reduced to less than significant with mitigation, as shown in Table 4-1, as well as 10 beneficial impacts, as shown in Table 4-2. While this alternative would have an approximately 5-year-long construction period—similar to the Proposed Project—there would be substantially less construction activity; in addition, construction would occur within a smaller footprint along the I-580 corridor (approximately 2.2 miles, compared with 5.6 miles for the Proposed Project and 7.1 miles for the DMU Alternative, respectively). No construction would occur at the Isabel South Area, the location of the proposed Isabel Station under the Proposed Project and DMU Alternative, or within the Cayetano Creek Area, the location of the proposed storage and maintenance facility under the Proposed Project and DMU Alternative. Overall, there would be more ground disturbance and ROW impacts under the Express Bus/BRT Alternative than under the Enhanced Bus Alternative, but significantly fewer than under the Proposed Project and DMU Alternative. Therefore, the Express Bus/BRT Alternative would avoid the following impacts of the Proposed Project and DMU Alternative: some of the impacts associated with increased traffic delays at local intersections and on I-580, all impacts associated with conversion of agricultural land, some visual and biological resources impacts, most noise impacts, and some impacts pertaining to air quality.

While the beneficial impacts of the Express Bus/BRT Alternative related to reduction of GHG emissions and energy consumption would be less than those of the Proposed Project, they would be comparable to the DMU Alternative and somewhat smaller than for the EMU Option. However, the Express Bus/BRT Alternative would result in lower additional BART ridership and a smaller reduction in VMT than the Proposed Project or the DMU Alternative. See Table 5-1 in Chapter 5, Project Merits, for further details.

The Proposed Project and DMU Alternative would have the highest number of significant adverse impacts. The Proposed Project would have 20 significant and unavoidable impacts and 33 significant impacts that would be reduced to less than significant with mitigation, as shown in Table 4-1, as well as 13 beneficial impacts, as shown in Table 4-2. The DMU Alternative would have 21 significant and unavoidable impacts, 33 significant impacts that

would be reduced to less than significant with mitigation, and 13 beneficial impacts. The EMU Option would have 18 significant and unavoidable impacts, 34 significant impacts that would be reduced to less than significant with mitigation, and 13 beneficial impacts.

Overall, the number of significant impacts for the Proposed Project and DMU Alternative would be similar because the physical footprint as well as the duration and volume of construction would be similar. However, the storage and maintenance facility under the Proposed Project is larger than under the DMU Alternative; therefore, the agricultural, biological, and visual impacts of the storage and maintenance facility under the Proposed Project would be somewhat greater. The beneficial effects of the Proposed Project would be greater than for the DMU Alternative; these include much greater reductions in VMT, GHG emissions, and regional energy consumption.

For the reasons described above, among the Build Alternatives, the Enhanced Bus Alternative is considered to be the environmentally superior alternative for the purpose of CEQA. However, the Proposed Project has the greatest environmental benefits, followed by the EMU Option, the DMU Alternative, the Express Bus/BRT Alternative, and the Enhanced Bus Alternative.

TABLE 4-1 SUMMARY OF SIGNIFICANT IMPACTS

Impact Statement	No Project Alternative	Conventional BART Project	DMU Alternative	EMU Option	Express Bus/BRT Alternative	Enhanced Bus Alternative
3.B TRANSPORTATION						
Impact TRAN-1: Result in a significant delay, safety hazard, or diminished access during construction		LSM	LSM	LSM	LSM	
Impact TRAN-3: General-purpose lane freeway segments operating at unacceptable LOS, under 2025 Project Conditions		SU	SU	SU	SU	
Impact TRAN-4: General-purpose lane freeway segments operating at unacceptable LOS, under 2040 Project Conditions		SU	SU	SU		
Impact TRAN-5: HOV/express lane freeway segments operating at unacceptable LOS, under 2025 Project Conditions			SU	SU		
Impact TRAN-7: Intersections operating at unacceptable LOS, under 2025 Project Conditions		SU	SU	SU	LSM	

TABLE 4-1 SUMMARY OF SIGNIFICANT IMPACTS

Impact Statement	No Project Alternative	Conventional BART Project	DMU Alternative	EMU Option	Express Bus/BRT Alternative	Enhanced Bus Alternative
Impact TRAN-8: Intersections operating at unacceptable LOS, under 2040 Project Conditions		SU	SU	SU	SU	
Impact TRAN-16(CU): General-purpose lane freeway segments operating at unacceptable LOS, under 2040 Cumulative Conditions		SU	SU	SU		
Impact TRAN-19(CU): Intersections operating at unacceptable LOS, under 2025 Cumulative Conditions		SU	SU	SU	LSM	LSM
Impact TRAN-20(CU): Intersections operating at unacceptable LOS, under 2040 Cumulative Conditions		SU	SU	SU	SU	SU
3.C LAND USE AND AGRICULTURAL RESOURCES						
Impact AG-1: Directly convert Farmland		SU	SU	SU		
Impact AG-3: Conflict with zoning for agricultural use		SU	SU	SU		
Impact AG-5(CU): Convert or result in conversion of Farmland		SU	SU	SU		
3.D POPULATION AND HOUSING						
Impact PH-2: Displace substantial numbers of existing housing or people necessitating the construction of replacement housing elsewhere		LSM	LSM	LSM		
Impact PH-3: Displace substantial numbers of existing businesses during construction		LSM	LSM	LSM	LSM	
3.E VISUAL QUALITY						
Impact VQ-1: Substantially degrade the existing visual quality or create a new source of substantial light or glare during construction		LSM	LSM	LSM	LSM	
Impact VQ-3: Substantially degrade the existing visual quality		SU	SU	SU		
Impact VQ-4: Have a substantial adverse effect on a scenic vista		SU	SU	SU		
Impact VQ-5: Substantially damage scenic resources within State scenic highway		SU	SU	SU	SU	
Impact VQ-6: Create a new source of substantial light or glare		SU	SU	SU	LSM	
Impact VQ-7(CU): Have a substantial visual impact under Cumulative Conditions		SU	SU	SU	SU	

TABLE 4-1 SUMMARY OF SIGNIFICANT IMPACTS

Impact Statement	No Project Alternative	Conventional BART Project	DMU Alternative	EMU Option	Express Bus/BRT Alternative	Enhanced Bus Alternative
3.F CULTURAL RESOURCES						
Impact CUL-2: Cause a substantial adverse change in the significance of an archaeological resource		LSM	LSM	LSM	LSM	LSM
Impact CUL-3: Disturb any human remains		LSM	LSM	LSM	LSM	LSM
Impact CUL-4(CU): Cause a substantial adverse change in the significance of a historical resource, archaeological resources, or disturb human remains under Cumulative Conditions		SU	SU	SU	SU	SU
3.G GEOLOGY, SOILS, SEISMICITY, MINERAL, AND PALEONTOLOGICAL RESOURCES						
Impact PALEO-1: Loss of paleontological resources		LSM	LSM	LSM	LSM	
Impact GEO-5: Fault rupture		LSM				
3.H HYDROLOGY AND WATER QUALITY						
Impact HYD-5: Substantially alter drainage patterns – erosion, sedimentation, flooding		LSM	LSM	LSM	LSM	
Impact HYD-9: Impede or redirect flood flows within a 100-year flood hazard area		LSM	LSM	LSM	LSM	
3.I BIOLOGICAL RESOURCES						
Impact BIO-1: Adversely affect special-status plants, either directly or through habitat modifications		LSM	LSM	LSM	LSM	
Impact BIO-2: Adversely affect vernal pool fairy shrimp and longhorn fairy shrimp during construction		LSM	LSM	LSM		
Impact BIO-3: Adversely affect California tiger salamander and California red-legged frog		LSM	LSM	LSM	LSM	
Impact BIO-4: Adversely affect western spadefoot		LSM	LSM	LSM		
Impact BIO-5: Adversely affect western pond turtle		LSM	LSM	LSM	LSM	
Impact BIO-6: Adversely affect western burrowing owl		LSM	LSM	LSM	LSM	
Impact BIO-7: Adversely affect nesting raptors and other nesting birds		LSM	LSM	LSM	LSM	LSM
Impact BIO-8: Adversely affect special-status bats		LSM	LSM	LSM	LSM	

TABLE 4-1 SUMMARY OF SIGNIFICANT IMPACTS

Impact Statement	No Project Alternative	Conventional BART Project	DMU Alternative	EMU Option	Express Bus/BRT Alternative	Enhanced Bus Alternative
Impact BIO-9: Adversely affect American badger		LSM	LSM	LSM		
Impact BIO-10: Adversely affect San Joaquin kit fox		LSM	LSM	LSM	LSM	
Impact BIO-11: Have a substantial adverse effect on State or federally protected wetlands or waters		LSM	LSM	LSM	LSM	
Impact BIO-12: Have a substantial adverse effect on riparian habitat or sensitive natural communities		LSM	LSM	LSM	LSM	
Impact BIO-15: Result in loss of protected trees identified in local policies or ordinances		LSM	LSM	LSM	LSM	
Impact BIO-16(CU): Adversely affect, species identified as a candidate, sensitive, or special-status under cumulative conditions		SU	SU	SU		
3.J NOISE AND VIBRATION						
Impact NOI-1: Expose persons to or generate noise or vibration levels in excess of standards during construction		LSM	LSM	LSM	LSM	
Impact NOI-5: Result in a substantial permanent increase in ambient noise levels from roadway realignment and traffic distribution in the project vicinity under 2025 Project Conditions		LSM	LSM	LSM		
Impact NOI-6: Result in a substantial permanent increase in ambient noise levels from roadway realignment and traffic distribution in the project vicinity under 2040 Project Conditions		LSM	LSM	LSM		
Impact NOI-7: Expose persons to or generate excessive groundborne vibration or groundborne noise levels under 2025 and 2040 Project Conditions			LSM			
3.K AIR QUALITY						
Impact AQ-1: Result in potentially significant, localized dust-related air quality impacts during construction		LSM	LSM	LSM	LSM	LSM
Impact AQ-2: Generate emissions of NOx, PM, and ROG exceeding BAAQMD significance thresholds during construction		LSM	LSM	LSM		
Impact AQ-3: Generate TAC and PM _{2.5} emissions that result in health risks above		LSM	LSM	LSM	LSM	

TABLE 4-1 SUMMARY OF SIGNIFICANT IMPACTS

Impact Statement	No Project Alternative	Conventional BART Project	DMU Alternative	EMU Option	Express Bus/BRT Alternative	Enhanced Bus Alternative
the BAAQMD significance thresholds during construction						
Impact AQ-7(CU): Generate TAC and PM _{2.5} emissions that result in health risks above the BAAQMD significance thresholds during construction under Cumulative Conditions		SU	SU	SU		
Impact AQ-12: Result in increased emissions of TACs and PM _{2.5} , resulting in increased health risk above BAAQMD significance thresholds under 2040 Project Conditions	S					
Impact AQ-18(CU): Result in increased emissions of TACs and PM _{2.5} , resulting in increased health risk above BAAQMD significance thresholds under 2025 Cumulative Conditions		SU	SU	SU	SU	
Impact AQ-19(CU): Result in increased emissions of TACs and PM _{2.5} , resulting in increased health risk above BAAQMD significance thresholds under 2040 Cumulative Conditions	S	SU	SU	SU		
3.L GREENHOUSE GAS EMISSIONS						
Impact GHG-3: Generate GHG emissions, either directly or indirectly, above BAAQMD significance thresholds, or conflict with plans, policies, or regulations that reduce GHG emissions, under 2025 Project Conditions						LSM
Impact GHG-4: Generate GHG emissions, either directly or indirectly, above BAAQMD significance thresholds, or conflict with plans, policies, or regulations that reduce GHG emissions, under 2040 Project Conditions	S					
Impact GHG-6(CU): Generate GHG emissions, either directly or indirectly, above BAAQMD significance thresholds, or conflict with plans, policies, or regulations that reduce GHG emissions under 2040 Cumulative Conditions	S					
3.M ENERGY						
Impact EN-3: Result in wasteful, inefficient, or unnecessary consumption of energy, under 2025 Project Conditions						SU

TABLE 4-1 SUMMARY OF SIGNIFICANT IMPACTS

Impact Statement	No Project Alternative	Conventional BART Project	DMU Alternative	EMU Option	Express Bus/BRT Alternative	Enhanced Bus Alternative
Impact EN-4: Result in wasteful, inefficient, or unnecessary consumption of energy, under 2040 Project Conditions	S					SU
Impact EN-6(CU): Result in wasteful, inefficient, or unnecessary consumption of energy, under 2040 Cumulative Conditions	S					
3.N PUBLIC HEALTH AND SAFETY						
Impact PHS-1: Create a potential public or environmental health hazard; an undue potential risk for health-related accidents; or result in a safety hazard for people residing or working in the project area during construction		LSM	LSM	LSM	LSM	LSM
Impact PHS-2: Physically interfere with an adopted emergency response or evacuation plan during construction		LSM	LSM	LSM	LSM	
3.O COMMUNITY RESOURCES						
Impact CS-1: Need for new or physically altered governmental facilities to maintain acceptable service ratios, response times, or other performance objectives for police, fire, and emergency response during construction		LSM	LSM	LSM	LSM	
3.P UTILITIES						
Impact UTIL-1: Substantially disrupt utility services, including power, natural gas, communications, drinking water supplies, wastewater transport, or stormwater transport during construction activities		LSM	LSM	LSM	LSM	

Notes: LOS = level of service; HOV = high-occupancy vehicle; NO_x = nitrogen oxides; PM = particulate matter; ROG = reactive organic gas; BAAQMD = Bay Area Air Quality Management District; TAC = toxic air contaminant; PM_{2.5} = fine particulate matter; NI=No impact; LSM=Less-than-Significant impact with mitigation; S=Significant impact of No Project Alternative (mitigation is inapplicable); SU=Significant and unavoidable, even with mitigation or no feasible mitigation available.

TABLE 4-2 SUMMARY OF BENEFICIAL IMPACTS

Impact Statement	No Project Alternative	Conventional BART Project	DMU Alternative/ EMU Option	Express Bus/BRT Alternative	Enhanced Bus Alternative
3.B TRANSPORTATION ^a					
Impact TRAN-10: Worsen bicycle level of traffic stress, circulation and access, or safety hazards, under 2025 or 2040 Project Conditions		B	B		
Impact TRAN-11: Worsen pedestrian crossing distance or delay, circulation and access, or safety hazards, under 2025 or 2040 Project Conditions		B	B		
Impact TRAN-22(CU): Worsen bicycle level of traffic stress, circulation and access, or safety hazards, under 2025 or 2040 Cumulative Conditions		B	B		
3.K AIR QUALITY					
Impact AQ-16: Conflict or obstruct implementation of existing air quality plans in 2025 and 2040		B	B	B	B
Impact AQ-23(CU): Conflict or obstruct implementation of existing air quality plans under 2025 and 2040 Cumulative Conditions		B	B	B	B
3.L GREENHOUSE GAS EMISSIONS					
Impact GHG-3: Generate GHG emissions, either directly or indirectly, above BAAQMD significance thresholds, or conflict with plans, policies, or regulations that reduce GHG emissions, under 2025 Project Conditions		B	B	B	
Impact GHG-4: Generate GHG emissions, either directly or indirectly, above BAAQMD significance thresholds, or conflict with plans, policies, or regulations that reduce GHG emissions, under 2040 Project Conditions		B	B	B	
Impact GHG-5(CU): Generate GHG emissions, either directly or indirectly, above BAAQMD significance thresholds, or conflict with plans, policies, or regulations that reduce GHG emissions, under 2025 Cumulative Conditions		B	B	B	B
Impact GHG-6(CU): Generate GHG emissions, either directly or indirectly, above BAAQMD significance thresholds, or conflict with plans, policies, or regulations that reduce GHG emissions under 2040 Cumulative Conditions		B	B	B	B
3.M ENERGY					
Impact EN-3: Result in wasteful, inefficient, or unnecessary consumption of energy, under 2025 Project Conditions		B	B	B	

TABLE 4-2 SUMMARY OF BENEFICIAL IMPACTS

Impact Statement	No Project Alternative	Conventional BART Project	DMU Alternative/ EMU Option	Express Bus/BRT Alternative	Enhanced Bus Alternative
Impact EN-4: Result in wasteful, inefficient, or unnecessary consumption of energy, under 2040 Project Conditions		B	B	B	
Impact EN-5(CU): Result in wasteful, inefficient, or unnecessary consumption of energy, under 2025 Cumulative Conditions		B	B	B	B
Impact EN-6(CU): Result in wasteful, inefficient, or unnecessary consumption of energy, under 2040 Cumulative Conditions		B	B	B	B

Notes: BAAQMD = Bay Area Air Quality Management District; TAC = toxic air contaminant; PM_{2.5} = fine particulate matter; B = Beneficial impact.

^a Table does not include the benefits of increased systemwide BART ridership and reduction in total vehicle miles traveled described in Section 3.B, Transportation, as these benefits are not associated with a particular impact statement. See Chapter 5, Project Merits, for additional discussion of these benefits, which would occur under the Proposed Project and each Build Alternative to varying degrees.

