6.9 Greenhouse Gas Emissions and Climate Change

6.9.1 Introduction

This section discusses existing conditions and the regulatory setting regarding greenhouse gas (GHG) emissions, and it describes impacts under CEQA that would result from construction and operation of the CEQA Alternatives.

6.9.2 Existing Conditions and Regulatory Setting

6.9.2.1 Affected Environment

The term *GHG emissions* refers to a group of emissions that are generally believed to affect global climate conditions. The greenhouse effect compares Earth and the atmosphere surrounding it to a greenhouse with glass panes. The glass panes in a greenhouse let heat from sunlight in and reduce the amount of heat that escapes. GHGs, such as carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O), keep the average surface temperature of Earth close to 60 degrees Fahrenheit (°F).

GHGs also include hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride, and water vapor. CO_2 is the most abundant pollutant that contributes to climate change through fossil fuel combustion. The other GHGs are less abundant but have higher global warming potential than CO_2. To account for this higher potential, emissions of other GHGs are frequently expressed in the equivalent mass of CO_2, denoted as CO_2e.

Long-term and irrevocable shifts in weather, including temperature, precipitation, and seasonal patterns, are referred to as *climate change*. According to the Intergovernmental Panel on Climate Change's *Fourth Assessment Report*, climate change caused by GHG emissions is anticipated to result in sea level rise, climate-related hazards, extinction of species, reduced food production, exacerbated health problems, slower economic growth, and displacement of people. According to a study by the Union of Concerned Scientists and Ecological Society of America, some of the possible effects of climate change in the Bay Area are as follows.

- Sea-level rise may threaten coastal wetlands, infrastructure, and property.
- Increased storm activity together with sea-level rise could increase beach erosion and cliff undercutting.
- Warmer temperatures and more frequent storms due to El Niño will bring more rain instead of snow to the Sierras, reducing supply of water for summer needs.
- Decreased summer runoff and warming ocean temperatures will affect salinity, water circulation, and nutrients in the Bay, possibly leading to complex changes in marine life.

6.9.2.2 Regulatory Setting

State

California has adopted a variety of statewide legislation to address various aspects of climate change and GHG emissions mitigation. Much of this legislation is not directed at citizens or jurisdictions specifically; rather, it establishes a broad framework for the state's long-term GHG reduction and climate change adaptation program. The governor has also issued several executive orders related to the state's evolving climate change policy. Below is a summary of GHG legislation applicable to the project.

- **Senate Bill (SB) 97:** SB 97 required that the California Natural Resources Agency coordinate on the preparation of amendments to the CEQA Guidelines regarding feasible mitigation of GHG emissions or the effects of GHG emissions. Pursuant to SB 97, the California Natural Resources Agency adopted State CEQA Guidelines amendments on December 30, 2009 and transmitted the Adopted Amendments and the entire rulemaking file to the Office of Administrative Law on December 31, 2009. The amendments were approved by the Office of Administrative Law on February 16, 2010, and became effective on March 18, 2010.
- **Assembly Bill (AB) 32:** Requires the California Air Resources Board (ARB) to develop and enforce regulations for the reporting and verification of statewide GHG emissions, and directs ARB to set a GHG emission limit, based on 1990 levels, to be achieved by 2020. The bill set a timeline for adopting a scoping plan for achieving GHG reductions in a technologically and economically feasible manner. On December 11, 2008, ARB adopted the AB 32 Scoping Plan, which sets forth the framework for facilitating the state's goal of reducing GHG emissions to 1990 levels by 2020. The First Update of the AB 32 Scoping Plan was adopted on May 22, 2014. At this writing, ARB is drafting the next update of the Scoping Plan. The Second Update is expected to include strategies to meet a 2030 GHG reduction goal of 40 percent below 1990 levels (the goal set out in EO B-30-15, described below). Neither AB 32 nor the updated AB 32 Scoping Plan establish regulations implementing, for specific projects, the Legislature's statewide goals for reducing GHGs (*Center for Biological Diversity v. California Department of Fish and Game* (2015) 62 CAl.4th 204, 259).

  The AB 32 Scoping Plan outlines a series of technologically feasible and cost-effective measures to reduce statewide GHG emissions, including expanding energy efficiency programs, increasing electricity production from renewable resources (at least 33 percent of the statewide electricity mix), increasing automobile efficiency, implementing the Low-Carbon Fuel Standard, and developing a cap-and-trade program. The vast majority of the project's GHG emissions would result from mobile sources and energy. Multiple AB 32 Scoping Plan measures address GHG emissions from transportation fuels and energy. For example, the cap-and-trade program, through the regulation of upstream electricity producers and fuel suppliers, will account for GHG emissions from the project

and will require emissions from covered sectors to be reduced by the amount needed to achieve AB 32's 2020 goal.

Likewise, the Low-Carbon Fuel Standard requires a 10 percent reduction in the carbon intensity of transportation fuels by 2020 and therefore creates incentives for broader-scale deployment of alternative vehicle fuels as well as electricity. Similarly, the state's Renewables Portfolio Standard mandates that state utilities dramatically increase (to 33 percent by 2020) the percentage of electricity sales that are generated by eligible renewable generation sources. Together, these elements of the AB 32 Scoping Plan will ensure that overall statewide emissions will be decreased to the extent necessary to achieve AB 32's emissions reduction goals. At the time the California Natural Resources Agency promulgated State CEQA Guidelines Section 15064.4, the agency explained that the AB 32 Scoping Plan "may not be appropriate for use in determining the significance of individual projects . . . because it is conceptual at this state and relies of the future development of regulations to implement and the strategies identified in the Scoping Plan" (California Natural Resources Agency 2009:26–27).

- **Assembly Bill 1493:** AB 1493 requires the development and adoption of regulations to achieve "the maximum feasible reduction of greenhouse gases" emitted by noncommercial passenger vehicles, light-duty trucks, and other vehicles used primarily for personal transportation in the state. In 2009, ARB adopted amendments to the AB 1493 regulations that reduce GHG emissions in new passenger vehicles from 2009 through 2016. These amendments are part of California's commitment toward a nationwide program to reduce new passenger vehicle GHGs from 2012 through 2016. The goal is to increase average fuel economy to roughly 43 miles per gallon by 2020 and reduce GHG emissions from the transportation sector by approximately 14 percent.
- **Senate Bill 375:** SB 375 was enacted to reduce GHG emissions from automobiles and light trucks through integrated transportation, land use, housing and environmental planning. Under the law, Metropolitan Planning Organizations are tasked with incorporating Sustainable Communities Strategies (SCS) as an element in Regional Transportation Plans (RTP). The SCS documents are intended to:
    - Identify the general location of uses, residential densities, and building intensities within the region.
    - Identify areas within the region sufficient to house all the population of the region, including all economic segments of the population, over the course of the planning period of the RTP, taking into account net migration into the region, population growth, household formation, and employment growth.
    - Identify areas within the region sufficient to house an 8-year projection of the regional housing need for the region.
    - Identify a transportation network to service the transportation needs of the region.

  - Gather and consider the best practically available scientific information regarding resource areas and farmland in the region.
  - Consider the state housing goals.
  - Set forth a forecasted development pattern for the region, which, when integrated with the transportation network, and other transportation measures and policies, will reduce the GHG emissions from automobiles and light trucks to achieve, if there is a feasible way to do so, the GHG emission reduction targets approved by the state board.
  - Allow the RTP to comply with the federal Clean Air Act.

- **State Cap-and-Trade Program:** This program creates a market-based system with an overall emissions limit for affected sectors, including electric utilities, large industrial facilities, and distributors of transportation, natural gas, and other fuels.
- **Senate Bills 1078/107/X 1-2, Renewables Portfolio Standard and Renewable Energy Resources Act**: SB 1078 and 107, California's Renewables Portfolio Standard, obligated investor-owned energy service providers and Community Choice Aggregations to procure an additional 1 percent of retail sales per year from eligible renewable sources until 20 percent was reached (by 2010). The California Public Utilities Commission and California Energy Commission are jointly responsible for implementing the program. SB X 1-2, called the California Renewable Energy Resources Act, obligates all California electricity providers to obtain at least 33 percent of their energy from renewable resources by 2020.
- **Executive Order (EO) S-01-07:** This EO established a Low-Carbon Fuel Standard and directed the Secretary of the California Environmental Protection Agency (Cal/EPA) to develop and propose protocols for measuring the life-cycle carbon intensity of transportation fuels.
- **Executive Order S-3-05:** This EO established state GHG emission targets of 1990 levels by 2020 (the same as AB 32, enacted later and discussed below) and 80 percent below 1990 levels by 2050. It calls for the Secretary of Cal/EPA to be responsible for coordination of state agencies and progress reporting. In response to the EO, the Secretary of Cal/EPA created the Climate Action Team, which originated as a coordinating council organized by the Secretary of Cal/EPA.
- **Executive Order B-30-15, Brown**: EO B-30-15 established a medium-term goal for 2030 of reducing GHG emissions by 40 percent below 1990 levels and required ARB to update its current AB 32 Scoping Plan to identify the measures to meet the 2030 target. The EO supports EO S-3-05, described above, but is currently binding only on state agencies.
- **State CEQA Guidelines Section 15064.4**: Requires that, in performing environmental review under CEQA, an agency should make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate, or estimate the amount of

GHG emissions resulting from a project. The lead agency has discretion to determine whether to use a model or methodology to quantify GHG emissions, and which model or methodology to use, or rely on a qualitative analysis or performance-based standards. The lead agency should consider the following factors, among others, when assessing the significance of impacts from GHG emissions on the environment.

- The extent to which the project may increase or reduce GHG emissions as compared to the existing environmental setting
- Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project
- The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions. Such requirements must be adopted by the relevant public agency through a public review process and must reduce or mitigate the project's incremental contribution of GHG emissions. If there is substantial evidence that the possible effects of a particular project are still cumulatively considerable notwithstanding compliance with the adopted regulations or requirements, an EIR must be prepared for the project.

- **California Green Building Standards Code and Title 24**: In January 2010, the California Building Standards Commission adopted the statewide mandatory Green Building Standards Code (CALGreen [California Code of Regulations, Title 24, Part 11]). The code was updated in 2013 to require additional energy savings. CALGreen applies to the planning, design, operation, construction, use, and occupancy of every newly constructed building or structure.

Regional

Metropolitan Transportation Commission

The Metropolitan Transportation Commission (MTC) is the transportation planning agency for the Bay Area. MTC is responsible for preparing the RTP and blueprints for mass transit as well as highway, airport, seaport, railroad, bicycle, and pedestrian facilities. It also screens requests from local agencies for state and federal grants for transportation projects. Adopted in June 2013, the most recent edition of the RTP is *Plan Bay Area*, which incorporates the SCS mandated by SB 375. *Plan Bay Area* provides a long-range framework to minimize transportation impacts on the environment, improve regional air quality, protect natural resources, and reduce GHG emissions by encouraging new development to locate near transit rather than areas poorly served or not served by transit.

Plan Bay Area has been approved by ARB as meeting target reductions in GHG emissions from cars and light trucks. The mechanism for achieving these reductions is an SCS that promotes compact, mixed-use commercial and residential development that is walkable and bike-able and close to mass transit, jobs, schools, shopping, parks, recreation, and other

amenities. *Plan Bay Area* contains goals, policies, and objectives that encourage more transportation choices, more livable communities, and reduction in the GHG emissions that contribute to climate change.

Local

City of San Jose

The San Jose General Plan does not include a specific goal related to GHG emissions but does identify the several policies and actions that will contribute to GHG reductions. For example, Policy H-4.2 seeks to maintain and periodically update the Zero Waste Strategic Plan to establish criteria and strategies for achieving zero waste, including reducing GHG emissions. Other air quality and energy policies and actions will contribute to GHG reductions.

The City of San Jose has adopted a GHG Reduction Strategy in conjunction with the recently adopted *Envision San Jose 2040 General Plan Update*, consistent with the implementation requirements of AB 32. The strategy was adopted by the City Council as an extension of the Envision Plan on November 1, 2011. The purposes of the GHG Reduction Strategy are to achieve the following.

- Capture and consolidate GHG reduction efforts already underway by the City of San Jose.
- Distill policy direction on GHG reduction from the *Envision San Jose 2040 General Plan Update*.
- Quantify GHG reductions that should result from land use changes incorporated in the Envision General Plan Land Use diagram.
- Create a framework for the ongoing monitoring and revision of this GHG Reduction Strategy.
- Achieve general plan–level environmental clearance for future development activities (through 2020) occurring within the City of San Jose.

City of Santa Clara

The City of Santa Clara General Plan includes the following policy intended to reduce GHG emissions.

- **Air Quality Policy 5.10.2-4:** Encourage measures to reduce greenhouse gas emissions to reach 30 percent below 1990 levels by 2020.

The City of Santa Clara adopted a Climate Action Plan (CAP) in December 2013. The CAP outlines the City's efforts to reduce GHG emissions consistent with the Bay Area Air Quality Management District's (BAAQMD's) *CEQA Guidelines* and larger statewide GHG reduction goals. The CAP estimates current (2008) and future (2020 and 2035) GHG emissions generated by community activities and sets a GHG reduction goal of 15 percent below 2008

emissions levels by 2020. Measures to achieve this target are identified and focus on energy efficiency, renewable energy, water conservation, waste reduction, off-road equipment, and transportation and land use. The CAP is incorporated as part of the City's General Plan.

6.9.3 CEQA Methods of Analysis

6.9.3.1 Construction

Emissions generated by construction of the BART facilities were estimated using a spreadsheet methodology and emission factors and emission rates obtained from ARB's EMFAC2014 and California Emissions Estimator Model (CalEEMod), version 2013.2.2. It was assumed that 20 pieces of heavy-duty construction equipment would be operating simultaneously 16 hours a day along the alignment. The equipment could be spread throughout the length of the alignment to do the construction work. Offsite emissions associated with the Twin-Bore and Single-Bore Options' tunnel hauling trips were accounted for and based on the estimated total number of truck trips. Construction emissions for VTA's transit-oriented joint development (TOJD) were estimated using CalEEMod. Inputs to the model include each land use type and size, in terms of building area, and the number of dwelling units. Details of the emissions analysis, including calculation sheets and assumptions used for the CalEEMod runs, are provided in *VTA's BART Silicon Valley—Phase II Extension Project Air Quality Study*. (Terry A. Hayes 2016) included as a technical report with this SEIS/SEIR.

6.9.3.2 Operation

Operational emissions associated with the BART Extension have been estimated related to changes to regional vehicle miles traveled (VMT)[1] and electricity production to support BART facilities. Because BART provides an alternative to vehicle trips, it would contribute to a decrease in regional emissions from reductions in personal vehicle use (also known as *mode shift*). The America Public Transportation Association (2009) recommends that GHG analyses for transit projects account for this emissions credit associated with avoided car trips through mode shift. Consistent with America Public Transportation Association recommendations, VTA has used this methodology for other transit projects (i.e., Phase I Project) throughout the region.

Mobile source emissions from changes in regional VMT were estimated using ARB's emissions model (EMFAC2014; California Air Resources Board 2015) and daily VMT data obtained from *VTA's BART Silicon Valley—Phase II Extension Project Transportation Impact Analysis of the BART Extension Only* and *VTA's BART Silicon Valley—Phase II Extension Project Transportation Impact Analysis of the BART Extension and VTA's Transit-Oriented Joint Development* by Hexagon Transportation Consultants, Inc. (2016a and 2016b,

[1] Refer to the *Transportation* chapters and sections throughout this document for detailed description of the methodology used to estimate VMT and the resulting VMT for each alternative.

respectively). The VMT data were provided in 5-mile-per-hour (mph) speed bins (or ranges) for the 2015 Existing, 2025 Opening Year, and 2035 Forecast Year under the with- and without-BART Extension scenarios. Mobile source emissions were estimated using grams per mile emission rates by speed obtained from the ARB EMFAC2014 model.

GHG emissions to support BART electricity consumption associated with traction, station lighting, and station auxiliary power have been quantified using a power consumption rate of 0.00267 megawatt-hour per BART VMT per day. To calculate total daily power consumption, the above power consumption rate was multiplied by the total length of the BART Extension and the total number of train departures/arrivals in a day. It is assumed that there would be 6-minute headways between 6:00 a.m. and 7:30 p.m. and 20-minute headways between 4:00 a.m. and 6:00 a.m. and between 7:30 p.m. and 1:30 a.m., resulting in 13.5 hourly train trips. The stations and related facilities built as part of the BART Extension would also use electric power. This other energy requirement was calculated on a percentage basis. About 25 percent of BART's existing power requirements are for station and facilities operations, with the other 75 percent for vehicle propulsion. It was assumed that this relationship would apply to the BART Extension, as well. Based on data obtained from the air quality analysts, annual electricity consumption for vehicle propulsion along the BART Extension would be 1.4 million kilowatt-hours. Additional electricity consumed by other facilities was therefore estimated to be about 468,000 kilowatt-hours per year. The electricity intensity factors were obtained from the CalEEMod and used to calculate CO_2 emissions associated with the production of electricity consumed by operation of the BART Extension (California Air Pollution Control Officers Association 2013).

TOJD operational emissions were estimated using CalEEMod default assumptions for the proposed land use types. Inputs to the model include each land use type and size, in terms of building area; the number of dwelling units; and the vehicle trip generation for each land use. Mobile-source emissions for the TOJDs were estimated using trip generation rates provided by Hexagon Transportation Consultants, Inc. (2015).

The GHG analysis for the TOJDs relies on the service population (residents plus employees). Estimates for residents were based on rates available in CalEEMod for multi-family residences. The utilized population rate was 2.86 people per dwelling unit. The employee rates for retail and office use were 400 and 225 employees per 1,000 square feet, respectively. The assumptions resulted in a service population of 10,841 persons.

6.9.4 CEQA Thresholds of Significance

State CEQA Guidelines Appendix G identifies the following significance criteria to be considered for determining whether a project could have significant GHG impacts.

- Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment.

- Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs.

BAAQMD has not recommended a quantitative threshold for the evaluation of construction-related GHG emissions. The significance of construction GHG emissions is evaluated by determining whether a project is consistent with AB 32 GHG reduction goals (BAAQMD 2010). BAAQMD also recommends that lead agencies incorporate best management practices to reduce GHG emissions during construction.

With respect to operational emissions, BAAQMD has not recommended a significance threshold for transit projects that include TOJDs. In addition, there is no consensus between state, regional, and local agencies related to addressing potential impacts from transit-related GHG emissions. California air pollution control officials and air quality districts have made several proposals for numerical thresholds. Multiple agencies' efforts at framing GHG significance issues have not yet coalesced into any widely accepted set of numerical significance thresholds for transit projects.

Although BAAQMD has not established a significance threshold for transit projects, significance thresholds have been established for land use developments, such as the TOJDs. BAAQMD's guidelines establish three potential analysis criteria for land use development projects: (1) compliance with a qualified CAP, (2) a mass emissions threshold of 1,100 metric tons (MT) per year of CO_2e, and (3) a GHG efficiency threshold of 4.6 MT CO_2e per service population (project jobs plus projected residents). BAAQMD's thresholds are based on AB 32's requirement to reduce statewide GHG emissions from both existing and new development to 1990 levels by 2020.

The State CEQA Guidelines authorize the lead agency to consider thresholds of significance previously adopted or recommended by other public agencies or recommended by experts, provided the decision of the lead agency to adopt such thresholds is supported by substantial evidence (State CEQA Guidelines Sections 15064.4(a) and 15064.7(c)). Given that there is no drafted, adopted, or recommended threshold specific to transit projects, and that transit projects are inherently designed to reduce GHG emissions, VTA has established that the proposed project would result in a significant GHG impact if it were to result in an emissions increase above net zero. Because the BART Extension with TOJD Alternative would include TOJD, GHG emissions associated with the TOJDs are also evaluated relative to BAAQMD's 4.6 MT CO_2e per service population threshold. This comparison is done for informational purposes only; the final impact determination is based on the net zero threshold.

Although there is no adopted state plan that addresses GHG emission reduction beyond 2020, long-term goals for 2030 and 2050 have been articulated in EO B-30-15 and EO S-3-05, respectively. There is a bill being considered in the state legislature to adopt an interim (2030) binding GHG target.[2] To date, however, there are no proposed or adopted significance

[2] The 2030 target of 40 percent below 1990 levels may be adopted in legislation per the proposed SB 32, which was withdrawn during the 2015 legislative term but is expected to be considered in the 2016 legislative term.

thresholds for analyzing post-2020 emissions for development projects in California. Nevertheless, given the recent legislative attention on post-2020 goals and scientific evidence that additional GHG reductions are needed through 2050 to stabilize CO_2 concentrations, the Association of Environmental Professionals (AEP) Climate Change Committee recommended in a 2015 white paper that CEQA analyses for projects with post-2020 development not only "consider consistency with the 2020/AB 32 based framework" but also analyze "the consequences of post-2020 GHG emissions in terms of their impacts on the reduction trajectory from 2020 toward 2050." AEP (2015) further recommends that the "significance determination…should be based on consistency with *substantial progress* along a post-2020 trajectory."

Consistent with AEP's recommendation and general scientific understanding that there will be a need for deeper reductions in GHG emissions in the post-2020 period (see further discussion in the AEP white paper referenced in this section), this document maintains the stringent net zero threshold to evaluate long-term operational emissions under design (2035) year conditions. GHG emissions associated with the TOJDs in 2035 are also assessed, for informational purposes, relative to the *substantial progress indicator* based on the 2030 and 2050 reduction targets identified in EO B-30-15 and EO S-3-05, respectively.[3]

Climate change is a global problem, and GHGs are global pollutants, unlike criteria air pollutants (such as ozone precursors), which are primarily pollutants of regional and local concern. Given their long atmospheric lifetimes, GHGs emitted by many sources worldwide accumulate in the atmosphere. No single emitter of GHGs is large enough to trigger global climate change on its own. Rather, climate change is the result of the individual contributions of countless past, present, and future sources. Thus, GHG impacts are inherently cumulative.

6.9.5 Environmental Consequences and Mitigation Measures

This section identifies the impacts related to GHG emissions and climate change under CEQA and the mitigation measures necessary to reduce potentially significant impacts.

6.9.5.1 No Build Alternative

The No Build Alternative consists of the existing transit and roadway networks and planned and programmed transportation improvements (see Chapter 2, Section 2.2.1, *NEPA No Build Alternative*, for a list of these projects) and other land development projects planned by the Cities of San Jose and Santa Clara.

[3] The substantial progress indicator was calculated for 2035 based on the GHG reduction goals established under EO B-30-15 and EO S-3-05 (40 percent reduction below 1990 levels by 2030 and 80 percent reduction below 1990 levels by 2050, taking into account the 1990 emissions levels and the projected 2035 statewide population and employment levels).

The No Build Alternative projects could result in effects on greenhouse gases typically associated with transit, highway, bicycle, and pedestrian facilities, and roadway projects, as well as land development projects.

Under the No Build Alternative, the project would not be built and regional VMT would not be reduced by the BART Extension. Table 6.9-1 shows the comparison between No Build Alternative, BART Extension Alternative, and BART Extension with TOJD Alternative emissions. The net reduction in GHG emissions associated with the BART Extension would not be realized under the No Build Alternative. In addition, the TOJDs would not occur, development of which would be entirely consistent with development goals established in GHG reduction plans.

All individual projects planned under the No Build Alternative would undergo separate environmental review to identify effects on greenhouse gases. Review would include an analysis of impacts and identification of mitigation measures to reduce potential impacts.

6.9.5.2 BART Extension Alternative

Impact BART Extension GHG-1: Generate GHG emissions, either directly or indirectly

Construction

Construction of the BART Extension would generate direct emissions of CO_2, CH_4, and N_2O from mobile and stationary construction equipment exhaust as well as employee and haul truck vehicle exhaust. Indirect emissions would be generated from water use for fugitive dust control. It is estimated that total GHG emissions associated with construction of the BART Extension would be 50,200 and 50,787 MT of CO_2e for the Twin-Bore and Single-Bore Options, respectively. Because construction activity would last 8 years, estimated average annual CO_2e emissions associated with the Twin-Bore and Single-Bore Options would be 6,275 and 6,348 MT of CO_2e, respectively.

BAAQMD's *CEQA Guidelines* do not identify a quantitative GHG emission threshold for construction emissions. Instead, BAAQMD recommends that GHG emissions from construction be quantified and disclosed and that a determination regarding the significance of the GHG emissions be made. Both the implementation of best management practices and a project's consistency with AB 32 GHG emission reduction goals are considered.

Air quality mitigation would require BAAQMD-recommended basic construction mitigation measures (i.e., best management practices), including limiting idling times to 5 minutes or less, limiting vehicle speeds to 15 mph or less, and performing equipment maintenance and tuning in accordance with manufacturer specifications (see Chapter 5, Section 5.4.3, *Air Quality*). These best management practices have been included as Mitigation Measures AQ-CNST-B through AQ-CNST-G, and would reduce GHG emissions from on- and off-road equipment. Moreover, as shown in Table 6.9-1, below, operation of the BART Extension would decrease CO_2e emissions by 22,136 to 42,246 MT per year, depending on

the year of analysis. This decrease is attributable to reduced mobile source emissions from vehicle mode shift.

Operational GHG reductions would offset short-term construction emissions within approximately 2 years of the 2025 Opening Year. In addition, construction GHG emissions would be reduced through the incorporation of Mitigation Measures AQ-CNST-B through AQ-CNST-G (see Chapter 5, Section 5.5.3, *Air Quality*). Compliance with AB 32 GHG reduction goals is discussed below in Impact BART Extension GHG-2. That discussion concludes that the BART Extension would be consistent with AB 32 GHG reduction goals. Accordingly, the BART Extension Alternative would result in a *less-than-significant impact* on construction GHG emissions for both the Twin-Bore and Single-Bore Options. No additional mitigation is required.

Operation

The operational analysis for the BART Extension considers electricity-related emissions from operation of the BART Extension, as well as GHG benefits associated with vehicle mode shift. As discussed above, it is anticipated that the BART Extension would increase ridership, thereby decreasing regional passenger VMT through mode shift from private automobiles to transit. Accounting for GHG emissions reductions associated with mode shift is consistent with recommendations from APTA (2009).

As shown in Table 6.9-1, operation of the BART Extension would increase electricity-related emissions. However, these emissions would be offset by benefits associated with vehicle mode shift. Accordingly, operation of the BART Extension would result in a long-term net reduction in GHG emissions. This impact would be *less than significant* under both 2025 Opening Year and 2035 Forecast Year conditions. No mitigation is required.

Table 6.9-1: Estimated Carbon Dioxide Emissions: BART Extension Alternative

Emissions Source	Carbon Dioxide (Metric Tons per Year)
2015 Existing + BART Extension Condition	
No Build Change in Vehicular Emissions from Increased Ridership	7,907,605
BART Extension Change in Vehicular Emissions from Increased Ridership	7,864,744
BART Electricity-Related Emissions	615
Net Emissions (No Build minus BART Extension)	(-42,246)
2025 Opening Year	
No Build Change in Vehicular Emissions from Increased Ridership	6,154,061
BART Extension Change in Vehicular Emissions from Increased Ridership	6,124,275
BART Electricity-Related Emissions	615
Net Emissions (No Build minus BART Extension)	(-29,171)

Emissions Source	Carbon Dioxide (Metric Tons per Year)
2035 Forecast Year	
No Build Change in Vehicular Emissions from Increased Ridership	5,314,428
BART Extension Change in Vehicular Emissions from Increased Ridership	5,291,677
BART Electricity-Related Emissions	615
Net Emissions (No Build minus BART Extension)	(-22,136)
Analysis Threshold	0
Note: Regional emissions related to VMT were estimated using the EMFAC model. Source: ARB EMFAC2014; CalEEMod version 2013.2.2; TAHA 2015.	

Impact BART Extension GHG-2: Conflict with a plan, policy, or regulation intended to reduce GHG emissions

Three plans relevant to the BART Extension have been adopted for the purposes of reducing GHG emissions: the AB 32 Scoping Plan, the City of San Jose GHG Reduction Strategy, and the City of Santa Clara CAP. Consistency with these three plans is reviewed. In addition, consistency with EO S-03-05 and EO B-30-15 is also considered, although no state or local regulations have been adopted to enforce the EO goals with respect to land use approvals.

Consistency with AB 32 Scoping Plan

The AB 32 Scoping Plan outlines a series of technologically feasible and cost-effective measures to reduce statewide GHG emissions, including expanding energy efficiency programs, increasing electricity production from renewable resources (at least 33 percent of the statewide electricity mix), and increasing automobile efficiency, implementing the Low-Carbon Fuel Standard, and developing a cap-and-trade program.

At the time the California Natural Resources Agency promulgated Guidelines section 15064.4, the agency explained that the AB 32 Scoping Plan "may not be appropriate for use in determining the significance of individual projects . . . because it is conceptual at this state and relies of the future development of regulations to implement and the strategies identified in the Scoping Plan" (California Natural Resources Agency 2009:26–27).

The technologically feasible and cost-effective measures listed in the AB 32 Scoping Plan are designed to be implemented by state agencies. Nevertheless, local governments and private developments can support AB 32 goals through consistent implementation of AB 32 Scoping Plan policies, where applicable. Extension of transit and increased electrified transit are core AB 32 strategies. Accordingly, the BART Extension would support state goals for alternative transportation. Moreover, as shown in Table 6.9-1, the BART Extension would result in a long-term GHG reduction. The BART Extension would therefore have a *less-than-*

significant impact related to consistency with the policies in the AB 32 Scoping Plan. No mitigation is required.

Consistency with the City of San Jose GHG Reduction Strategy and City of Santa Clara Climate Action Plan

The City of San Jose GHG Reduction Strategy states that urban design and land use planning are critical to the success of San Jose's Green Vision. The City aims to promote high-density commercial and residential development near transit or on infill sites. This can be accomplished by increased transit options in the city. Therefore, the discussion of long-term planning in the Green Vision is consistent with the BART Extension.

The City of Santa Clara CAP includes a focus area related to reducing VMT for the service population (i.e., residents and employees). The BART Extension would increase transit ridership within the City's service population and reduce regional VMT. This result would be consistent with the City of Santa Clara CAP goal of promoting GHG reductions by conserving resources and reducing the impacts of both existing and new development on the local and regional environment.

As described in the California Air Pollution Controls Officers Association resource document *Quantifying Greenhouse Gas Mitigation Measures,* a city general plan that locates urban land uses near transit is the single greatest tool for reducing GHG emission–related climate change. Implementation of the BART Extension and the rail system would result in a regional GHG benefit by encouraging a modal shift from single-occupancy vehicles to transit. It is anticipated that transit-oriented developments would locate infill residential and office development near transit lines that would be within walking distance and minimize automobile-dependent development. Therefore, the BART Extension would be consistent with the City of Santa Clara CAP and City of San Jose GHG Reduction Strategy. Impacts would be *less than significant,* and no mitigation is required.

Consistency with Executive Orders S-3-05 and B-30-15 (Post-2020 Goals)

EO B-30-15 established an interim GHG reduction target of 40 percent below 1990 levels by 2030, and EO S-3-05 established a long-term goal of reducing statewide GHG emissions to 80 percent below 1990 levels by 2050. Achieving these long-term GHG reduction policies will require systemic changes in how energy is produced and used. In evaluating the BART Extension emissions for consistency with EO S-3-05 and EO B-30-15, it is important to note that many of these broad-scale shifts in how energy is produced and used are outside of the control of the BART extension and unknown. It is anticipated that state programs adopted to reduce post-2020 emissions will extend strategies outlined in the AB 32 Scoping Plan. Increased transit and electrification of the transportation sector will be critical components of any post-2020 policy. Accordingly, implementation of the BART Extension will facilitate anticipated GHG strategies adopted and recommended at the state level to reduce post-2020 emissions, consistent with goals outlined under EO B-30-15 and EO S-3-05. Moreover, as shown in Table 6.9-1, the BART Extension would result in a long-term GHG reduction. The

BART Extension would therefore have a *less-than-significant impact* related to consistency with EO B-30-15 and EO S-3-05. No mitigation is required.

6.9.5.3 BART Extension with TOJD Alternative

Impact BART Extension + TOJD GHG-1: Generate GHG emissions, either directly or indirectly

Construction

Construction of the BART Extension with TOJD Alternative would generate direct emissions of CO_2, CH_4, and N_2O from mobile and stationary construction equipment exhaust as well as employee and haul truck vehicle exhaust. Indirect emissions would be generated from water use for fugitive dust control. As previously discussed, construction of the BART Extension would result in 50,200 and 50,787 MT of CO_2e for the Twin-Bore and Single-Bore Options, respectively. It is anticipated that construction of the TOJDs would result in the following emissions.

- Alum Rock/28th Street Station: 2,203 MT of CO_2e
- 13th Street Ventilation Facility: 68 MT of CO_2e
- Downtown San Jose Station: 1,342 MT of CO_2e
- Diridon Station (South and North Options): 991 MT of CO_2e
- Stockton Avenue Ventilation Facility: 69 MT of CO_2e
- Santa Clara Station: 1,657 MT of CO_2e

BAAQMD's *CEQA Guidelines* do not identify a quantitative GHG emission threshold for construction emissions. Instead, BAAQMD recommends that GHG emissions from construction be quantified and disclosed and that a determination regarding the significance of the GHG emissions be made. Both the implementation of best management practices and a project's consistency with AB 32 GHG emission reduction goals are considered.

Air quality mitigation would require BAAQMD-recommended basic construction mitigation measures (i.e., best management practices), including limiting idling times to 5 minutes or less, limiting vehicle speeds to 15 mph or less, and performing equipment maintenance and tuning in accordance with manufacturer specifications (see Chapter 5, Section 5.4.3, *Air Quality*). These best management practices have been included as Mitigation Measures AQ-CNST-B through AQ-CNST-G, and would reduce GHG emissions from on- and off-road equipment. Compliance with AB 32 GHG reduction goals is discussed under Impact BART Extension GHG-2. That discussion concludes that the BART Extension (Twin-Bore and Single-Bore Options) would be consistent with AB 32 GHG reduction goals. Impacts would be *less than significant*, and no additional mitigation is required.

Operation

Operational emissions have been estimated for the BART Extension and the TOJDs. As previously discussed, the BART Extension emissions analysis accounts for changes in regional VMT and electricity production need to power the extended system. TOJD emissions were estimated in CalEEMod and account for electricity, water, and natural gas consumption and for solid waste decomposition. Vehicle trips associated with the TOJDs are included in the regional VMT analysis utilized to estimate the change in regional emissions associated with the reduction in VMT due to increased ridership of BART.

Although emissions from area sources would not change over time, based on the CalEEMod methodology, mobile-source emissions would vary in 2015, 2025, and 2035. Therefore, a separate analysis was provided for each year. The existing plus BART Extension with TOJD condition (2015) assesses the BART Extension with TOJD Alternative as if it were to be built in the baseline condition. This is an unrealistic scenario because the project cannot be constructed and begin operations within the current year of analysis. These emissions have been presented for information only. The impact conclusion is therefore based on the 2025 Opening Year and 2035 Forecast Year. As shown in Table 6.9-2, BART Extension with TOJD emissions would decrease in 2025, but slightly increase in 2035.

A separate analysis of the TOJDs was performed to evaluate their efficiency (see Table 6.9-3). Because the BART Extension would reduce GHG emissions (see Table 6.9-1), this analysis is disclosed for informational purposes to isolate TOJD emissions and ensure that the TOJDs are constructed as efficiently as possible and all feasible mitigation is considered. Accordingly, near-term (2026) TOJD emissions are compared to BAAQMD's efficiency metric of 4.6 MT of CO_2e per year per service population (residents and employees). Horizon-year (2035) TOJD emissions are compared to a substantial progress indicator of 2.0 MT of CO_2e per year per service population. The substantial progress indicator was calculated for 2035 based on the GHG reduction goals established under EO B-30-15 and EO S-3-05 (40 percent reduction below 1990 levels by 2030 and 80 percent reduction below 1990 levels by 2050, taking into account the 1990 emissions levels and the projected 2035 statewide population and employment levels).

Table 6.9-2: Carbon Dioxide Equivalent Emissions: BART Extension with TOJD

Scenario and Emission Sources	Carbon Dioxide Equivalent Metric Tons per Year
2015 Existing + BART Extension with TOJD Condition	
Net Change in Vehicular Emissions from Increased Ridership	(-42,451)
BART Electricity-Related Emissions	615
TOJD Emissions (Area, Energy, Waste, and Water Sources)	24,518
Total Emissions	(-17,318)
2025 Opening Year	
Net Change in Vehicular Emissions from Increased Ridership	(-29,376)
BART Electricity-Related Emissions	615
TOJD Emissions (Area, Energy, Waste, and Water Sources)	24,518
Total Emissions	(-4,243)
2035 Forecast Year	
Net Change in Vehicular Emissions from Increased Ridership	(-22,341)
BART Electricity-Related Emissions	615
TOJD Emissions (Area, Energy, Waste, and Water Sources)	24,518
Total Emissions	3,202
Analysis Threshold	0
Source: ARB CalEEMod version 2013.2.2; TAHA 2015.	

Table 6.9-3: Carbon Dioxide Equivalent Emissions: TOJD

Emissions Sources	Carbon Dioxide Equivalent Metric Tons per Year
TOJD	
Alum Rock/28th Street Station	
Area	16
Energy	5,507
Waste	279
Water	373
Subtotal	6,175
Subtotal for Area Source Emissions	24,518
13th Street Ventilation Facility	
Area	<1
Energy	46
Waste	6
Water	3
Subtotal	55
Downtown San Jose Station[a]	
Area	<1
Energy	5,766
Waste	338
Water	419
Subtotal	6,523
Diridon Station (South and North Options)	
Area	<1
Energy	4,837
Waste	305
Water	410
Subtotal	5,552
Stockton Avenue Ventilation Facility	
Area	<1
Energy	53
Waste	7
Water	4
Subtotal	64

Emissions Sources	Carbon Dioxide Equivalent Metric Tons per Year
Santa Clara Station	
Area	12
Energy	5,501
Waste	272
Water	364
Subtotal	6,149
2015 Existing + BART Extension with TOJD Condition	
Area Sources	24,518
Mobile Sources (All TOJDs)	26,537
Service Population (Residents + Employees)	10,841
Service Population Annual per Capita Emissions	4.7
2025 Opening Year	
Area Sources	24,518
Mobile Sources (All TOJDs)	18,358
Service Population (Residents + Employees)	11,054
Service Population Annual per Capita Emissions	3.9
BAAQMD Significance Threshold	4.6
Exceeds Threshold?	No
2035 Forecast Year	
Area Sources	24,518
Mobile Sources (All TOJDs)	13,724
Service Population (Residents + Employees)	11,054
Service Population Annual per Capita Emissions	3.5
Substantial Progress Indicator	2.0
Exceeds Indicator?	Yes

[a] The Downtown San Jose Station represents the East Option, which includes more development than the West Option.
Source: ARB CalEEMod version 2013.2.2; TAHA 2015.

Implementation of the BART Extension would result in a regional mobile source GHG benefit by encouraging a modal shift from single-occupancy vehicles to transit. In addition, the TOJDs would locate infill residential, office, and retail development near transit lines that would be within walking distance and minimize automobile-dependent development. The BART Extension with TOJD Alternative would result in a net GHG reduction during 2025 Opening Year conditions. As shown in Table 6.9-3, the TOJDs on their own would also be constructed to an average efficiency consistent with BAAQMD's service population

threshold, which was established based on AB 32 goals. Accordingly, the BART Extension with TOJD Alternative would result in a *less-than-significant* near-term GHG impact.

The mode shift benefits observed in 2025 would not be as substantial in 2035. This is due to improvements in on-road engine technologies and increasingly stringent regulations, which are anticipated to reduce emissions from future passenger vehicles. The mode shift benefit achieved by the BART Extension would therefore not be sufficient to offset GHG emissions from increased BART electricity consumption and the TOJDs in 2035. Accordingly, the BART Extension with TOJD Alternative would result in a net increase in long-term (2035) GHG emissions. As shown in Table 6.9-3, the TOJDs on their own would also not meet the substantial progress indicator.

As discussed above, large reductions will need to be made through state (and, most likely, federal) action to achieve the deep cuts in GHG emissions recommended by AEP and outlined in EO S-03-05 and EO B-30-15. The specific project-level benefits of future state (or federal) action cannot be presumed at this time, although it is likely that the BART Extension with TOJD Alternative's actual emissions in 2035 would be lower than the levels presented in Tables 6.9-2 and 6.9-3. Although it is possible that future state and federal actions will reduce BART Extension emissions to net negative and TOJD emissions to a level below the substantial progress indicator, this cannot be presumed at this time.

Mitigation Measures GHG-A through GHG-D listed below apply to the TOJDs. In addition, Mitigation Measure AQ-CNST-I (see Chapter 5, Section 5.4.3, *Air Quality*) would reduce emissions through the use of architectural coatings with a low volatile organic compound content. Implementation of these mitigation measures would reduce GHG emissions from the BART Extension with TOJD Alternative. However, as explained above, emissions cannot be demonstrated to achieve a net negative impact. Therefore, out of an abundance of caution, it is conservatively assumed that the BART Extension with TOJD Alternative's long-term (2035) emissions would be *significant and unavoidable*.

Mitigation Measure GHG-A: Implement Energy Efficiency Measures

TOJD energy efficiency shall be 15 percent better than the 2013 Title 24, Part 11 requirements or shall meet the Title 24, Part 11 requirements that are applicable at the time of issuance of the building permits for individual phases, whichever is more stringent.

Mitigation Measure GHG-B: Participate in Food Waste Programs

Restaurants shall be required to participate 100 percent in any extant City food waste programs. This mitigation measure shall be included as a mandatory performance standard for all agreements with developers of the TOJDs.

Mitigation Measure GHG-C: Utilize Electrical Landscaping Equipment

TOJDs shall include installation of electrical outlets near all maintained landscaping areas to allow for the use of electrical landscaping equipment. This mitigation measure shall be included as a mandatory performance standard for all agreements with developers of the TOJDs.

Mitigation Measure GHG-D: Provide Preferential Parking for Electric Vehicles

TOJDs shall provide preferential parking in all parking lots for electric vehicles and shall also provide charging equipment, as follows. This mitigation measure shall be included as a mandatory performance standard for all agreements with developers of the TOJDs.

a) Residential Use: A total of 10 percent of the required parking spaces shall be provided with a listed cabinet, box, or enclosure and connected to a conduit that links the parking spaces to the electrical service in a manner approved by the building and safety official. Of the listed cabinets, boxes, or enclosures provided, 50 percent shall have the necessary electric vehicle supply equipment installed to provide active charging stations that are ready for use by residents. The remainder shall be installed at such time as they are needed for use by residents. Electrical vehicle batteries and charging technology may change substantially over the next 15 years. As such, the local jurisdiction shall have the discretion to modify the specific requirements for this measure over time, provided that 10 percent of the spaces have electrical service and 5 percent have active charging, depending on what the technology at the time requires.

b) Commercial Use: New commercial uses shall provide the electrical service capacity necessary as well as all conduits and related equipment necessary to serve 2 percent of the parking spaces with charging stations. Of these parking spaces, 50 percent shall initially be provided with the equipment necessary to function as online charging stations upon completion of development. The remainder shall be installed at such time as they are needed for use by customers, employees, or other users. Electrical vehicle batteries and charging technology may change substantially over the next 15 years. As such, the local jurisdiction shall have the discretion to modify the specific requirements for this measure over time, provided that 2 percent of the spaces have electrical service and 1 percent have active charging, depending on what the technology at the time requires.

Impact BART Extension + TOJD GHG-2: Conflict with a plan, policy, or regulation intended to reduce greenhouse gas emissions

As noted above, three plans relevant to the BART Extension with TOJD Alternative have been adopted for the purposes of reducing GHG emissions: the AB 32 Scoping Plan, the City of San Jose GHG Reduction Strategy, and the City of Santa Clara CAP. Consistency with these three plans is reviewed below. In addition, the BART Extension with TOJD

Alternative's consistency with EO S-03-05 and EO B-30-15 is considered. Note that no land use approvals. or state or local regulations have been adopted to enforce the executive orders

Consistency with AB 32 Scoping Plan

As discussed above, the AB 32 Scoping Plan outlines a series of technologically feasible and cost-effective measures to reduce statewide GHG emissions, including expanding energy efficiency programs, increasing electricity production from renewable resources, increasing automobile efficiency, implementing the Low-Carbon Fuel Standard, and developing a cap-and-trade program. While these measures are designed to be implemented by state agencies, local governments and private developments can support AB 32 goals through consistent implementation of AB 32 Scoping Plan policies, where applicable. Extension of transit, increased electrified transit, compact development, and infill are core AB 32 strategies. Accordingly, the BART Extension and TOJDs would support state goals for alternative transportation and mixed-use development. Moreover, as shown in Table 6.9-2, the BART Extension would result in a near-term (2026) GHG reduction (AB 32 target year is 2020). The BART Extension with TOJD Alternative would therefore have a *less-than-significant impact* on consistency with the policies in the AB 32 Scoping Plan. No mitigation is required.

Consistency with the City of San Jose GHG Reduction Strategy and City of Santa Clara Climate Action Plan

The City of San Jose GHG Reduction Strategy states that urban design and land use planning are critical to the success of San Jose's Green Vision. The City aims to promote high-density commercial and residential development near transit or on infill sites. The City wants to limit low-density housing by encouraging builders to create opportunities for residents and employees to walk to retail, entertainment venues, parks, and schools in all neighborhoods. This discussion of long-term planning in the Green Vision is consistent with the BART Extension with TOJD Alternative. The TOJDs would locate high-density commercial and residential land uses in proximity to a mature public transit system.

The City of Santa Clara CAP includes a focus area related to reducing VMT for the service population (i.e., residents and employees). The BART Extension with TOJD Alternative would encourage transit by locating the TOJDs near the BART Extension. This would increase the percentage of transit ridership within the City's service population and reduce regional VMT. This result would be consistent with the City of Santa Clara CAP goal of promoting GHG reductions by conserving resources and reducing the impacts of both existing and new development on the local and regional environment.

As described in the California Air Pollution Controls Officers Association resource document *Quantifying Greenhouse Gas Mitigation Measures*, a city general plan that locates urban land uses near transit is the single greatest tool for reducing GHG emissions related climate change. Implementation of the BART Extension would result in a regional GHG benefit by encouraging a modal shift from single-occupancy vehicles to transit. The TOJDs would locate infill residential and office development near transit lines that would be within

walking distance and minimize automobile-dependent development. Therefore, the BART Extension with TOJD Alternative would be consistent with the City of Santa Clara Climate Action Plan and City of San Jose GHG Reduction Strategy. Impacts would be *less than significant*, and no mitigation is required.

Consistency with Executive Orders S-3-05 and B-30-15

EO B-30-15 established an interim GHG reduction target of 40 percent below 1990 levels by 2030, and EO S-3-05 established a long-term goal of reducing statewide GHG emissions to 80 percent below 1990 levels by 2050. Achieving these long-term GHG reduction policies will require systemic changes in how energy is produced and used. In evaluating the BART Extension with TOJD Alternative's emissions for consistency with EO S-3-05 and EO B-30-15, it is important to note that many of these broad-scale shifts in how energy is produced and used are outside of the control of the BART Extension with TOJD Alternative and unknown. It is anticipated that state programs adopted to reduce post-2020 emissions will extend strategies outlined in the AB 32 Scoping Plan. Increased transit, electrification of the transportation sector, and mixed-use development will be critical components of any post-2020 policy. While implementation of the BART Extension with TOJD Alternative would extend electrified transit and support transit-oriented development, GHG emissions associated with the TOJDs are estimated to exceed the substantial progress indicator, which is based on the long-term EO goals. While it is likely that future state programs would reduce project-level emissions, the extent of those reductions are unknown. Accordingly, conclusions must be drawn from the estimates of emissions presented in this document. Therefore, out of an abundance of caution, it is conservatively assumed that the BART Extension with TOJD Alternative's emissions would be inconsistent with the goals in EO S-3-05 and EO B-30-15.

Mitigation Measures GHG-A through GHG-D listed above apply to the TOJDs. In addition, Mitigation Measure AQ-CNST-I (see Chapter 5, Section 5.4.3, *Air Quality*) would reduce emissions through the use of architectural coatings with a low volatile organic compound content. Implementation of these mitigation measures would reduce GHG emissions from the BART Extension with TOJD Alternative. However, as explained above, emissions cannot be demonstrated to be lower than the EO goals. This impact is considered *significant and unavoidable*.

6.9.6 CEQA Conclusion

Implementation of the BART Extension would result in a regional mobile source GHG benefit by encouraging a modal shift from single-occupancy vehicles to transit. In addition, the TOJDs would locate infill residential, office, and retail development near transit lines that would be within walking distance and minimize automobile-dependent development. The BART Extension would result in a net GHG reduction during 2025 Opening Year conditions. As shown in Table 6.9-3, the TOJDs on their own would also be constructed to an average efficiency consistent with BAAQMD's service population threshold, which was established based on AB 32 goals. Accordingly, the project would result in a *less-than-significant*

near-term (2026) GHG impact and would not conflict with plans adopted by state (AB 32) and local (City of San Jose GHG Reduction Strategy and City of Santa Clara CAP) governments to reduce near-term GHG emissions. This conclusion applies to both the BART Extension Alternative and the BART Extension with TOJD Alternative.

The BART Extension Alternative would continue to reduce GHG emissions under horizon (2035) year conditions. It would also facilitate implementation of anticipated transit strategies adopted and recommended at the state level to reduce post-2020 emissions, consistent with goals outlined under EO B-30-15 and EO S-3-05. Accordingly, the BART Extension Alternative would result in a *less-than-significant* impact on long-term (2035) GHG emissions.

The BART Extension with TOJD Alternative would result in a net increase in long-term (2035) GHG emissions. As shown in Table 6.9-3, the TOJDs on their own would also not meet the substantial progress indicator, which was calculated based on the long-term GHG reduction goals identified by EO S-3-05 and EO B-30-15. It is likely that once long-term state policies have been adopted to reduce GHG emissions, project-level emissions would be lower than those estimated in this document. However, specific project-level benefits of future state (or federal) policies are unknown and cannot be assumed at this time. Mitigation Measures GHG-A through GHG-D would reduce GHG emissions from the BART Extension with TOJD Alternative, but not to a net negative level. Accordingly, the BART Extension with TOJD Alternative would result in *significant and unavoidable* impacts related to long-term (2035) GHG emissions and consistency with EO S-3-05 and EO B-30-15.