

**CHAPTER SUMMARY:** This chapter analyzes the direct and cumulative impacts of the proposed Van Ness Avenue BRT project collectively with other reasonably foreseeable projects in the study area. Environmental factors considered include vehicular traffic, parking, and community values. Potential cumulative impacts are evaluated during both the construction and operation phases of the proposed projects. Several facility and utility upgrades would be integrated into the Van Ness Avenue BRT Project construction, such as pavement rehabilitation, SFgo signal upgrades, OCS support poles/streetlights replacement, SFPUC sewer replacement (under Build Alternatives 3 and 4 and the LPA, with or without the Vallejo Northbound Station Variant, and other public or private utility upgrades. A partial list of other projects analyzed in this chapter includes the Presidio Parkway Project (Doyle Drive Replacement), California Pacific Medical Center, the Geary Boulevard BRT, Hayes Two-Way Street Conversion, and the Polk Street Improvement Project along with several planned residential developments. Adverse cumulative impacts are identified, as well as measures to avoid, minimize, or mitigate these impacts.

# CHAPTER 5

## Cumulative Impacts

### 5.1 Regulatory Setting

The Council on Environmental Quality (CEQ) defines a cumulative impact as “the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions (40 CFR 1508.7).” CEQA defines cumulative impacts as “two or more individual effects which, when considered together are considerable,” and suggests that cumulative impacts may “result from individually minor but collectively significant projects taking place over a period of time” (State CEQA Guidelines Section 15355).

### 5.2 Methodology

Caltrans has developed guidelines for conducting cumulative impact analysis for transportation projects, consistent with NEPA/CEQ and CEQA requirements. These guidelines are applicable to FTA and FHWA projects. The cumulative impacts analysis for the proposed Van Ness Avenue BRT Project was undertaken by following the steps set forth in the Caltrans Standard Environmental Reference (SER) and the FHWA Interim Guidance: Questions and Answers Regarding the Consideration of Indirect and Cumulative Impacts in the NEPA Process (2003). This process is consistent with cumulative impact analysis guidance from EPA and the CEQ, and is as follows:

- Identify resources to be analyzed;
- Define the geographic study area for each resource;
- Describe existing conditions and historical context for each resource;
- Identify direct and indirect impacts of the proposed project;
- Identify other reasonably foreseeable actions that affect each resource;
- Assess potential cumulative impacts; and
- Report results and assess the need for mitigation.

Based on the aforementioned guidance, if the proposed project would not result in a direct or indirect impact to a resource, it would not contribute to a cumulative impact on that resource.

## 5.3 Reasonably Foreseeable Projects

**Several facility and utility upgrades would be integrated into the Van Ness Avenue BRT Project construction.**

**Several transportation-related projects, a major medical center, and several housing development projects are being developed within the general vicinity of the Van Ness Avenue corridor.**

The Van Ness Avenue BRT Project encompasses a large section of a major San Francisco thoroughfare, which is also designated as a portion of US 101. The City and County of San Francisco are consistently upgrading their infrastructure systems to meet the City's growing transportation demand and maintenance needs. As described in Chapter 2, several facility and utility upgrades would be integrated into the Van Ness Avenue BRT Project construction, such as pavement rehabilitation, SFgo signal upgrades, OCS support poles/streetlights replacement, SFPUC sewer replacement (under Build Alternatives 3 and 4), and other public or private utility upgrades.

In addition, several transportation-related projects and a major medical center are being developed within the general vicinity of the Van Ness Avenue corridor. Furthermore, several housing development projects have been proposed as part of the Van Ness Avenue Area Plan and Market and Octavia Better Neighborhoods Plan, as described in Section 2.7.3 of this EIS/EIR. Construction of these housing projects would likely be completed in 2013, which is before commencement of construction for the BRT project, whereas the medical center could be constructed at the same time as the Van Ness Avenue BRT Project. Table 5-1 summarizes the other reasonably foreseeable projects being implemented or that are under planning within the general vicinity of the Van Ness Avenue corridor. Figure 5-1 shows the location of these reasonably foreseeable projects.

**Table 5-1: Reasonably Foreseeable Projects within General Vicinity of the Proposed Van Ness Avenue BRT Project**

PROJECT/ACTIVITY	CONSTRUCTION START/END DATES <sup>1</sup>	PROJECT DESCRIPTION
Doyle Drive Replacement/ Presidio Parkway	2010/2013	The Doyle Drive approach to the Golden Gate Bridge will be replaced with a new approach that provides widened traffic lanes, shoulder, and median. Additional project aspects include seismic and soil stability upgrades, and improved landscaping. Construction began almost a year earlier than planned, and the roadway will be open for traffic in early 2013.
Transbay Transit Center	2008/2017	Replacement of the existing Transbay Terminal in downtown San Francisco will include a new terminal that will accommodate the extension of Caltrain service, as well as the California High-Speed Rail Project.
California Pacific Medical Center (CPMC)	2011/2016	The CPMC Cathedral Hill Campus would expand its campus to include the entire block bounded by Van Ness Avenue, Geary, Franklin, and Post streets. The expanded campus includes a new medical center and medical offices of more than 1.5 million gross square feet (gsf).
Central Subway	2010/2019	This second phase of the Third Street Light Rail Project from Fourth and King to Jackson and Stockton streets is an underground subway project with multiple stations and tunnel openings.
Geary BRT	2014/2019	The Geary BRT project involves construction of a BRT system on Geary Boulevard from Market Street on the east to the ocean on the west with a dedicated transit lane between Van Ness and 33rd avenues.
Hayes Two-Way Street Conversion	2011/2015	Conversion of Hayes Street from Gough Street to Polk Street from a one-way to a two-way street. Phase 1 from Gough Street to Van Ness Avenue completed in 2011.

**Table 5-1: Reasonably Foreseeable Projects within General Vicinity of the Proposed Van Ness Avenue BRT Project**

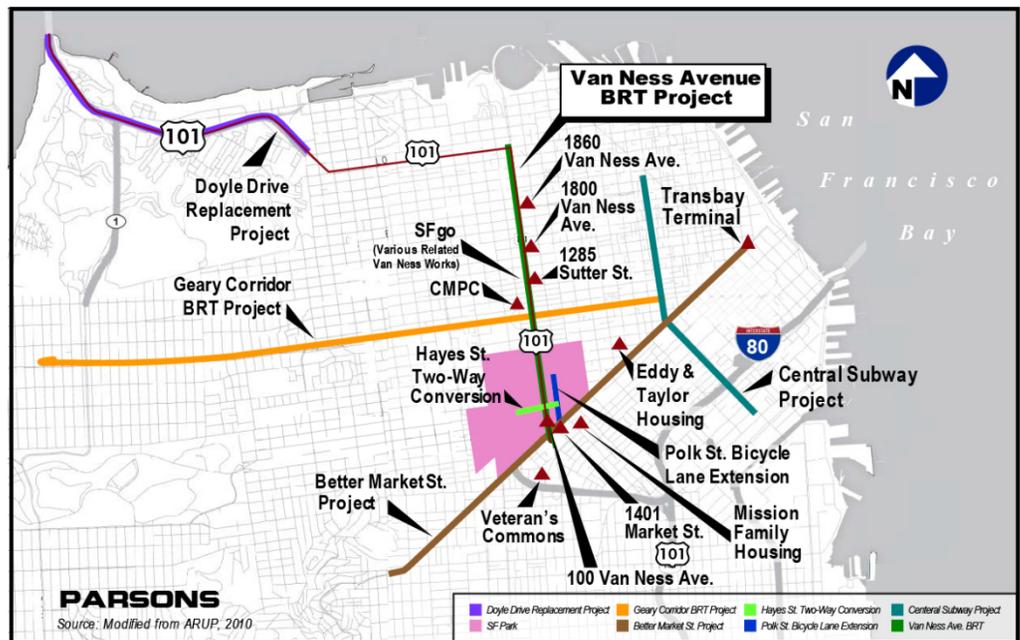
PROJECT/ ACTIVITY	CONSTRUCTION START/END DATES <sup>1</sup>	PROJECT DESCRIPTION
Road Repaving and Street Safety Bond Projects	Ongoing	A \$248 million Road Repaving and Street Safety Bond Program to improve city infrastructure, including repaving streets, pedestrian and bicycle safety improvements, traffic flow improvements, ADA upgrades. Near-term plans include repaving of Gough, Franklin, and Polk streets, along with installation of pedestrian enhancements and bicycle amenities (Polk Street Corridor Improvement Project).
SFpark	2010/2012	Pilot test project involving installation of parking meters and sensors to use real-time parking data to implement demand-responsive pricing.
SFgo and Signal Replacement	Ongoing in coordination with Van Ness BRT	Replace traffic infrastructure to provide fiber-optic interconnect communication on Franklin and Gough streets.
Polk Street Bicycle Lane	2011/2013	Addition of NB bicycle lanes on Polk Street between McAllister and Market streets.
1860 Van Ness Avenue	Completed/ Sold	Development of a 35-unit mixed residential/commercial unit is proposed at the northeast corner of Van Ness Avenue and Washington Street. Completed and sold in 2012.
Veteran's Commons	To be completed in 2014	Redevelopment of community use into 76 studio apartments for veterans at the corner of Otis Street and Duboce Avenue.
Mission Family Housing	2012	Residential development of approximately 90 units as part of the Mission Family Housing Project at 1040 Mission Street. Completed in 2012.
Eddy and Taylor Family Apartments	2011/Unknown	Residential development of approximately 130 units as part of the Eddy and Taylor Family Apartments Project at 168-186 Eddy and Taylor streets.
Better Market Street	2016	The Better Market Street (BMS) Project is part of SFDPW's mission to transform the streetscape and improve the public's experience along the public realm. The BMS Project is expected to include improvements supported by sustainable urban design and mobility principles that facilitate promenading opportunities and an enlivened sidewalk life; reliable and efficient transit service; and a safe, comfortable, and appealing bicycle facility along its entire length.
1800 Van Ness	2011/2014	Development of a 94-unit mixed-use building with 5,000 square feet of retail on the northeast corner of Van Ness Avenue and Clay Street.
100 Van Ness	2012/Unknown	100 Van Ness is an existing 29 story office building that is currently 96% vacant. The proposal is to change the use from office to multi-family residential, renovate the interior of the building to create 399 multi-family residential units with ground floor retail, 118 parking spaces, and a 12,000 square foot rooftop resident's playground above.

**Table 5-1: Reasonably Foreseeable Projects within General Vicinity of the Proposed Van Ness Avenue BRT Project**

PROJECT/ACTIVITY	CONSTRUCTION START/END DATES <sup>1</sup>	PROJECT DESCRIPTION
1285 Sutter Street	2012/2013	Located at the corner of Van Ness and Sutter Streets in San Francisco, this project is a 13-story apartment building with 10,000 square feet of retail space on the ground floor. The concrete-frame development includes 107 apartment units for rent, as well as two levels of underground parking.
1401 Market Street	2011/Unknown	Construction of new mixed-use building containing approximately 719 dwelling units and up to 719 parking spaces.

<sup>1</sup> Some projects have been completed since circulation of the Draft EIS/EIR. The status of such projects has been updated.

**Figure 5-1: Locations of Reasonably Foreseeable Projects within General Vicinity of the Van Ness Avenue BRT Project**



## 5.4 Environmental Areas with No Cumulative Impacts

The following environmental areas would not be subject to cumulative impacts, based on consideration of the nature of the proposed project, the project setting, the impact analysis findings presented in Chapters 3 and 4, and the characteristics of other reasonably foreseeable projects within the project vicinity. These environmental areas are discussed in the following subsections.

### 5.4.1 | Land Use

Aside from construction staging locations, construction and operation of the proposed build alternatives (including the LPA with or without the Vallejo Northbound Station Variant), including station platforms, lighting, and streetscape improvements, would occur within the existing transportation ROW, with no additional ROW required. Construction equipment and materials staging would be located on properties appropriate for this use, as permitted by the City. Potential construction staging locations for the proposed BRT project are presented in Section 4.15. The use of these properties for construction staging would be temporary and would not change existing and planned land uses.

Although a General Plan Referral would be required to permit sidewalk and grade changes, this would not change adjacent land uses. Operation of the proposed build alternatives, including the LPA, would not change existing land uses.

Existing and proposed land use plans and development trends in the project area are supportive of transit use, as summarized in Sections 4.1.1.1 and 4.1.1.3, respectively. The proposed build alternatives, including the LPA (with or without the Vallejo Northbound Station Variant), would introduce rapid transit to the Van Ness Avenue corridor, which would enhance conditions for high-density, mixed-use, transit-dependent land uses over the No Build Alternative. The build alternatives, including the LPA (with or without the Vallejo Northbound Station Variant), would provide improved transit service to the major activity centers in the corridor, such as the Civic Center and planned CPMC Cathedral Hill Campus. No changes or adverse effects to existing land uses or planned development would occur under the proposed build alternatives, including the LPA (with or without the Vallejo Northbound Station Variant); therefore, no cumulative impacts on land use are anticipated.

### 5.4.2 | Growth

Construction and operation of the proposed build alternatives, and the LPA (with or without the Vallejo Northbound Station Variant), would not lead to unplanned growth in the Van Ness Avenue corridor or the larger region; therefore, it would not result in growth-related impacts. The build alternatives, including the LPA (with or without the Vallejo Northbound Station Variant), and the No Build Alternative to a lesser extent, would support planned growth and the planning goals of the City. The Van Ness Avenue corridor and surrounding area is urban and built-out with sufficient infrastructure and utilities, and existing bus transit service. While the proposed build alternatives (including Design Option B and the LPA, with or without the Vallejo Northbound Station Variant), and to a lesser extent the No Build Alternative, would improve transit service and access to jobs and housing, they would not induce population growth at a level in excess of what is projected for the Bay Area and San Francisco. Implementation of the proposed build alternatives with or without Design Option B, and the LPA (with or without the Vallejo Northbound Station Variant), is not expected to generate substantial new development but would better accommodate existing and planned residential and commercial growth. Implementation of the proposed project is not anticipated to directly or indirectly induce population growth at a level in excess of what is projected for the Bay Area and San Francisco; therefore, the project would not cause cumulative impacts with regard to population growth.

#### KEY FINDING

**Construction and operation of the proposed build alternatives would not directly or indirectly lead to unplanned growth in the Van Ness Avenue corridor or the larger region; therefore, it would not result in growth-related impacts.**

### 5.4.3 | Visual/Aesthetics

As described in Section 4.4, the proposed build alternatives, including the LPA (with or without the Vallejo Northbound Station Variant), would not result in substantial impacts to the visual environment or to important visual resources in the Van Ness Avenue corridor with incorporation of minimization and mitigation measures. Measures M-AE-1 through M-AE-6 would mitigate impacts resulting from the removal of mature trees, replacement of the OCS support poles/streetlights, and changes to the visual character of Van Ness Avenue

through the Civic Center Historic District and the project corridor as a whole. No other projects have been identified that would adversely affect the visual character of the Van Ness Avenue corridor, including the Civic Center Historic District; therefore, no cumulative visual impacts are anticipated.

Visual impacts during project construction would be temporary, and incorporation of improvement measures IM-AE-C1 and IM-AE-C2 would minimize the impact of nighttime light and glare. Project construction along Van Ness Avenue between Geary and Post streets could overlap with construction activities for the adjacent CPMC Cathedral Hill Project. Construction of the proposed Geary BRT Project and repaving projects on Franklin, Gough, and Polk streets would be phased to avoid overlap with construction of the Van Ness Avenue BRT Project. As specified in the Van Ness Avenue BRT PCP (Arup, 2012), the construction phasing would be coordinated with these projects to minimize construction-related impacts to sensitive receptors, including light and glare impacts, and avoid cumulative impacts.

#### KEY FINDINGS

- **None of the build alternatives, including the LPA (with or without the Vallejo Northbound Station Variant), would substantially alter the existing drainage pattern of the area or create flooding. Construction of the multiple projects in the study area would not result in cumulative impacts on water quality.**
  - **There are no substantial geologic hazard impacts that would not be fully addressed by design requirements. The build alternatives would not increase the risk of geologic hazards or result in any cumulative impact.**
- **No cumulative impacts due to the release of hazardous materials or other environmental risks are anticipated as a result of the proposed project in consideration with other planned projects.**
- **Implementation of the build alternatives, including the LPA (with or without the Vallejo Northbound Station Variant), would result in a long-term increase in vegetation and plantings in the Van Ness Avenue corridor, which would benefit nesting birds. Construction of the proposed project would not result in impacts to biological resources that would contribute to cumulative impacts.**

### 5.4.4 | Cultural Resources

As described in Section 4.5.4.4, no impacts to known prehistoric or historical archaeological resources are expected to occur under any of the proposed build alternatives (with or without Design Option B) or the LPA, with or without the Vallejo Northbound Station Variant. There is a low probability of impacts to buried, intact archaeological deposits because previous construction activity, including installation and later removal of trolley tracks, a major road widening, and construction of the concrete median, would have greatly disturbed the upper layers of soil where most of the planned excavation work associated with construction under Build Alternatives 3 and 4 and the LPA would occur. Under all the build alternatives, and the LPA (with or without the Vallejo Northbound Station Variant), excavation work would occur within the Van Ness Avenue ROW where the potential to uncover intact and undisturbed significant archaeological deposits is considered a low probability. No impacts to known prehistoric or historical archaeological resources would occur with the proposed project; therefore, no cumulative impacts to archaeological resources in the corridor are anticipated.

As described in Section 4.5.4.5, the proposed build alternatives, including the LPA (with or without the Vallejo Northbound Station Variant), would result in less than significant impacts to significant historic and architectural properties. Impacts to architecturally historic resources would occur to the extent that the historical character of Van Ness Avenue would continue to evolve to reflect a more contemporary urban transportation corridor, but no cumulative impacts are anticipated that would degrade the Civic Center Historic District or other NRHP-eligible properties in the Van Ness Avenue corridor.

### 5.4.5 | Water Quality and Hydrology

As described in Section 4.9, none of the build alternatives, or the LPA (with or without the Vallejo Northbound Station Variant), would substantially alter the existing drainage pattern of the area or create flooding. Each build alternative would result in a slight reduction in stormwater runoff, which is a beneficial effect. The build alternatives would not affect groundwater. With implementation of avoidance and mitigation measures specified in Section 4.9.4, operation of the proposed project would not result in significant and adverse water quality impacts resulting from the use of herbicides and fertilizers in landscaping.

In general, construction of any of the build alternatives (including Design Option B) and the LPA (with or without the Vallejo Northbound Station Variant) would include shallow ground disturbance, including earthwork grading and soil excavation within the existing roadway median and sidewalk areas. The impacts related to storm runoff during construction would be minimal because the proposed project would require nominal

earthwork and the area of soil to be disturbed would be limited. Construction of the proposed project and other planned projects in the vicinity would all be subject to the same SWPPP and batch discharge permit requirements, and would adhere to the same SFPUC “Keep it on Site” guidelines to mitigate potential stormwater impacts during construction; therefore, construction of multiple projects in the area would not result in cumulative impacts on water quality.

### 5.4.6 | Geology and Soils

The results of the project geologic assessment indicate that there are no substantial geologic hazard impacts that would not be fully addressed by design requirements, and no mitigation measures are proposed. The scope of project structures proposed under the build alternatives, and the LPA (with or without the Vallejo Northbound Station Variant), is limited to that of streetscape features that would bear light loads; therefore, the risk of identified geologic hazards is low. The design of project features would meet seismic standards, and potential design features to address very strong ground shaking, liquefaction, and settlement are discussed in Section 4.7.3. Implementation of mitigation measure M-GE-C1 during project construction would ensure that open excavations are shored as needed and associated construction best practices are implemented to avoid hazards. Geologic hazards are localized, and the build alternatives, with or without Design Option B, and the LPA, with or without the Vallejo Northbound Station Variant, would not increase the risk of geologic hazards or result in any cumulative impact.

### 5.4.7 | Hazardous Materials

The build alternatives (including Design Option B) and the LPA (with or without the Vallejo Northbound Station Variant) could be subject to the following RECs identified in Section 4.8, Hazardous Materials:

- Five database listed LUST sites (see Table 4.8-1)
- ADL in median soils
- LBP in streetscape structures
- Undocumented fill, which could contain contamination

The aforementioned potential RECs would involve localized impacts, which would be avoided or mitigated through implementation of mitigation measures M-HZ-C1 through M-HZ-C3, as described in Section 4.15.7. No cumulative impacts due to the release of hazardous materials or other environmental risks are anticipated as a result of the proposed project in consideration with other planned projects.

### 5.4.8 | Biological Resources

The proposed project is located in a highly developed, urban area of San Francisco with no water bodies, wetlands, open space, protected habitats, or other special-status biological resources. Nonetheless, median and sidewalk vegetation along Van Ness Avenue provides habitat for nesting birds, which are protected by the MBTA. Project implementation would result in removal of a substantial number of median trees in the Van Ness corridor. All build alternatives, including the LPA (with or without the Vallejo Northbound Station Variant), would result in a substantial net gain of trees in the corridor when new planting opportunities are considered. There would be a plant establishment period lasting for several years for new trees to reach maturity. This would be a period of reduced biological benefits compared with the benefits offered by mature trees and their canopies. However, long-term beneficial effects would result from overall increased vegetation and plantings in the Van Ness Avenue corridor with benefits growing over time as plantings mature. Other planned projects are not expected to result in substantial tree removal. Implementation of the build

#### KEY FINDING

**Implementation of the build alternatives, and the LPA would result in a long-term increase in vegetation and plantings in the Van Ness Avenue corridor, which would benefit nesting birds. Construction of the proposed project would not result in impacts to biological resources that would contribute to cumulative impacts.**

alternatives, with or without Design Option B, and the LPA (with or without the Vallejo Northbound Station Variant), would result in a long-term increase in vegetation and plantings in the Van Ness Avenue corridor, which would benefit nesting birds. Operation of the proposed build alternatives, including the LPA (with or without the Vallejo Northbound Station Variant), would not increase disturbance to migratory birds and active bird nests; however, temporary disturbance could occur during project construction. Implementation of mitigation measure M-BI-C2 under each build alternative, including the LPA (with or without the Vallejo Northbound Station Variant), as described in Section 4.15.11 would avoid disturbance of protected bird nests during the breeding season; therefore, construction of the proposed project would not result in impacts to biological resources that would contribute to cumulative impacts.

### 5.4.9 | Utilities

As described in Sections 4.6.3 and 4.15.5, construction and operation of any of the build alternatives (including Design Option B) and the LPA (with or without the Vallejo Northbound Station Variant) would not result in changes to utility demand and capacity. Existing power, stormwater, water, and wastewater infrastructure would be sufficient to accommodate the project during construction and operation, and the build alternatives, including the LPA (with or without the Vallejo Northbound Station Variant), would result in more energy-efficient lighting and bus vehicles.

The proposed build alternatives (including Design Option B) and the LPA (with or without the Vallejo Northbound Station Variant) involve construction of BRT facilities (i.e., transitway, station platforms, curb bulbs, center medians, landscaping and OCS support poles/streetlights) that have the potential to conflict with access by utility providers to public utilities aboveground and belowground in the Van Ness Avenue corridor. Some utilities would require relocation or modification for construction of the BRT and to maintain access for utility providers to conduct maintenance, repair, and upgrade/replacement activities. Utility relocation and modification activities would be coordinated with other projects planned in the Van Ness Avenue corridor, including the CPMC Cathedral Hill and Geary BRT projects. Coordination of all planned construction activities and permanent utility relocation and modification activities with the SFDPW-led CULCOP and the San Francisco Street Construction Coordination Center would avoid cumulative impacts to utilities access, maintenance, and provision. Implementation of mitigation measure M-UT-C1 under each build alternative, including the LPA (with or without the Vallejo Northbound Station Variant), as described in Section 4.15.5, would avoid significant cumulative impacts to utilities during construction of the proposed project and other planned projects in the vicinity.

### 5.4.10 | Air Quality

The proposed project is located within the San Francisco BAAB. The BAAQMD monitors air quality conditions at 23 locations throughout the Bay Area. The nearest air monitoring station to the proposed project site is the San Francisco Arkansas Street Monitoring Station, which is located approximately 1.2 miles from the intersection of Van Ness Avenue and Mission Street, and 2.8 miles from the intersection of Van Ness Avenue and Lombard Street. The air quality monitoring data from 2009-2011 shows no exceedances of State or federal standards of any criteria pollutants.

As described in Section 4.10, an air quality analysis was conducted to evaluate the potential air quality impacts of the Van Ness Avenue BRT Project relative to CEQA and NEPA (TAHA, 2013). Potential air quality impacts were analyzed for construction and operation of the project alternatives (including Design Option B). Key findings for the build alternatives, including the LPA (with or without the Vallejo Northbound Station Variant), are listed below:

- With standard mitigation incorporated, construction activities would not generate significant emissions.
- Operational emissions would not exceed the BAAQMD regional significance thresholds.
- Localized CO concentrations would not exceed the State ambient air quality standards.
- None of the alternatives, including the LPA, would expose sensitive receptors to significant emissions of TACs as a result of project construction or operations.
- None of the alternatives, including the LPA, would expose people to objectionable odors.
- All of the build alternatives, including the LPA, would result in less GHG emissions than the No Build Alternative and would result in a beneficial global warming impact.
- All of the build alternatives, including the LPA, would be consistent with the BAAQMD regional air quality plans. Although the No Build Alternative would neither increase nor decrease bus service on Van Ness Avenue, bus engine technology improvements over time would reduce emissions below existing conditions.
- Each Build Alternative (including Design Option B) and the LPA would comply with regional and local transportation conformity guidelines.

By its very nature, air pollution is largely a cumulative environmental problem. No single project is sufficient in size, by itself, to result in nonattainment of ambient air quality standards. Instead, each project contributes to cumulative air quality emissions. If a project's contribution to the cumulative impact is considerable, then the proposed project's impact on air quality would be considered significant. The BAAQMD has stated that a proposed project that would individually have a significant air quality impact would also be considered to have a significant cumulative air quality impact. None of the alternatives, including the LPA (with or without the Vallejo Northbound Station Variant), would result in a significant ROG, PM<sub>2.5</sub>, PM<sub>10</sub>, or NO<sub>x</sub> impact during construction. According to BAAQMD guidance, each alternative is less than significant on a project basis and would not contribute to a cumulative impact.

None of the alternatives, including the LPA (with or without the Vallejo Northbound Station Variant), would result in a significant ROG, PM<sub>2.5</sub>, PM<sub>10</sub>, or NO<sub>x</sub> impact during operations. According to BAAQMD guidance, each alternative is less than significant on a project basis and would not contribute to a cumulative impact. In addition, each build alternative, including the LPA, would decrease regional VMT and associated regional emissions. Each alternative, including the LPA, would improve regional air quality and would not contribute to a cumulative impact regardless of emissions associated with related projects.

Implementation of mitigation measures M-AQ-C1 and M-AQ-C2 would avoid significant, cumulative air quality impacts during construction of the proposed project and other planned projects in the vicinity.

With regard to GHG, the largest source of GHG emissions is automobiles. Transit projects such as the Van Ness Avenue BRT reduce the volume of cars by providing the public with alternative means of transportation. This results in fewer sources of air pollution and lower citywide VMT. Because of the higher capacity of buses and the updated fleet associated with the proposed build alternatives, including the LPA (with or without the Vallejo Northbound Station Variant), buses are able to transport more people per vehicle while producing fewer emissions than the cars they are replacing. This would result in an overall reduction in GHG emissions.

### 5.4.11 | Noise and Vibration

As described in Section 4.11, operational project-generated and cumulative noise impacts were analyzed based on the results of traffic analysis that has considered traffic generation from other related projects and foreseeable traffic growth. The analysis reveals that the noise

#### DEFINITION

**GREENHOUSE GAS (GHG):** Any of the atmospheric gases that contribute to the greenhouse effect by absorbing infrared radiation produced by solar warming of the Earth's surface. These include carbon dioxide (CO<sub>2</sub>), methane (CO<sub>4</sub>), nitrous oxide (NO<sub>x</sub>), and water vapor.

**TOXIC AIR CONTAMINANT (TAC):** Pollutants that result in an increase in mortality, a serious illness, or pose a present or potential hazard to human health.

#### KEY FINDINGS

**None of the alternatives would result in a significant ROG, PM<sub>2.5</sub>, PM<sub>10</sub>, or NO<sub>x</sub> impact during construction or operation.**

**The largest source of GHG emissions is automobiles. Transit projects, such as the Van Ness Avenue BRT, reduce the volume of cars, which would result in an overall reduction in GHG emissions.**

## KEY FINDING

**Operation of the BRT system would not result in significant cumulative noise and vibration impacts. Project construction noise and vibration impacts would be temporary and localized. No cumulative noise impacts are anticipated during project construction.**

level along Van Ness Avenue and the parallel Franklin and Gough streets would remain below FTA and Caltrans impact criteria. This analysis considered cumulative noise (i.e., when the project noise is added to existing noise) and used diesel buses in the modeling to represent the worst-case scenario of the noisiest bus fleet, when in actuality the build alternatives, including the LPA (with or without the Vallejo Northbound Station Variant), would operate a less noisy fleet of diesel-electric hybrid and electric-powered vehicles than exists today. The analysis also concluded that BRT transit vehicle operational vibration impacts would be less than significant relative to the applicable (i.e., FTA) criteria; therefore, operation of the proposed build alternatives, including the LPA (with or without the Vallejo Northbound Station Variant), would not create significant vibration impacts. In conclusion, operation of the BRT system proposed under the build alternatives, with or without incorporation of Design Option B, and under the LPA, would not result in significant noise and vibration impacts that would be cumulatively considerable.

Construction noise and vibration impacts of the proposed build alternatives, including the LPA (with or without the Vallejo Northbound Station Variant), would be temporary and localized within the construction zone. Control measures specified in Section 4.15.10 would be implemented to minimize noise and vibration disturbances at sensitive areas during construction. Project construction along Van Ness Avenue between Geary and Post streets could overlap with construction activities proposed at the adjacent CPMC Cathedral Hill project site. Construction of the proposed Geary Boulevard BRT Project and repaving along Franklin, Gough, and Polk streets as part of the Road Repaving and Street Safety Bond Program would be phased to avoid overlap with proposed project construction. As specified in the Van Ness Avenue BRT PCP (Arup, 2012), the construction phasing plan would be coordinated with these projects to minimize construction-related impacts to sensitive receptors. No cumulative noise impacts are anticipated during project construction.

### 5.4.12 | Nonmotorized Transportation

Impacts on the nonmotorized transportation environment, including pedestrian and bicycles, were analyzed and presented in Section 3.4 of this EIS/EIR. Van Ness Avenue is an important pedestrian corridor linking civic uses in the south part of the corridor with commercial/retail uses in the middle and residential uses in the north. Pedestrian crossing activity largely occurs in three areas: (1) Civic Center near City Hall; (2) Market Street for numerous transit connections; and (3) transit cross-corridors, such as Geary Boulevard and O'Farrell Street. Van Ness Avenue is not optimal for cycling due to the heavy vehicle volumes and conflicts with bus movements in the right-hand lane. The nearest bicycle facility is a dedicated route on Polk Street, which runs parallel to Van Ness Avenue one block east. This facility includes segments of dedicated Class II bicycle lanes (between Market and Post streets, as well as between Union and Lombard streets), and segments where vehicles and cyclists must share travel lanes (from Union to Post streets).

The proposed build alternatives including the LPA would result in different geometric design characteristics of Van Ness Avenue, including crossing distance, median widths, and corner bulb provision. For the most part, these geometric changes would improve the overall pedestrian environment of Van Ness Avenue, resulting in beneficial effects, and would not significantly affect bicycle conditions.

Impacts to the pedestrian environment could include an increase in pedestrian delay, which is the average amount of time a pedestrian must wait for the traffic signals to change to allow crossing. This impact is not considered significant because implementation of the BRT would not cause an intersection to perform with a pedestrian delay LOS of E or F or worsen pedestrian delay at an intersection that is already operating at pedestrian LOS E or F (only the Van Ness Avenue and Mission Street intersection has a current LOS of E). The impact would not be substantial when considering project benefits to the pedestrian environment that include shorter crossing distances and installation of count-down signals and APS at all intersections. In addition, under the build alternatives, including the LPA (with or without

the Vallejo Northbound Station Variant), delay would be reduced for pedestrians crossing Van Ness Avenue, which currently experiences the highest amount of delay of any user of Van Ness Avenue.

Impacts to the cycling environment may result from a reduction in width of the traffic lanes of up to approximately 1-foot. This would result in cyclists traveling with vehicles in a lane that would be up to 1-foot narrower than existing conditions. At the same time, a narrower lane may encourage cyclists to “take the lane,” or occupy the traffic lane outside of the “door zone,” which is a safer condition for cyclists. Either way, these changes in bicycle conditions would not be substantial and would not result in a significant impact on bicycle travel. At the same time, the Polk Street Bicycle Lane Project would close the existing gap in the NB designated Class II bicycle lane that parallels Van Ness Avenue one block to the east. This would improve bicycle conditions in most parts of the corridor. Due to this project, overall bicycle conditions in the project area will improve under the both No Build Alternative and build alternative scenarios, including the LPA, and there would be no cumulative adverse impacts to bicycle conditions with implementation of any build alternative, including the LPA (with or without the Vallejo Northbound Station Variant); therefore, the proposed project would not result in cumulative impacts to nonmotorized transportation modes.

KEY FINDING

**The proposed project would not result in cumulative impacts to nonmotorized transportation modes.**

## 5.5 Environmental Areas Subject to Cumulative Effects

The following environmental areas could have the potential to cause cumulative impacts, based on consideration of the nature of the proposed project, the project setting, the impact analysis findings presented in Chapters 3 and 4, and the characteristics of other reasonably foreseeable projects within the project vicinity. Detailed analysis was undertaken to determine the level of cumulative effects, as presented below.

### 5.5.1 Private Vehicular Traffic

Impacts to private vehicular traffic within the Van Ness Avenue corridor network were analyzed and are presented in detail in Section 3.3 of this EIS/EIR. In determining the level of impact for each build alternative, including the LPA (with or without the Vallejo Northbound Station Variant), comparisons were made of corridor performance (i.e., measured in terms of average speed) and traffic operating characteristics of intersections (i.e., measured in terms of LOS) for the opening year (2015) and the design/horizon year (2035) against the baseline year (2007). The travel demand forecasting model used to project traffic volume for the opening and horizon years under study included trips generated by foreseeable projects. These trip volumes were used in simulating traffic speeds and delays; therefore, the results of the vehicular traffic analysis presented in Section 3.3 were derived on a cumulative basis, and no further quantitative analysis is required to address the cumulative impacts.

**Impacts to private vehicular traffic were analyzed and are presented in detail in Section 3.3. The results were derived on a cumulative basis, and no further quantitative analysis is required to address the cumulative impacts.**

#### 5.5.1.1 GEOGRAPHIC STUDY AREA FOR AUTOMOBILE VEHICULAR TRAFFIC CUMULATIVE EFFECT ANALYSIS

The study area network for vehicular traffic analysis covers the area bounded by Lombard Street to the north, Mission Street and Duboce Avenue to the south, Hyde Street to the east, and Gough Street to the west, as shown in Figure 5-2.

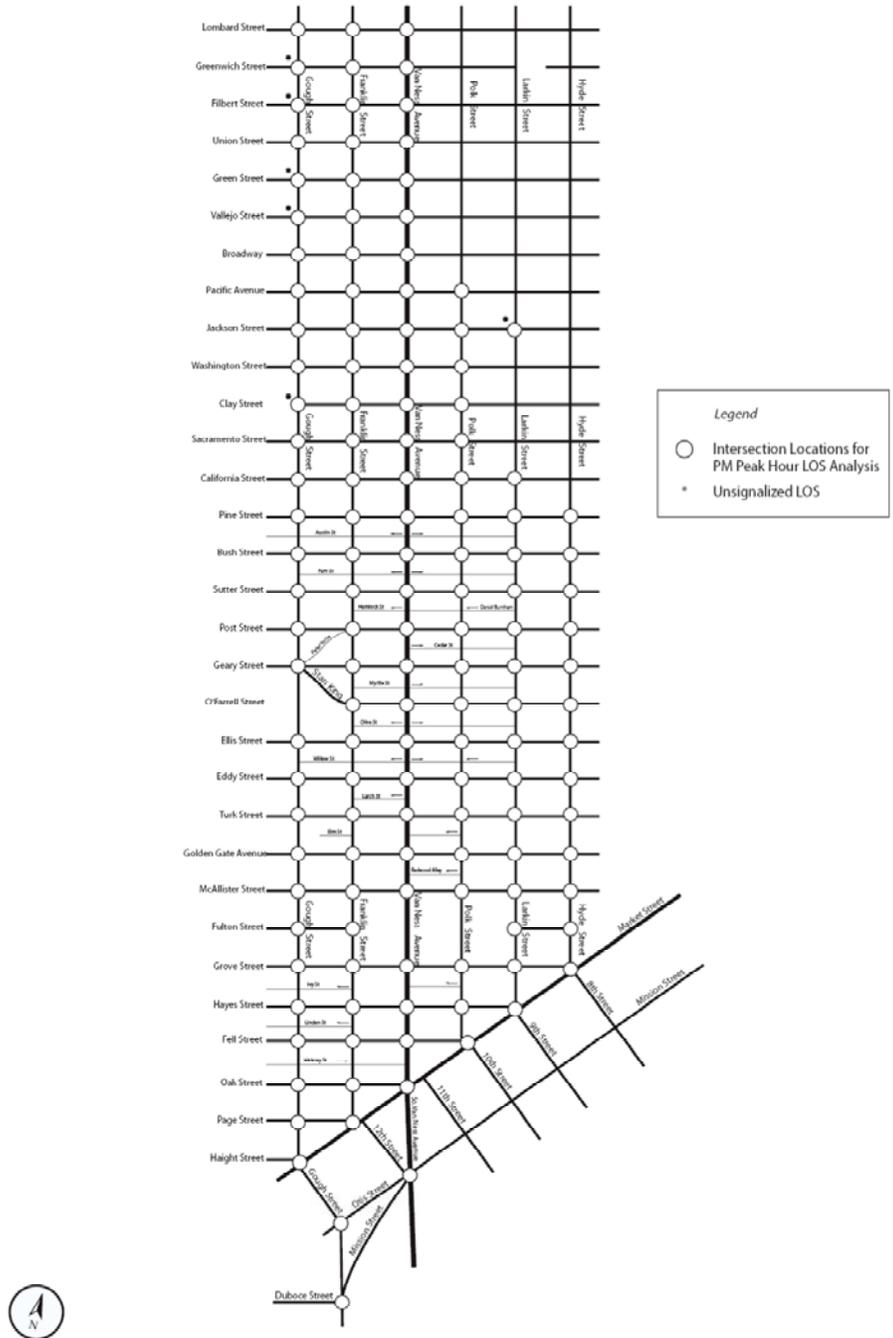
#### 5.5.1.2 EXISTING CONDITIONS FOR AUTOMOBILE VEHICULAR TRAFFIC

Under the 2007 existing conditions (baseline) analysis, average speeds along the north-south running streets within the study area network ranged from 7.7 mph (along Van Ness

Avenue) to 8.9 mph (along Polk Street) in the SB direction and from 9.1 mph (along Polk Street) to 10.5 mph (along Van Ness Avenue) in the NB direction.

For intersection operations under the 2007 baseline, all intersections in the study area were found to have LOS A, B, C, or D, with the exception of Gough and Green streets, where the worst performing approach, SB Gough Street, experienced LOS F.

**Figure 5-2: Traffic Study Area**



### 5.5.1.3 | DIRECT IMPACTS ON AUTOMOBILE VEHICULAR TRAFFIC

The following subsections summarize automobile vehicular traffic impacts for each project alternative and the LPA with or without the Vallejo Northbound Station Variant. Traffic conditions under the LPA with the Vallejo Northbound Station Variant would operate nearly identically to the LPA without the variant, as explained in Section 3.3.3.. Detailed methodologies, significance criteria, and analysis results are presented in Section 3.3 of this EIS/EIR.

---

#### Alternative 1: No Build (Baseline Alternative)

**Year 2015.** All of the study intersections are projected to operate at LOS D or better, with the exception of the following intersections: Gough/Green, Gough/Hayes, Duboce/Mission/Freeway, and South Van Ness/Mission/Otis.

**Year 2035.** All of the study intersections are projected to operate at LOS D or better, with the exception of the following intersections: Gough/Green, Gough/Hayes, Franklin/Pine, Franklin/O'Farrell, Van Ness/Pine, South Van Ness/Mission/Otis, and Duboce/Mission/Otis/US 101 off-ramp.

---

#### Build Alternative 2: (Side-Lane BRT with Street Parking)

**Year 2015.** Build Alternative 2 would cause a significant project-specific impact at the Gough/Hayes and Franklin/O'Farrell intersection. Additional intersections are expected to operate at LOS E or F; however, the contribution of project traffic is not significant based on the significance criteria from the San Francisco Planning Department's Transportation Impact Analysis Guidelines for Environmental Review. Gough/Green is the only intersection with less than significant project-specific impacts under Build Alternative 2 in the year 2015. The intersections with beneficial impacts include South Van Ness/Mission/Otis and Duboce/Mission/Otis/US 101 off-ramp.

**Year 2035.** Build Alternative 2 would cause a significant cumulative impact at the following intersections: Gough/Hayes, Franklin/Pine, Franklin/O'Farrell, Franklin/Eddy, and Franklin/McAllister. The intersections with less than significant cumulative impacts include Gough/Green, Gough/Clay, South Van Ness/Mission/Otis, and Duboce/Mission/Otis/US 101 off-ramp. The intersection with beneficial impacts includes Van Ness/Pine.

---

#### Build Alternatives 3 and 4: Center-Lane BRT with Right- or Left-Side Boarding and Dual or Single Medians

**Year 2015.** Build Alternatives 3 and 4 would cause a significant project-specific impact at the Gough/Hayes, Franklin/O'Farrell, and Mission/South Van Ness/ Otis intersections. The intersection of Gough/Green would have less than significant project-specific impacts. A beneficial impact would occur at the intersection of Duboce/Mission/Otis/US 101 off-ramp.

**Year 2035.** Project traffic under Build Alternatives 3 and 4 would cause a significant cumulative impact at the following intersections: Gough/Sacramento, Gough/Eddy, Gough/Hayes, Franklin/O'Farrell, Franklin/Eddy, Franklin/McAllister, Van Ness/Hayes, and South Van Ness/Mission/Otis. The intersections with less than significant cumulative impacts include Gough/Green, Franklin/Pine, Van Ness/Pine, and Duboce/Mission/Otis/ US 101 off-ramp.

---

#### Center-Lane Alternative Design Option B

**Year 2015.** The project traffic under Build Alternatives 3 and 4 with Design Option B would cause a significant project-specific impact at the intersections of Gough/Hayes, Franklin/O'Farrell, and Franklin/Market; a less than significant project-specific impact at the Gough/Green intersection; and a beneficial impact at the South Van Ness/Mission/Otis and Duboce/Mission/Otis/US 101 off-ramp intersections.

**Horizon Year 2035.** Project traffic under Build Alternatives 3 and 4 with Design Option B would cause a significant cumulative impact at the following intersections: Gough/Sacramento, Gough/Eddy, Gough/Hayes, Franklin/O’Farrell, Franklin/Eddy, Franklin/McAllister, Franklin/Market/Page, and South Van Ness/Mission/Otis. The intersections with less than significant cumulative impacts include Gough/Green, Gough/Clay, Franklin/Pine, and Duboce/Mission/Otis/US 101 off-ramp. A beneficial impact would occur at the intersection of Van Ness/Pine.

---

**LPA: Center-Lane BRT with Right-Side Boarding/ Single Median and Limited Left Turns**

**Year 2015.** The LPA (including the Vallejo Northbound Station Variant) would have the same traffic impacts as Build Alternatives 3 and 4 with Design Option B. The LPA would cause a substantial project-specific impact at the Gough/Hayes, Franklin/O’Farrell, and Mission/South Van Ness/ Otis intersections. The intersection of Gough/Green would experience lesser project-specific impacts. A beneficial impact would occur at the intersection of Duboce/Mission/Otis/US 101 off-ramp.

**Year 2035.** The LPA (including the Vallejo Northbound Station Variant) would have the same traffic impacts as Build Alternatives 3 and 4 with Design Option B. Project traffic under the LPA would cause a substantial cumulative impact at the following intersections: Gough/Sacramento, Gough/Eddy, Gough/Hayes, Franklin/O’Farrell, Franklin/Eddy, Franklin/McAllister, Van Ness/Hayes, and South Van Ness/Mission/Otis. The intersections with lesser cumulative impacts include Gough/Green, Franklin/Pine, Van Ness/Pine, and Duboce/Mission/Otis/ US 101 off-ramp.

**5.5.1.4 | REASONABLY FORESEEABLE ACTIONS**

Several transportation-related projects have been planned and/or are undergoing construction within the general vicinity of the proposed project, as described in Section 5.3. Traffic growth factors that account for citywide demand were used as part of the vehicular traffic analysis; therefore, the operational impacts are presented on a cumulative basis.

**5.5.1.5 | AUTOMOBILE VEHICULAR TRAFFIC CUMULATIVE IMPACTS**

**Construction Cumulative Impacts**

Several projects are projected to undergo construction during the same period as the proposed Van Ness Avenue BRT Project, as listed in Table 5-1. Several facility and utility upgrades would also be integrated into construction of the Van Ness Avenue BRT Project, such as pavement rehabilitation, SFgo signal upgrades, OCS support poles/streetlights replacement, CPUC sewer replacement (under Build Alternatives 3 and 4, including Design Option B, and under the LPA), and other public or private utility upgrades. Traffic congestion, travel delay, and access restriction attributable to construction activities of various projects within the general vicinity of the Van Ness Avenue corridor could be expected during the entire construction period. A draft PCP has been prepared to provide detailed information, schedules, and maps on construction of the Van Ness Avenue BRT Project. Two lanes of mixed-flow traffic would generally remain open in both the NB and SB direction throughout construction of each build alternative, including the LPA; detour plans would be required during construction of certain segments of the corridor. The PCP describes potential construction scenarios for each of the alternatives and LPA, and short-term construction impacts. The PCP also takes into account potential impacts of other planned projects in the general vicinity of the Van Ness Avenue BRT Project. Construction of multiple projects within close vicinity would escalate the traffic impacts during the construction period. The impacts would be adverse, but they could be lessened by closely coordinating the projects to implement a TMP and to keep the public informed about the construction schedule and activities throughout the construction period. Mitigation measures M-TR-C1 through M-TR-C7, discussed in Section 4.15.1, would lessen significant,

**Traffic congestion, travel delay, and access restriction attributable to construction activities of various projects within the general vicinity could be expected during the entire construction period. Construction of multiple projects within close vicinity would escalate the traffic impacts during the construction period.**

cumulative circulation impacts during construction of the proposed project and other planned projects in the vicinity. These impacts would be temporary and are thus considered less than significant with mitigation.

### Operation Cumulative Impacts

With several projects being planned and constructed within the Van Ness Avenue corridor and its general vicinity, traffic impacts would occur at several intersections in both the no-build and build alternative scenarios, including the LPA (with or without the Vallejo Northbound Station Variant), as outlined in the traffic study conducted for this project (Section 3.3) and summarized above.

#### 5.5.1.6 | AVOIDANCE, MINIMIZATION, OR MITIGATION MEASURES PERTAINING TO AUTOMOBILE VEHICULAR TRAFFIC

Potential mitigation measures (e.g., intersection signalization, adding right-turn lanes, adding through lanes, and use of tow-away zones) are discussed in Section 3.3.4 of this EIS/EIR. These measures could minimize traffic congestion at several intersections projected to have adverse impacts with the proposed build alternatives, including the LPA, (with or without the Vallejo Northbound Station Variant); however, not all traffic impacts would be eliminated with implementation of these mitigation measures, and ultimately, the Authority Board may find the measures to be infeasible for reasons described in Section 3.3.4.

All construction activity for the Van Ness Avenue BRT Project would be carried out in compliance and accordance with the California MUTCD. The MUTCD outlines uniform standards and specifications for all traffic control devices in California. Mitigation measures M-TR-C1 through M-TR-C7, discussed in Section 4.15.1, would lessen significant, cumulative circulation impacts during construction of the proposed project and other planned projects in the vicinity.

Another guiding document will be the City and County of San Francisco Regulations for Working in San Francisco Streets prepared by SFMTA. This manual, also known as the “Blue Book,” sets out rules and regulations for contractors working in San Francisco streets.

A Transportation Management Plan (TMP) that includes traffic rerouting, a detour plan, and public information procedures will be developed during the design phase with participation from local agencies including Caltrans, other major project sponsors in the area (e.g., Doyle Drive, CPMC Cathedral Hill, and Geary Boulevard BRT projects), local communities, and affected travelers. Early and well-publicized announcements and outreach will help to minimize confusion and traffic congestion at the start of construction.

Potential mitigation measures could minimize traffic congestion at several intersections projected to have adverse impacts. Early and well-publicized announcements and outreach will help to minimize confusion and traffic congestion at the start of construction.

### 5.5.2 | Parking

Impacts to parking within the Van Ness Avenue corridor study area were analyzed and are presented in detail in Section 3.5 of this EIS/EIR. This section documents the potential loss of on-street parking due to implementation of the proposed project and other foreseeable projects.

#### 5.5.2.1 | GEOGRAPHIC STUDY AREA FOR PARKING CUMULATIVE EFFECT ANALYSIS

The project study area for the parking analysis encompasses on-street parking along Van Ness Avenue between Lombard and Market streets and South Van Ness Avenue between Market and Mission streets. For the cumulative parking analysis, the vehicular traffic study area shown in Figure 5-2, which covers a larger area than would likely be affected by the proposed project, as well as other foreseeable projects, is used.

**5.5.2.2 | EXISTING CONDITIONS**

Van Ness Avenue and South Van Ness Avenue currently have a combined total of 442 on-street parking spaces, distributed nearly evenly throughout the corridor between the east and west sides of the street. Most of the parking spaces (i.e., 74 percent) along Van Ness Avenue are metered or non-metered, time-limited parking spaces; 5 percent are designated for freight loading (i.e., yellow curbs), 11 percent are for passenger loading (i.e., white curbs), and 10 percent are for short-term (i.e., green curbs) and disabled vehicle parking (i.e., blue curbs). Most on-street, non-colored parking spaces are metered with a 1-hour time limit between Mission and Broadway streets. Non-metered parking spaces have a 2-hour limit from Broadway to North Point streets, except for vehicles with a residential parking permit. Mid-day parking occupancy rates, which were based on a project survey conducted on December 17, 2008, between 11:00 a.m. and 3:00 p.m., were reported at 66 percent on the east side of Van Ness Avenue and 64 percent on the west side.

The number of existing on-street parking spaces along the Van Ness Avenue cross streets was not counted as part of the parking study. The existing numbers of parking spaces on nearby streets on which other foreseeable projects could impact parking and result in cumulative effects are presented below and are based on secondary data.

Based on the parking analysis presented in the Draft CPMC LRDP EIR (San Francisco Planning Department, 2010), on-street parking spaces along the streets encompassing the proposed CPMC Cathedral Hill Campus are reported as follows:

- 5 metered parking spaces and 5 metered commercial vehicle loading spaces on the south side of Post Street between Van Ness Avenue and Franklin Street.
- 6 metered parking spaces and 2 commercial vehicle loading spaces on the north side of Geary Street between Van Ness Avenue and Franklin Street.
- 5 metered parking spaces, 3 metered commercial vehicle loading spaces, and a midblock bus stop on the north side of Geary Street between Polk Street and Van Ness Avenue.
- 10 metered parking spaces on the south side of Cedar Street between Polk Street and Van Ness Avenue.
- 11 metered parking spaces on the east side of Franklin Street between Post Street and Geary Street.
- 3 metered parking spaces on the west side of Van Ness Avenue between Post Street and Geary Street.
- 2 metered loading spaces on the east side of Van Ness Avenue between Cedar Street and Geary Street.

As documented in the Draft CPMC LRDP EIR, on-street parking supply and hourly-occupancy surveys within the vicinity of the CPMC Cathedral Hill Campus were conducted for the period between 1:00 p.m. and 8:00 p.m. in April 2008. Parking occupancy rates within the CPMC study area ranging between 57 percent (at approximately 4:00 p.m.) and 77 percent (at approximately 7:00 p.m.) were reported.

On-street parking along the Hayes Street segment where the two-way conversion is proposed (i.e., between Gough and Polk streets) comprises 41 metered parking spaces on the south side, 5 of which are yellow truck loading spaces, and 28 metered parking spaces and 4 motorcycle spaces on the north side.

Approximately 70 on-street parking spaces exist along the east and west sides of Polk Street from Market to McAlister streets where a bicycle lane is proposed. In addition, there are approximately 7 motorcycle stalls available in this segment of Polk Street.

**5.5.2.3 | DIRECT IMPACTS ON PARKING**

As described in Section 3.5, implementation of any of the build alternatives, including the LPA, would result in both losses and gains of on-street parking spaces along the various sections of Van Ness Avenue as a result of removing and adding parking spaces based on the design of the BRT lane configurations; however, as shown in Table 5-2, there would be a

total net reduction of parking spaces with the build alternatives, including the LPA (with or without the Vallejo Northbound Station Variant), except Build Alternative 4 with Design Option B. Parking spaces would be removed to accommodate BRT station platforms, addition of corner bulbs, and new lane striping for exclusive right- and left-turn pockets. Parking spaces could be added as a result of bus stop consolidation or from moving existing curbside bus stop locations, restriping existing curb lanes for parking, or adding additional parking spaces through reallocation of existing parking. Parking losses and gains on a block-by-block basis are presented in Appendix B of this EIS/EIR. Tables 5-2 and 5-3 summarize the anticipated total net parking supply changes under the project alternatives and the LPA, respectively. As evident in Table 5-2, the greatest removal of parking would occur with Build Alternative 3 without incorporation of Design Option B. Moreover, the sensitivity analysis using the updated 2012 existing conditions showed the parking loss would be 100 spaces under Build Alternative 3. The LPA, which combines design features of Build Alternatives 3 and 4, would result in the greatest parking removal with a loss of 105 spaces.<sup>92</sup> The LPA, with incorporation of the Vallejo Northbound Station Variant, would result in a loss of 104 spaces. As explained in Section 3.5.3, no significant environmental impact from changes in parking would occur under any of the project alternatives, including the LPA, and no mitigation is required. Nonetheless, improvement measures IM-TR-1 through IM-TR-5 presented in Section 3.5.3 have been incorporated to the extent feasible in the LPA, and would continue to be applied throughout project final design to minimize removal of parking spaces. The social and economic impacts from parking removal are discussed below under Community Impacts.

KEY FINDING

**There would be a total net reduction of parking spaces with all of the build alternatives except Build Alternative 4 with Design Option B.**

**Table 5-2: Summary of Parking Loss on Van Ness Avenue from Project Implementation**

	PARKING SUPPLY			NET CHANGE +/- <sup>1</sup>		
	M, NM, GREEN SPACE	COLORED ZONE SPACES	TOTAL SPACES	M, NM, GREEN SPACE	COLORED ZONE SPACES	TOTAL SPACES
No Build Alternative	356	86	442	-	-	-
Build Alternative 2	328	81	409	-28	-5	-33
Build Alternative 3	304	70	374	-52	-16	-68
Build Alternative 3 (Design Option B)	339	72	411	-17	-14	-31
Build Alternative 4	325	72	397	-31	-14	-45
Build Alternative 4 (Design Option B)	378	77	455	22	-9	13

<sup>1</sup> The expected changes are approximate based on the current project engineering at the time the 2011 parking study was conducted. Exact changes in parking will be determined during project final design.  
 Note: M = Metered; NM: Nonmetered

<sup>92</sup> A sensitivity analysis of changes in parking under Build Alternative 3 that applied the same methodology as that for the LPA suggests that actual parking loss under this alternative would be approximately 26 percent greater than was reported in the Draft EIS/EIR, and the parking loss would be very similar to that of the LPA. Nonetheless, it is conservatively assumed that the LPA would result in the greatest parking loss.

**Table 5-3: Summary of Parking Loss on Van Ness Avenue from Project Implementation – No Build, LPA<sup>1</sup>**

	PARKING SUPPLY			NET CHANGE +/-()			
	METERED, NON-METERED, AND GREEN SPACES	COLORED ZONE SPACES	TOTAL SPACES	METERED, NON-METERED, AND GREEN SPACES	COLORED ZONE SPACES	TOTAL SPACES	% SPACES
Alternative 1: No Build <sup>2</sup>	358	98	456	-	-	-	-
LPA <sup>3, 4</sup>	261	90	351	-97	-8	-105	-23

<sup>1</sup> The expected changes are approximate based on the current project engineering. Exact changes in parking will be determined during project final design.  
<sup>2</sup> Existing conditions were revised during the supplemental parking survey for the LPA that was completed in October 2012.  
<sup>3</sup> The LPA is a refinement of the two center-running build alternatives with limited left turns (Build Alternatives 3 and 4 with Design Option B).  
<sup>4</sup> The Vallejo Northbound Station Variant would result in removal of one fewer nonmetered space between Vallejo and Green streets on the east side of Van Ness Avenue.

**5.5.2.4 | REASONABLY FORESEEABLE ACTIONS**

The foreseeable projects within the vicinity of the Van Ness Avenue BRT Project that could result in some parking loss during construction and operation include the CPMC Cathedral Hill, Geary BRT, Hayes Street two-way conversion, and Polk Street Bicycle Lane projects. Implementation of the CPMC Cathedral Hill Project, repaving along Franklin, Gough, and Polk streets as part of the Road Repaving and Street Safety Bond Program as well as mixed-use commercial housing projects. The construction and operation of these projects would potentially increase parking demand within the vicinity of these projects. It is anticipated that in the future SFMTA’s SFpark parking management project could be expanded to more meters within the Van Ness Avenue corridor beyond the existing pilot test area (on Van Ness Avenue, the pilot has only been implemented in the Civic Center between Market Street and Golden Gate Avenue), although such expansion is not planned at this time. It is likely that expanded parking management under SFpark would further improve parking conditions in the Van Ness Avenue corridor by increasing turnover of parking spaces, thereby increasing the availability of parking.

**Expanded parking management under SFpark would improve parking conditions in the Van Ness Avenue corridor by increasing turnover of parking spaces, thereby increasing the availability of parking.**

**5.5.2.5 | PARKING CUMULATIVE IMPACTS**

As explained in Section 3.5.3, no significant environmental impact from changes in parking would occur under any of the project alternatives, including the LPA, and no mitigation is required. Nonetheless, improvement measures IM-TR-1 through IM-TR-5 presented in Section 3.5.3 have been incorporated to the extent feasible in the LPA, and would continue to be applied throughout project final design to minimize removal of parking spaces. Based on information presented in Section 3.5.3, no cumulatively significant environmental impact from changes in parking would occur under any of the project alternatives, including the LPA (with or without the Vallejo Northbound Station Variant).

NEPA requires analysis on parking impacts that could affect socioeconomic characteristics of the area residents and businesses on a block-by-block basis. These potential impacts are discussed below under Community Impacts.

**Cumulative Parking Loss during Construction**

During project construction, parking within the immediate vicinity of the construction zone for each project would likely be restricted on an occasional basis. Construction of some of the projects, such as CPMC Cathedral Hill, could overlap with the Van Ness Avenue BRT Project, while construction of Geary BRT would be phased to avoid overlapping construction with the Van Ness Avenue BRT Project.

While the number of parking spaces to be affected during the simultaneous construction of other foreseeable projects is not known, it can be assumed that more parking restrictions would occur along Van Ness Avenue and nearby streets. The loss of parking spaces along each street segment during construction of the proposed project would be temporary, and depending on the demand and supply in specific areas, there could be adequate parking spaces available along adjacent streets and parking lots within the Van Ness Avenue corridor for residents, businesses, and visitors.

**The loss of parking spaces along each street segment during construction of the proposed project would be temporary.**

#### Cumulative Parking Loss during Operation

Implementation of transportation-related projects, such as the Van Ness Avenue and Geary BRT projects, the Hayes Two-way Conversion Project, and Polk Street Bicycle Lane Project, would not result in an increase in on-street parking demand and may reduce demand for parking. Implementation of the CPMC Cathedral Hill Project would increase parking demand at the site from physicians, employees, patients, and visitors. Based on the Draft EIR for the CPMC LRDP, adequate parking spaces would be provided within the campus, resulting in no additional on-street parking demand.

**Implementation of the build alternatives would not increase on-street parking demand and may reduce demand for parking. A net gain of 13 parking spaces could result if Build Alternative 4 with Design Option B is implemented.**

Implementation of several of the above-mentioned foreseeable projects would result in a loss of existing on-street parking designated for general use, commercial use, and disabled parking (blue zone) use. For instance, under the LPA, the proposed project would require removal of up to 97 general parking spaces and up to 8 colored zone parking spaces. Under the LPA with the Vallejo Northbound Station Variant, up to 96 general parking spaces and up to 8 colored zone parking spaces would be removed. In contrast, a net gain of 13 parking spaces could result if Build Alternative 4 with Design Option B is implemented.

According to the Draft EIR for the CPMC LRDP, implementation of the Cathedral Hill Campus would eliminate 30 metered parking spaces, 10 commercial loading/unloading (i.e., yellow zone) parking spaces, 1 passenger loading space, and 1 disabled parking space. These on-street spaces generally serve the existing businesses on the blocks adjacent to the CPMC Cathedral Hill site. The businesses on Van Ness Avenue between Geary and Post streets have since been vacated in preparation for CPMC construction.

Implementation of the Polk Street bicycle lane would result in a loss of 12 metered parking spaces, one of which is a designated commercial loading/unloading zone. Conversion of Hayes Street to a two-way roadway from Gough to Polk streets could result in a loss of up to 36 parking spaces (estimate based on current available description of the proposed Hayes Two-Way Conversion Project). There is no information available on the number of on-street parking spaces that would be lost due to the Geary BRT Project; however, it is assumed that some spaces would be removed on Geary Boulevard near Van Ness Avenue.

#### 5.5.2.6 | AVOIDANCE, MINIMIZATION, OR MITIGATION MEASURES PERTAINING TO LOSS OF PARKING

As discussed in Section 3.5, no significant environmental impact from changes in parking would occur under any of the project alternatives, including the LPA, and no mitigation is required. Nonetheless, improvement measures IM-TR-1 through IM-TR-5 presented in Section 3.5.3 have been incorporated to the extent feasible in the LPA, and would continue to be applied throughout project final design to minimize removal of parking spaces. The following project design principles will be applied to each build alternative:

- Replacement of on-street parking where bus stops are consolidated or moved to the center of the street;
- Addition of street parking made possible by lane restriping;
- Provision of infill spaces where they do not exist today; and
- Giving priority to retaining color painted on-street parking spaces, such as yellow freight loading zones, white passenger loading zones, green short-term parking, and blue disabled parking.

#### KEY FINDING

**There would be a total net reduction of parking spaces with all of the build alternatives except Build Alternative 4 with Design Option B.**

### 5.5.3 | Community Impacts

In accordance with NEPA, social conditions were addressed in Section 4.2 of this EIS/EIR, along with the potential impacts as a result of project implementation. Social conditions are defined in terms of population characteristics, such as income and ethnicity; household size and composition; employment and labor force; community/neighborhood characteristics, including public services and facilities; and economic and business characteristics, within the project study area. CEQA does not include a requirement to address social or economic conditions.

#### 5.5.3.1 | GEOGRAPHIC STUDY AREA FOR COMMUNITY CUMULATIVE IMPACT ANALYSIS

The study area covers 52 census tract block groups, as shown in Figure 4.2-1. The study area used to address cumulative community impacts is the same as the network for vehicular traffic and parking impact analysis described in the earlier sections of this chapter because any potential cumulative community impacts would occur as a result of traffic congestion and loss of parking within the general vicinity of the Van Ness Avenue corridor.

#### 5.5.3.2 | EXISTING CONDITIONS

Existing socioeconomic characteristics of the study area are described in detail in Section 4.2 of this EIS/EIR. The Van Ness Avenue BRT Project study area consists of diverse socioeconomic neighborhoods and a multi-ethnic population. For the purposes of this analysis, racial and ethnic minority groups will be defined as being comprised of people categorized as Hispanic or a race other than White in 2000 U.S. Census data. Lower-income and minority residents, along with higher-income and non-minority residents, live close to the proposed project.

Approximately 46 percent of all study area residents are members of minority groups, compared to an approximate 56 percent minority population in the City and County of San Francisco as a whole. The southern portion of the study area, from Mission Street to Broadway, has a larger minority population than is found along Van Ness Avenue north of Broadway.

Low-income populations are defined as having a median household income at or below Department of Health and Human Service poverty guidelines. The percentage of low-income residents is slightly higher in the study area (i.e., 13 percent) than in the City and County of San Francisco as a whole (i.e., 11 percent). As stated earlier, there does not appear to be a disproportionate occurrence of low-income or minority populations along the project corridor; therefore, this marginally higher percentage of low-income residents is not considered disproportionate pertaining to E.O. 12898 (Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations).

Based on 2000 U.S. Census Data, almost half of the households in the study area do not own a private automobile, which is significantly higher than the citywide average. Traffic and parking conditions within the corridor network are described in Sections 5.5.1 and 5.5.2. Existing land uses in the vicinity of Van Ness Avenue include residential, commercial/tourism, institutional, open space, and mixed uses. See a detailed description of existing land uses along the Van Ness Avenue corridor in Section 4.2, Community Impacts.

#### 5.5.3.3 | REASONABLY FORESEEABLE ACTIONS

Several transportation-related projects, as well as housing development and major medical center projects, have been planned and/or are undergoing construction within the general vicinity of the proposed project, as described in Section 5.3. In addition, the citywide BRT Network (encompassing Van Ness Avenue, Geary Boulevard, and Potrero Avenue), as well as the Muni Rapid Network is planned to be developed, as called for in the CWTP.

#### DEFINITION

**For the purposes of this analysis, racial and ethnic minority groups are defined as being comprised of people categorized as Hispanic or a race other than White in 2000 U.S. Census data.**

**The Van Ness Avenue BRT Project study area consists of diverse socioeconomic neighborhoods and a multi-ethnic population. Almost half do not own a private automobile, which is significantly higher than the citywide average.**

### 5.5.3.4 | DIRECT COMMUNITY IMPACTS

The NEPA-required analysis of community impacts identified impacts on traffic, transit, parking, and nonmotorized (i.e., pedestrian and bicycle) transportation would occur during project construction, as described in Section 4.15, Construction Impacts. These impacts would cause temporary inconvenience to area residents, people doing business along the Van Ness Avenue corridor, and people traveling through the corridor. The impacts would be minimized by implementing the TMP, as described in Section 4.15.2.2.

Implementation of the proposed project would not restrict area residents, businesses, and visitors from routine activities within the Van Ness Avenue corridor network, nor prevent them from participating in regular social activities or special events. No relocation of residences or businesses would occur as part of this project.

The proposed project would affect local traffic circulation due to vehicular lane reductions and turning restrictions. Impacts from vehicular traffic delay would primarily occur during evening peak travel hours when total traffic is heaviest and would be less at other times of the day and night and on weekends when shopping, dining out, entertainment, and other commercial activities often occur. Overall, impacts from automobile traffic at certain intersections along the Van Ness Avenue corridor are not anticipated to substantially affect local businesses.

The proposed project build alternatives, including the LPA (with or without the Vallejo Northbound Station Variant), would require the permanent removal of on-street parking along parts of the corridor, as described in Section 3.5, Parking. The effects of removal of on-street parking are assessed by identifying locations where much or all of the parking would be removed along a block face and/or where a colored zone would be removed and could not be replaced on the same block or adjacent block. As explained in Section 3.5, street parking would generally be maintained throughout Van Ness Avenue, and the proposed build alternatives, including the LPA (with or without the Vallejo Northbound Station Variant), would not require changes in parking on adjacent streets or in parking lots that serve the area. Table 4.2-8 in Section 4.2.4.2 lists the blocks where substantial street parking would be removed on one or more sides of Van Ness Avenue.

As explained in Section 3.5.2, SFMTA would give priority to retaining on-street colored parking spaces (i.e., green [short-term parking], white [passenger loading], yellow [truck loading], and blue [disabled parking]). As part of the project design, in any cases of conflicting needs for color zones, SFMTA would work to build consensus among fronting business owners and determine the best allocation of colored spaces to suit the needs of these establishments. In most cases, colored spaces would be able to be retained on the same street block or on adjacent blocks. Passenger and truck loading zones could be provided on the same side of the street, where feasible, so that crossing a street for loading would not be needed; however, specific locations were identified where provision of replacement colored spaces on an adjoining block may not be feasible or where an affected business may have special needs requiring immediately adjacent parking, such as passenger loading zones that serve elderly or infirmed people or truck loading zones that support delivery of large commercial goods. Colored parking zone adverse impacts on adjacent land uses are identified in Table 4.2-9 in Section 4.2.2.

### 5.5.3.5 | CUMULATIVE IMPACTS ON COMMUNITY

#### Construction Cumulative Impacts

Based on the location, schedule, and scope of the foreseeable projects listed in Table 5-1, the roadway segments that would likely experience impacts from construction activities on a cumulative basis are those in the vicinity of Van Ness Avenue and Geary Boulevard, when the Van Ness Avenue BRT and CPMC Cathedral Hill projects would undergo concurrent construction. The impacts would mostly be traffic, transit, parking and nonmotorized (i.e.,

**The roadway segments that would likely experience impacts from construction activities on a cumulative basis are those in the vicinity of Van Ness Avenue and Geary Boulevard, when the Van Ness Avenue BRT and CPMC Cathedral Hill projects would undergo concurrent construction. To mitigate potential impacts, public roadway-related work under the CPMC project should be scheduled and completed before or after commencement of Van Ness Avenue BRT Segment 2 (Golden Gate Avenue to Washington Street) construction.**

**With any of the build alternatives, including the LPA, area residents and the public at large would have a better, more reliable transit system – and have more incentive to shift their mode of travel to public transit.**

pedestrian and bicycle) transportation related. These impacts could be minimized by having close coordination between the two projects to develop construction schedules and phasing to avoid construction activities that could elevate the level of impacts (e.g., detouring and parking and access restrictions) to area residents and travelers. For example, public roadway-related work under the CPMC project should be scheduled and completed before or after commencement of Van Ness BRT Segment 2 (Golden Gate Avenue to Washington Street) construction.

#### Operation Cumulative Impacts

Implementation of the foreseeable projects, including the CPMC, Geary Boulevard BRT, Hayes Two-Way Street Conversion, and Polk Street Bicycle Lane projects, would potentially result in a reduction in general parking in the study area. Although general parking spaces are anticipated to be sufficiently available along the Van Ness Avenue corridor network, the loss of colored parking spaces, especially truck loading/unloading zones, in the vicinity of Van Ness Avenue and Geary Boulevard resulting from implementation of the CPMC, Geary BRT, and proposed Van Ness Avenue BRT projects could impact local businesses, as described in Section 4.2. For example, under the LPA the loss of two passenger loading spaces along the east side of Van Ness Avenue between O'Farrell and Geary streets could affect The Opal hotel, and the loss of four loading spaces that serve a Comfort Inn hotel on Van Ness between Greenwich and Lombard streets could affect this business as indicated in Table 4.2-9. As a trade-off, once all of the projects under planning within the general vicinity of the Van Ness Avenue corridor are completed, area residents and the public at large would have a better, more reliable transit system for daily commuting and commerce compared to the existing condition. The Van Ness Avenue BRT Project would help complete the planned citywide BRT and SFMTA Rapid Network, and would provide enhanced pedestrian amenities along the corridor, benefitting the 48 percent of households in the study area that do not own a private automobile. Furthermore, with a better and more reliable transit system, it can be anticipated that private vehicle users would have more incentive to shift their mode of travel to public transit. Project planning should also place a high priority on maintaining or increasing overall access to local businesses along Van Ness Avenue because the project area represents a major commercial corridor within San Francisco.

#### KEY FINDING

**Cumulative impacts on community-related activities from the loss of on-street parking spaces would not be considered adverse.**

In conclusion, implementation of the project and the overall BRT and SFMTA Rapid Network is consistent with the CWTP; this would benefit the transit-dependent population at large and would result in a transportation mode shift from automobiles to public transit. Cumulative impacts on community-related activities from the loss of on-street parking spaces would not be considered adverse. Implementation of impact minimization measures described below, where feasible, could reduce impacts to adjacent properties resulting from the potential cumulative loss of colored parking spaces in the study area.

#### 5.5.3.6 | AVOIDANCE, MINIMIZATION, OR MITIGATION MEASURES PERTAINING TO CUMULATIVE COMMUNITY IMPACTS

To avoid escalated impacts on local circulation, parking, and environmental health of area residents, office workers, patrons, and pedestrians in the Van Ness Avenue corridor, a project construction plan should be developed to minimize overlapping construction of the CPMC Cathedral Hill and Van Ness Avenue BRT projects, and any other unforeseen projects in the corridor for which construction with the BRT project would overlap.

A TMP that includes traffic rerouting, a detour plan, and public outreach will need to be developed during the design phase with participation from local agencies, other major project proponents in the area (e.g., CPMC Cathedral Hill, Hayes Two-Way Conversion, and the Geary Corridor BRT projects), local communities, businesses associations, and affected drivers. Early and well-publicized announcements and outreach will help to minimize confusion, inconvenience, and traffic congestion at the start of construction.

**With any of the build alternatives, including the LPA, area residents and the public at large would have a better, more reliable transit system – and have more incentive to shift their mode of travel to public transit.**

As part of the project design, the SFMTA would prioritize retention of on-street colored parking spaces to minimize potential impacts to adjacent properties. Passenger and truck loading zones would be provided on the same side of the street where possible so that crossing a street for loading would be avoided. In any cases of conflicting needs for colored zones, SFMTA would work to build consensus among fronting business owners and determine the best prioritizing and location of colored spaces to suit the needs of these establishments. Cumulative impacts on community-related and business activities from the loss of colored on-street parking spaces would be mitigated through the implementation of measures M-CI-IM-1 and M-CI-IM-2, which are described in Section 4.2.4.2. M-CI-IM-1 and M-CI-IM-2 constitute mitigation measures under NEPA and improvement measures under CEQA.

## 5.5.4 | Public Services and Community Facilities

### 5.5.4.1 | AFFECTED ENVIRONMENT

Public services and community facilities were addressed in Section 4.2 of this EIS/EIR, along with the potential impacts as a result of project implementation. Public services and community facilities located within the study area – including police and fire, schools and universities, cultural facilities, hospital and medical, parks and recreational facilities, and houses of worship – are listed in Tables 4.2-5 and 4.2-6 in Section 4.2.2.

### 5.5.4.2 | CUMULATIVE IMPACTS ON PUBLIC SERVICES AND COMMUNITY FACILITIES

#### Construction Cumulative Impacts

Based on the location, schedule, and scope of the foreseeable projects listed in Table 5-1, the roadway segments that would likely experience impacts from construction activities on a cumulative basis are those in the vicinity of Van Ness Avenue and Geary Boulevard, when the Van Ness Avenue BRT and CPMC Cathedral Hill projects would undergo concurrent construction. During construction of the proposed project, access to community facilities and government services in the study area may be adversely affected. These impacts could be minimized by having close coordination between the two projects to develop construction schedules and phasing to avoid construction activities that could elevate the level of impacts (e.g., detouring and parking and access restrictions) to public services and community facilities. For example, public roadway-related work under the CPMC project should be scheduled and completed before or after commencement of Van Ness Avenue BRT Segment 2 (Golden Gate Avenue to Washington Street) construction.

#### Operation Cumulative Impacts

No adverse operation cumulative impacts are identified.

### 5.5.4.3 | AVOIDANCE, MINIMIZATION, OR MITIGATION MEASURES PERTAINING TO CUMULATIVE PUBLIC SERVICES IMPACTS

Mitigation Measures M-CI-C1 through M-CI-C7, described in Section 4.15.2, would lessen potentially significant, cumulative impacts to community facilities and government services during construction of the proposed project and other planned projects in the vicinity.

**The roadway segments that would likely experience impacts from construction activities on a cumulative basis are those in the vicinity of Van Ness Avenue and Geary Boulevard, when the Van Ness Avenue BRT and CPMC Cathedral Hill projects would undergo concurrent construction. To mitigate potential impacts, public roadway-related work under the CPMC project should be scheduled and completed before or after commencement of Van Ness Avenue BRT Segment 2 (Golden Gate Avenue to Washington Street) construction.**

This page intentionally left blank.