

**AFFECTED ENVIRONMENT; ENVIRONMENTAL
CONSEQUENCES; AND AVOIDANCE, MINIMIZATION,
AND/OR MITIGATION MEASURES**

CHAPTER 4 – AFFECTED ENVIRONMENT; ENVIRONMENTAL CONSEQUENCES; AND AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

This chapter discusses existing conditions and addresses the environmental impacts of the Revised Project alternatives, as well as identifies avoidance, minimization, and mitigation measures that could be implemented in conjunction with the Revised Project. This section also discusses environmental effects for which no potential impacts were identified.

Environmental Effects With No Potential Impact

As part of the scoping and environmental analysis conducted for the Revised Project, the environmental issues identified below were considered, but no impacts were identified. Consequently, there is no further discussion of these issues in this Draft SEIS.

Farmlands and Timberlands

The Revised Project Footprint is not located on land under a Williamson Act contract or within a Timber Production Zone and no agricultural resources are located in the vicinity. Implementation of the Revised Project would not convert farmland to non-agricultural uses or affect any farmlands. No farmland exists within the Revised Project Footprint. Implementation of the Revised Project would not convert farmland to non-agricultural uses or affect any farmlands or timberlands. No impacts to farmland would result within the San Diego County region for any of the Revised Project alternatives.

Noise

The Revised Project Footprint is located in a developed urban area predominantly comprised of commercial uses. As documented in the Final EIS, no noise-sensitive receptors are located within or adjacent to the San Ysidro LPOE. No additional noise-sensitive receptors have been introduced within close proximity to the LPOE and thus, no such receptors are located within or adjacent to the Revised Project Footprint. The closest noise-sensitive receptors include four hotels/motels to the north along East San Ysidro Boulevard and Border Village Road. The three closest hotels/motels do not contain outdoor areas of frequent human use (i.e., swimming pools, patios), and the fourth contains a swimming pool that is shielded by the motel buildings. The closest school, Willow Elementary School, is located approximately 0.4 mile to the northwest, adjacent to I-5/I-805 interchange, and the closest park (Cesar Chavez Community Center and Larsen Field) is located approximately 0.5 mile to the west. Given the distance from the Revised Project Footprint, noise generated by routine operations at the improved San Ysidro LPOE would not be highly perceptible at the school or park. As a result, no adverse noise impacts would occur from Revised Project implementation.

Cross-Border Impacts

With regard to potential cross-border impacts in Mexico, CEQ Guidance on NEPA Analysis for Transboundary Impacts (July 1, 1997) states: "... in the context of international agreements, the parties may set forth a specific process for obtaining information from the affected country which could then be relied upon in most circumstances to satisfy agencies' responsibility to undertake a reasonable search for information." In this case, Mexican agencies addressed potential environmental impacts of concern to Mexico at the time of construction of the El Chaparral

LPOE and the expanded Puerta Mexico LPOE, which connect to the San Ysidro LPOE and would accommodate either the Revised Project or the Approved Project design.

The basis for the referenced CEQ guidance is (former) President Carter's Executive Order (EO) 12114. Subchapter 2.5 of this EO provides exemptions that include Presidential actions. Historically, the Department of State (DOS) has taken the position that transboundary impacts are generally not considered (unless they are outside the exemption created by EO 12114). Therefore, potential project-level and cumulative impacts in Mexico associated with the Revised Project are not addressed in this Draft SEIS.

Environmental Effects not Analyzed in Detail

Additionally, the environmental issues discussed below are not analyzed in detail in the SEIS because either (1) the analysis and conclusions of the Approved Project (contained in the Final EIS) remain applicable to the Revised Project, or (2) there is no potential for the Revised Project to result in environmental effects associated with that particular issue.

Utilities/Emergency Services/Life Safety

Utilities

The Final EIS concluded that the Approved Project (which was the Preferred Alternative in the Final EIS) is anticipated to minimize its impacts upon water, wastewater, solid waste, and electric services, and may actually reduce the usage of such services primarily because the Approved Project proposes to achieve Leadership in Energy and Environmental Design (LEED) certification, which aims to reduce the use of such utilities.¹ In addition, the Final EIS concluded that although the implementation of the Approved Project would result in a slight increase in impervious surfaces with a corresponding increase in post-development runoff volumes and velocities, post-construction flows would be accommodated within an on-site storm drain system and would be reduced due to applicable LEED requirements. The Revised Project also proposes to achieve a LEED certification and would construct the same anticipated on-site storm drain facilities. While the Revised Project would result in a negligible increase the amount of impervious surfaces compared to the Approved Project due to the Virginia Avenue Transit Facility (approximately 0.0007 acre), such an increase would not change the impact conclusions in the Final EIS. Finally, the Final EIS concluded that temporary construction-related impacts to utilities would potentially occur during construction of the Approved Project, but would be avoided by consultation with responsible utility providers to protect systems in place or arrange for the temporary or permanent relocation of existing utility lines. This construction-related impact would also apply to the Revised Project because the development footprint of the Revised Project is similar to the Approved Project and would potentially affect the same utilities. Therefore, the impact conclusions regarding utilities in the Final EIS remain applicable to the Revised Project. The avoidance and minimization measure identified in the Final EIS pertaining to utilities and coordination with utility providers also applies to the Revised Project and is included in Appendix A.

¹ LEED is an internationally recognized green building certification system, certifying that a building or project was designed and built using strategies aimed at improving energy savings, water efficiency, carbon dioxide emissions reduction, and indoor environmental quality.

Emergency Services/Life Safety

The Final EIS concluded that during construction of the Approved Project, temporary detours within the LPOE may be required resulting in some traffic diversion, which would temporarily alter emergency access and routes within and around the LPOE. The same temporary impact would occur during construction of the Revised Project. The Final EIS also concluded that the safety of people utilizing and employed at the LPOE would be improved through the proposed modernization, facility improvements, and protective design features of the Approved Project. The Revised Project would construct the same types of facilities, upgrades, and design features as the Approved Project. Therefore, the impact conclusions regarding emergency services/life safety in the Final EIS remain applicable to the Revised Project. The avoidance and minimization measures identified in the Final EIS related to emergency services and life safety also apply to the Revised Project and are included in Appendix A.

Hydrology/Floodplain

The Final EIS concluded that Implementation of the Approved Project would result in a slight increase of impervious surface area, with a corresponding increase in post-development runoff volumes and velocities, design elements of the Approved Project (namely infiltration basins and storm drain facilities and upgrades) would avoid or address potential impacts related to drainage alteration, increased runoff volumes/velocities, storm drain capacity, and related hazards such as hydromodification and flooding. While the Revised Project would result in a negligible increase the amount of impervious surfaces compared to the Approved Project due to the Virginia Avenue Transit Facility (approximately 0.0007 acre), such an increase would not change the impact conclusions related to hydrology and floodplain in the Final EIS. Watershed, drainage, and groundwater characteristics are the same for the Approved Project and Revised Project because the impact footprints are in the same location and encompass comparable areas. Therefore, the impact conclusions regarding hydrology and floodplain in the Final EIS remain applicable to the Revised Project, and the associated avoidance and minimization measures identified in the Final EIS also apply to the Revised Project and are included in Appendix A.

Water Quality and Stormwater Runoff

The Final EIS concluded that no short-term or operational long-term water quality impacts would occur as a result of the Approved Project based on conformance with applicable regulatory requirements (such as NPDES Construction Permit or City Storm Water Standards requirements) and implementation of appropriate water quality best management practices (BMPs). The San Diego RWQCB issued GSA a permit to discharge the groundwater from construction dewatering to the storm drain in order for GSA to excavate the construction site to the necessary depth to install foundations and other required improvements. GSA's permit allows dewatering up to a maximum flow rate of 1,500 gallons per minute (2.16 million gallons per day). As of 2013, GSA has been able to limit the volume of discharged water to 405 gallons per minute (583,000 gallons per day), only a fraction of what the permit allows. Minimizing the volume of water minimizes the potential for carrying solid waste and sewage downstream. Moreover, as required by the San Diego RWQCB, GSA constructed a temporary groundwater treatment system to control certain constituents present in the groundwater prior to its discharge to the outfall. GSA continues to monitor its dewatering activity with respect to its volume and treatment of the groundwater, as well as submitting regular reports to the San Diego RWQCB, as required by the terms of its permit.

As discussed above under Hydrology/Floodplain, watershed and drainage characteristics are the same for the Approved Project and Revised Project because the impact footprints are in the same location and encompass comparable areas. Therefore, the impact conclusions regarding water quality and stormwater runoff in the Final EIS remain applicable to the Revised Project, and the associated avoidance and minimization measures identified in the Final EIS also apply to the Revised Project and are included in Appendix A.

Geology/Soils/Seismicity/Topography

The Final EIS concluded that no seismic or non-seismic impacts would occur as a result of the Approved Project based on compliance with applicable regulatory requirements (e.g., International Building Code) and incorporation of geotechnical recommendations. Geologic characteristics are the same for the Approved Project and Revised Project because the impact footprints are in the same location and encompass comparable areas. Therefore, the impact conclusions regarding geology/soils/seismicity/topography in the Final EIS remain applicable to the Revised Project, and the associated avoidance and minimization measures identified in the Final EIS also apply to the Revised Project and are included in Appendix A.

Paleontology

The Final EIS concluded that the Approved Project could potentially affect undisturbed portions of formational materials designated with a high potential sensitivity rating for paleontological resources and therefore grading and excavation activities could potentially encounter paleontological resources. Geologic and paleontological characteristics are the same for the Approved Project and Revised Project because the impact footprints are in the same location and encompass comparable areas. Therefore, the impact conclusions regarding paleontological resources in the Final EIS remain applicable to the Revised Project, and the associated avoidance and minimization measures identified in the Final EIS also apply to the Revised Project and are included in Appendix A.

Energy

The Final EIS concluded that potential short-term, construction-related energy impacts could occur during construction of the Approved Project, but no adverse operational energy impacts would occur. Energy consumption associated with the Approved Project would not be excessive and would be reduced through proposed LEED design features since the Approved Project proposes to achieve LEED certification. This construction-related impact would also apply to the Revised Project because the development footprint of the Revised Project is similar to the Approved Project and similar facilities and improvements would be constructed. The Revised Project also proposes to achieve LEED certification, which would reduce energy consumption. Therefore, the impact conclusions regarding energy in the Final EIS remain applicable to the Revised Project. The avoidance and minimization measures identified in the Final EIS pertaining to construction activities also applies to the Revised Project and is included in Appendix A.

4.1 LAND USE AND COMMUNITY ISSUES

This subchapter assesses the following land use and community issues: potential Revised Project impacts to existing land use patterns and development trends within the study area; consistency with state, regional, and local plans; potential impacts to parks and recreational facilities; potential impacts to community character and community cohesion; potential impacts associated with parcel acquisitions and relocations; potential environmental justice impacts; and potential impacts related to environmental health and safety risks to children. The conclusions are based on the analysis contained in the Final EIS that addressed the Approved Project, as well as additional analysis and environmental studies that were conducted to evaluate the proposed modifications that comprise the Revised Project.

4.1.1 Existing and Future Land Use

Affected Environment

The Socioeconomic Study Area evaluated for land use and community issues encompasses the *San Ysidro Community Plan* (1974, as amended; SYCP) Area, which is depicted in Figure 4.1-1. A Supplemental Community Impact Assessment (SCIA) was completed for the Revised Project (*Supplemental Community Impact Assessment for the San Ysidro Land Port of Entry Improvements Project*, June 2013). Relevant portions of this SCIA are summarized in this subchapter of the Draft SEIS.

Land Use Setting

The Revised Project Footprint is located in the southern portion of the U.S.-Mexico border community of San Ysidro in the City of San Diego, California. No substantial changes to the land use setting in the Socioeconomic Study Area have occurred since preparation of the Final EIS (refer to Figure 4.1-2).

Land Use Zoning Designations

No substantial changes to zoning in the Socioeconomic Study Area have occurred since preparation of the 2009 CIA (refer to Figure 3). Within the 43.1-acre Revised Project Footprint, all but 0.5 acre are zoned commercial (13.5 acres of SYIO-CSR-3 and 29.0 acres of SYIO-CT-2-3); 0.5 acre on the eastern margin is zoned industrial (SYIO-I-1). The proposed 1.9-acre permanent easement at Virginia Avenue (which is part of the overall Revised Project Footprint) is zoned commercial (SYIO-CT-2-3).

Existing Land Uses

No changes to existing land uses within and surrounding the Revised Project Footprint have occurred since preparation of the Final EIS, except those associated with implementation of the Approved Project. The Revised Project Footprint is currently occupied with transportation uses (i.e., roadways and freeways) and border facilities, with the exception of the proposed permanent easement at Virginia Avenue, which is currently part of a paved commercial parcel, and two parcels along Camiones Way currently used as a Duty Free shop and a public parking lot that were evaluated in the Final EIS but have not yet been acquired. Much of the land surrounding the Revised Project Footprint, along the western and eastern sides of this central corridor, is occupied by a number of commercial establishments serving employees of the LPOE and the border-crossing population (refer to Figure 4.1-2). Near the eastern edge of the

Revised Project Footprint is the terminus of the blue line trolley, which is located adjacent to the SYITC. Just to the east of the SYITC is a small commercial strip, which, at the time of the Final EIS, included several retail shops, a market, and several fast food restaurants. At the northernmost end of this strip there was a small paid parking lot. A duty-free shop and a larger paid parking lot were located across I-5 and along Camiones Way.

On the eastern edge of the Revised Project Footprint, as part of the implementation of the Approved Project, the long-haul bus depot and two retail shops were relocated/compensated, in accordance with the Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended (Uniform Act) and Title 49 CFR, Part 24.

As noted in the Final EIS, although San Ysidro is a north-south portal and connector between San Diego County and Tijuana, it is also physically divided between east and west by the I-5 and I-805 freeways, limiting pedestrian activity and presenting community barriers. The physical division is bridged in few places over or under the freeways. Camino de la Plaza is the roadway nearest the LPOE that crosses the I-5 freeway. The new pedestrian bridge over southbound I-5 and the LPOE constructed as part of Phase I of the Approved Project also provides a connection between east and west. In the past, trolley travelers and other pedestrians crossing the intersection of East San Ysidro Boulevard, Rail Court, and the MTS turnaround (SYITC) came into conflict with vehicles in the intersection, resulting in some collisions. The new east-west pedestrian bridge constructed as part of Phase I of the Approved Project terminates on the transit center side of the intersection, improving pedestrian safety in the area.

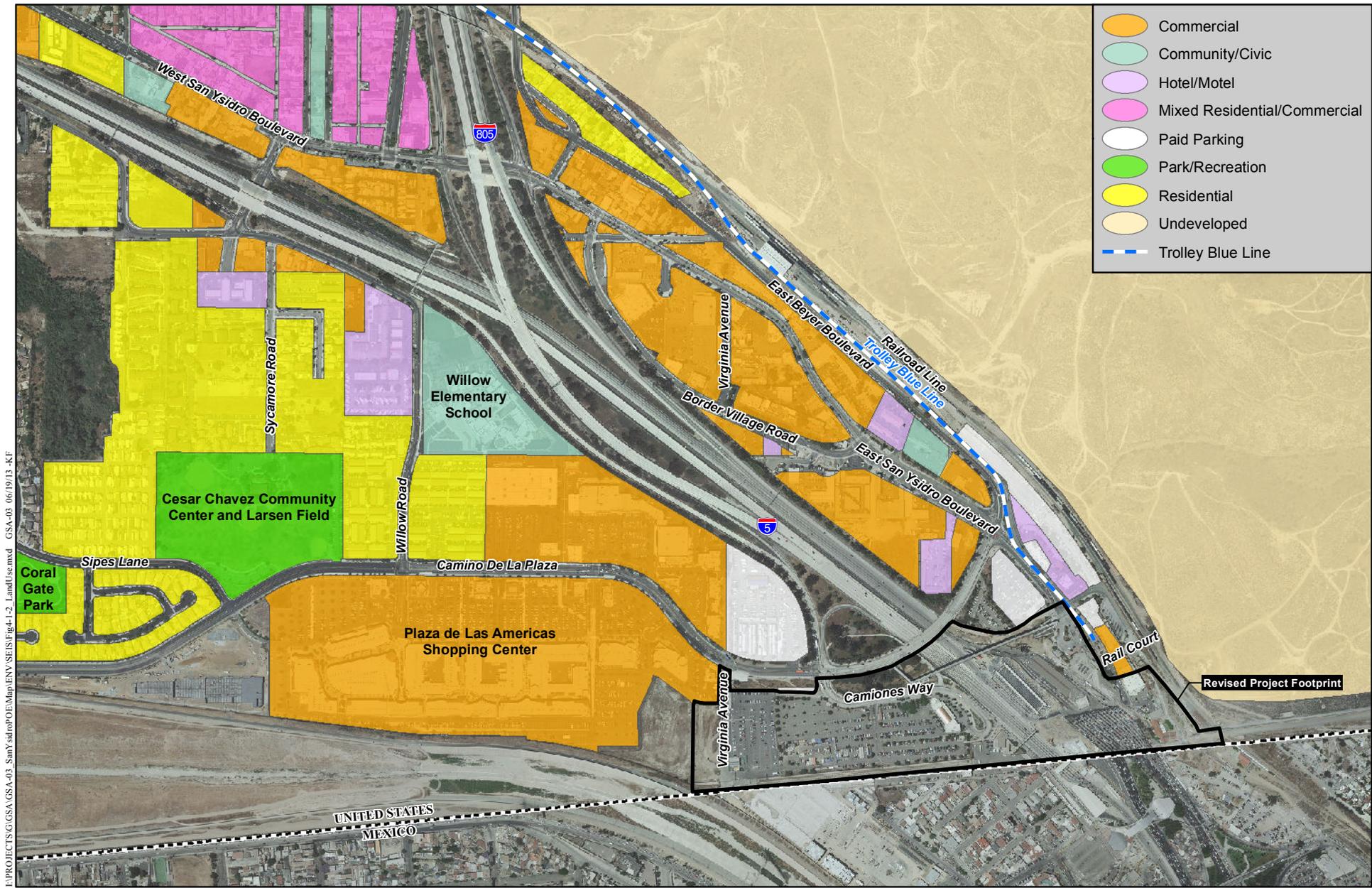
On the Mexican side of the border, the El Chaparral LPOE on the west side is now constructed and in operation, and the Puerta Mexico LPOE on the east side has been updated since publication of the Final EIS and ROD in 2009. Commercial land uses continue to predominate to the west and southwest of the LPOE. Residential uses predominate to the east and southeast of the LPOE in Tijuana. Housing prices in the Tijuana area that are much lower than prices in San Diego have resulted in live-work commute patterns in which many Tijuana area residents commute daily to work at jobs on the U.S. side of the border.

Development Trends in the SYCP Area

Despite existing circulation patterns that make interconnectivity difficult, some public facilities and infrastructure that do not meet City standards, and other issues, the SYCP Area continues to develop with residential, commercial, and industrial/business park uses, as called for in the SYCP (which is currently being updated). Employment in the SYCP Area is projected to increase by 34 percent (rising from 11,894 to 15,929 jobs) by 2050 compared to 2008 levels,² while population is projected to increase by 22 percent (from 28,336 to 34,522) in the same time period (SANDAG 2013c). Recent land development proposals include single and multi-family residential, commercial, office, industrial (warehouse), and community/institutional uses.

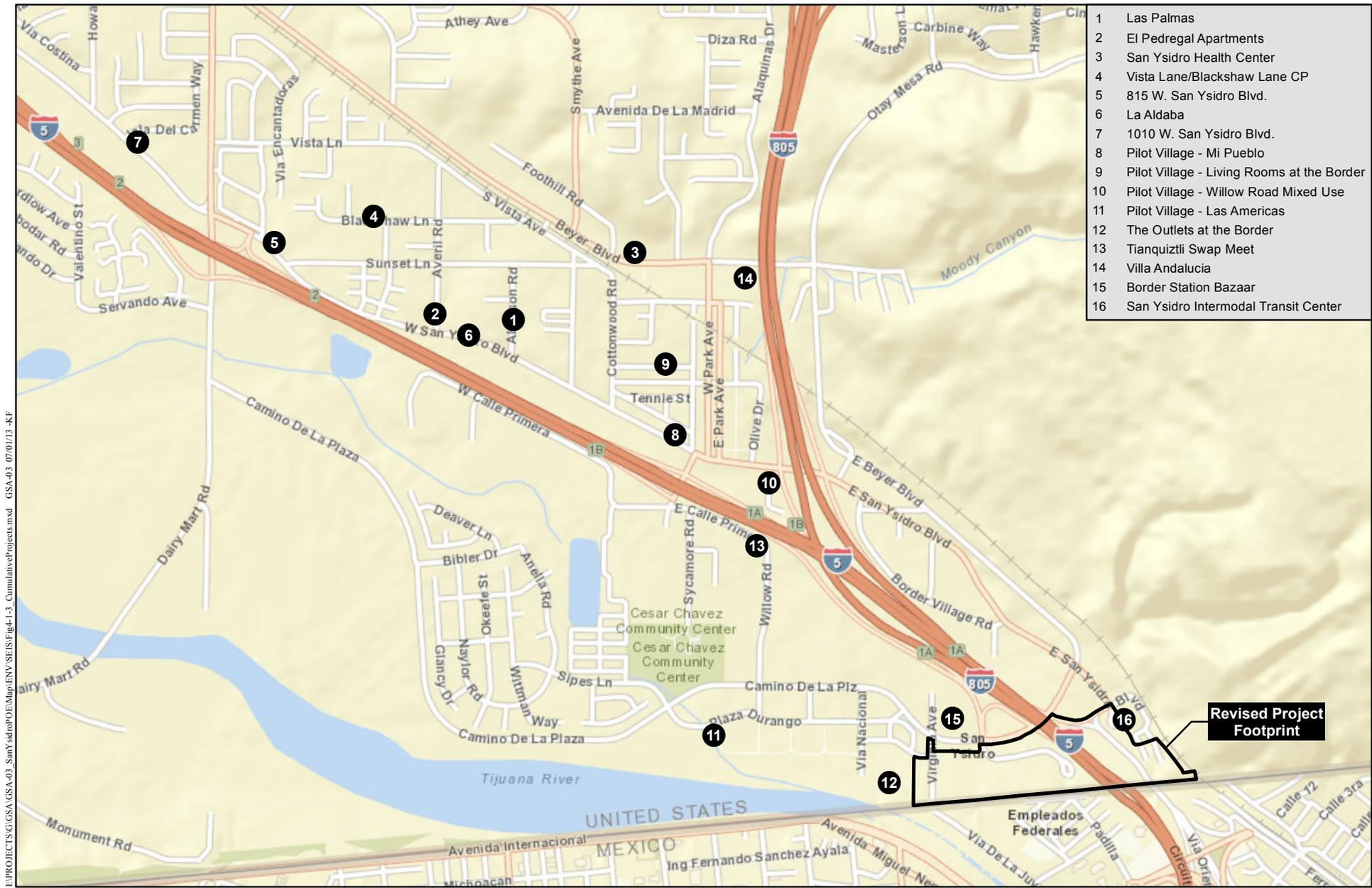
As a border community, development in San Ysidro continues to be oriented toward both the community and tourists. Table 4.1-1, *Land Development and Public Projects in the SYCP Area*, and Figure 4.1-3 present development projects in the SYCP Area. The City's Redevelopment Agency was dissolved as of February 1, 2012; although some ongoing redevelopment activities continue to occur in the area, no new redevelopment activities are underway.

² As of July 2013, the most recent available employment data are for 2008.



Existing Land Uses in the Project Vicinity

SAN YSIDRO LPOE IMPROVEMENTS



- 1 Las Palmas
- 2 El Pedregal Apartments
- 3 San Ysidro Health Center
- 4 Vista Lane/Blackshaw Lane CP
- 5 815 W. San Ysidro Blvd.
- 6 La Aldaba
- 7 1010 W. San Ysidro Blvd.
- 8 Pilot Village - Mi Pueblo
- 9 Pilot Village - Living Rooms at the Border
- 10 Pilot Village - Willow Road Mixed Use
- 11 Pilot Village - Las Americas
- 12 The Outlets at the Border
- 13 Tianquiztli Swap Meet
- 14 Villa Andalucia
- 15 Border Station Bazaar
- 16 San Ysidro Intermodal Transit Center

Cumulative Projects in the SYCP Area

SAN YSIDRO LPOE IMPROVEMENTS

Figure 4.1-3

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Table 4.1-1 LAND DEVELOPMENT AND PUBLIC PROJECTS IN THE SYCP AREA				
No.¹	Project Name	Location	Type	Description
1	Las Palmas	122 Alverson Road	Single and Multi-family Residential	Demolish existing structures and construct 17 rental units - 16 multi-family units and one single family residence. Permits were issued.
2	El Pedregal Apartments	104 Averil Road	Multi-family Residential	Site Development Permit for 44 rental apartments and one manager apartment, and a 1,200-square-foot community center on a 2.26-acre site.
3	San Ysidro Health Center	4004, 4050 Beyer Boulevard	Medical	25,000-square-foot medical facility. Under construction.
4	Vista Lane/ Blackshaw Lane Community Plan	Blackshaw Lane	Mixed Use	N/A
5	815 W. San Ysidro Boulevard	815 W. San Ysidro Boulevard	Multi-family Residential	22 multi-family units.
6	La Aldaba (formerly Tuscan Villas)	517 West San Ysidro Boulevard	Multi-family Residential and Senior Housing	8 multi-family units and 70 units of senior housing.
7	1010 W. San Ysidro Boulevard	1010 W. San Ysidro Boulevard	Single Family Residential	125 single family dwelling units.
8	Pilot Village – Mi Pueblo	West San Ysidro Boulevard, between Cottonwood and I-805	Mixed Use	Mixed-use development on a 14-acre site with approximately 1,000 new housing units and 150,000 square feet of retail/commercial space, parking, park land, and civic space.
9	Pilot Village – Living Rooms at the Border	114 West Hall Avenue	Mixed Use	Mixed-use development and rehabilitation of a historic church into a community facility and 10 units of higher density affordable rental housing.
10	Pilot Village - Willow Road Mixed Use	120 Willow Road	Mixed Use	Approximately 3,100 square feet of retail/commercial and 36 multi-family residences.
11	Pilot Village - Las Americas	3905 1/3 Camino de la Plaza	Multi-family Residential	156 multi-family units.
12	The Outlets at the Border	Southwest corner of Virginia Avenue and Camino de la Plaza	Commercial Retail	140,000-square foot commercial redevelopment project on an 8.06-acre site in two phases. Phase 1: 136,000 square feet of retail development (5 buildings) and a 6,000 square-foot public plaza adjacent to Virginia Avenue. Phase 2: additional 4,000 square feet of retail development (one building).
13	Tianguiztli Swap Meet	338 W. Calle Primera	Indoor/outdoor commercial	6.75 acre site of indoor/outdoor swap meet.
14	Villa Andalucía	4225 Beyer Boulevard	Multi-family Residential	24-unit multi-family units
15	Border Station Bazaar	4570 Camino de la Plaza	Outdoor commercial	252,000 square-foot outdoor bazaar
16	San Ysidro Intermodal Transit Center		Transit Center	Currently under study. Possible facilities include MTS bus and Trolley service; access for private vehicles, licensed jitneys, taxis, long-distance bus and bicycles; retail, office, educational, and general administrative buildings; lodgings; paid off-street parking; passenger drop-off/pickup and cell phone waiting areas.

¹ Numbering corresponds to Figure 4.1-3.

N/A = not available

Land Uses and Growth Trends in Tijuana

On the Mexican side of the border, recent development includes the El Chaparral LPOE now in operation opposite Virginia Avenue, and the 12-acre Puerta Bicentenario project on the eastern

side of the current Puerta Mexico LPOE, which includes a multi-modal transportation terminal with extensive commercial space, public parking, and a pedestrian plaza.

The City of Tijuana is estimated to experience a population increase to approximately 5 million people by the year 2050, based on an annual growth rate of 2.4 percent (SANDAG 2011).

Environmental Consequences

Action Alternatives

The Six-lane and Ten-lane Alternatives (jointly referred to as the Action Alternatives) would occur in the same locations with the similar footprints. The Socioeconomic Study Area is the same under both action alternatives. Therefore, potential impacts related to land use would be the same under both action alternatives.

Both the Six-lane Alternative and the Ten-lane Alternative would be consistent with existing and planned land uses in the SYCP Area. The Action Alternatives entail replacement of existing border facilities at the San Ysidro LPOE. The new facilities would function and integrate with surrounding uses in the same manner as the existing LPOE facility or the LPOE under the No Action Alternative. The improved LPOE would be compatible with surrounding commercial uses and transportation facilities, including existing regional freeways (I-5 and I-805). The Action Alternatives would result in improved connections to the new LPOE facilities in Mexico (i.e., El Chaparral and Puerta Mexico), compared to the No Action Alternative. The Action Alternatives would also provide improved connections to the local pedestrian, bicycle, transit, and private vehicle systems at Virginia Avenue, compared to the No Action Alternative.

The Action Alternatives would occur on land primarily designated and zoned for commercial uses; only the eastern edge of this land area is designated for industrial uses. Proposed uses at the LPOE would include vehicle and pedestrian processing/inspection areas, office space, parking, roadways, and a central plant, as well as a new transit center, all of which would be compatible uses with the underlying commercial and industrial land use designation/zones of adopted local land use plans.

No Action Alternative

Under the No Action Alternative, the Approved Project would be implemented. The Final EIS and ROD determined that the Approved Project would result in no impacts to existing or planned land uses.

Avoidance, Minimization, and/or Mitigation Measures

Action Alternatives and the No Action Alternative

Because the Action Alternatives and the No Action Alternative would be consistent with existing and planned land uses, no avoidance, minimization, and/or mitigation measures are required.

4.1.2 Consistency with State, Regional, and Local Plans

Regulatory Setting

The Public Buildings Amendments of 1988 (40 U.S.C. 3312) requires GSA to comply with, to the extent feasible, national building codes, consider local zoning laws, and consult with State and local government. This law does not subject the U.S. Government to local requirements; rather, it mandates consultation and informed decision making. GSA strives to comply, to the extent possible, with local regulations, including land use plans.

Plans, policies, and ordinances that pertain to land use and transportation planning within the Revised Project area are contained in elements and policies of SANDAG's Regional Comprehensive Plan (RCP), and RTP; the City of San Diego General Plan, the SYCP, and the Multiple Species Conservation Program (MSCP). These plans, policies and ordinances were described in the Final EIS; the only changes that have taken place are as follows:

1. The Approved Project was analyzed with respect to SANDAG's 2030 RTP; this has now been superseded by the 2050 RTP (SANDAG 2011).
2. The City published a new Bicycle Master Plan Update (BMP Update) and associated Environmental Impact Report (EIR) in 2013. The SCIA describes and analyzes the BMP Update provisions applicable to the Revised Project.
3. The City's Redevelopment Agency was dissolved as of February 1, 2012. While some ongoing redevelopment activities continue to occur in what was previously designated as the San Ysidro Redevelopment Area (SYRA), no new redevelopment activities are expected to commence, and the SCIA does not analyse the Revised Project with respect to City Redevelopment Agency policies (City 2013a).

Finally, it should be noted that the SYCP, as well as corresponding amendments to the existing zoning program and the City's Local Coastal Program, are undergoing a comprehensive update. The general purpose of the community plan update is to reflect current conditions and the long-term vision for the community. No updated SYCP has yet been adopted, so in this SEIS the Revised Project is analyzed with respect to the existing SYCP, which was first adopted in 1974 and most recently revised in 2003 (City 2013b).

Regional Transportation Plan

In October 2011, the SANDAG Board of Directors approved the 2050 RTP (SANDAG 2011). The long-range plan covers public policies, strategies, and investments to maintain, manage, and improve the regional transportation system so it meets the diverse mobility needs of the San Diego region through 2050. It is the blueprint for a regional transportation system that enhances quality of life, promotes sustainability, and offers more mobility options for people and goods. The 2050 RTP integrates land use, housing, and transportation planning, in an effort to create communities that are more sustainable, walkable, transit-oriented, and compact while meeting the requirements of Senate Bill 375 (SB 375), the Sustainable Communities and Climate Protection Act of 2008. The plan is based on current and reasonably available financial resources projected out to 2050. Building on the current transportation system, the 2050 RTP outlines projects for transit, rail, and bus services; express or managed lanes; highways; local streets, bicycling, and walking to provide an integrated multimodal transportation system (SANDAG 2011).

Applicable policy goals and policy objectives of the 2050 RTP include:

- **Mobility:** The transportation system should provide the general public and those who move goods with convenient travel options. The system also should operate in a way that maximizes productivity. It should reduce the time it takes to travel and the costs associated with travel.

Policy objectives:

- Tailor transportation improvements to better connect people with jobs and other activities
 - Provide convenient travel choices including transit, inter-city and high speed trains, driving, ridesharing, walking, and biking
 - Preserve and expand options for regional freight movement
 - Increase the use of transit, ridesharing, walking and biking in major corridors and communities
 - Provide transportation choices to better connect the San Diego region with Mexico, neighboring counties, and tribal nations
- **Reliability:** The transportation system should be reliable. Travelers should expect relatively consistent travel times, from day to day, for the same trip and mode of transportation.

Policy objectives:

- Employ new technologies to make travel more reliable and convenient
 - Manage the efficiency of the transportation system to improve traffic flow
- **System Preservation & Safety:** The transportation system should be well maintained to protect the public's investments in transportation. It also is critical to ensure a safe regional transportation system.

Policy objectives:

- Keep the region's transportation system in a good state of repair
 - Reduce bottlenecks and increase safety by improving operations
 - Improve emergency preparedness within the regional transportation system
- **Social Equity:** The transportation system should be designed to provide an equitable level of transportation services to all segments of the population.

Policy objectives:

- Create equitable transportation opportunities for all populations regardless of age, ability, race, ethnicity, or income
- Ensure access to jobs, services, and recreation for populations with fewer transportation choices

- **Healthy Environment:** The transportation system should promote environmental sustainability and foster efficient development patterns that optimize travel, housing, and employment choices. The system should encourage growth away from rural areas and closer to existing and planned development.

Policy objectives:

- Develop transportation improvements that respect and enhance the environment
 - Reduce greenhouse gas emissions from vehicles and continue to improve air quality in the region
 - Make transportation investments that result in healthy and sustainable communities
- **Prosperous Economy:** The transportation system should play a significant role in raising the region's standard of living.

Policy objectives:

- Maximize the economic benefits of transportation investments
- Enhance the goods movement system to support economic prosperity

The 2050 RTP includes a description of the improvements in progress at the San Ysidro LPOE; both the Approved Project and the Revised Project are consistent with this description. In addition, both the Revenue Constrained Plan and the Unconstrained Scenario of 2050 RTP include construction of the SYITC on the east side of the LPOE, and improvements to the Blue Line Trolley, Bus Rapid Transit (BRT), and Rapid Bus service to the LPOE.

The Approved Project was also included in the Revenue Constrained scenario of the 2030 RTP.

City Bicycle Master Plan Update

The City's Bicycle Master Plan Update serves as a policy document to guide the development and maintenance of San Diego's bicycle network. The Bicycle Master Plan Update builds on the City's 2002 Bicycle Master Plan, presenting a renewed vision that is closely aligned with the City's 2008 General Plan. The Bicycle Master Plan Update provides direction for expanding the existing bikeway network, connecting gaps, providing for improved local and regional connectivity, and encouraging bicycling as a transportation mode. Recommended improvements include bikeway network facilities, intersection and other spot improvements (e.g., bicycle-sensitive signal detectors and modification of traffic signal placement), and bicycle support facilities.

The Bicycle Master Plan Update's planned bicycle network in the San Ysidro area include:

- A Class I Bike Path along East Beyer Boulevard connecting to the planned SYITC on the east side of the LPOE;
- Class II Bike Lanes on East San Ysidro Boulevard on the east side, and Camino de la Plaza (crossing over I-5 on the northern edge of the LPOE); and
- Class III Bike Routes on Camiones Way and Virginia Avenue on the west side of the LPOE.

Environmental Consequences

Action Alternatives

The Six-lane and Ten-lane Alternatives would occur in the same locations with the similar footprints. The Socioeconomic Study Area is the same under both action alternatives and are governed by the same land use plans. Therefore, potential impacts related to land use plan consistency would be the same under both action alternatives.

The Final EIS and ROD determined that the Approved Project would be consistent with SANDAG's RCP, 2030 RTP; the City's General Plan, the SYCP, and the MSCP. The Revised Project is similar in most respects to the Approved Project, and is therefore consistent with the RCP, 2030 RTP, General Plan, and SYCP. As noted in Section 4.2, however, SANDAG's 2030 RTP has now been superseded by the 2050 RTP (SANDAG 2011). The City also prepared a new Bicycle Master Plan Update; the associated Draft EIR was published in March 2013. This section analyzes the consistency of the Action Alternatives with the 2050 RTP and the Bicycle Master Plan Update.

Consistency with the 2050 Regional Transportation Plan

As previously noted, the 2050 RTP includes a description of the improvements in progress at the San Ysidro LPOE; both the Approved Project and the Revised Project are consistent with this description. In addition, both the Revenue Constrained Plan and the Unconstrained Scenario of 2050 RTP include construction of the SYITC on the east side of the LPOE, and improvements to the Blue Line Trolley, BRT, and Rapid Bus service to the LPOE, all of which would be served by the proposed Action Alternative improvements. Consistent with key policy objectives of the 2050 RTP, the Action Alternatives (and the No Action Alternative) would increase vehicle and pedestrian inspection processing capacities, and reduce queues and wait times at the San Ysidro LPOE, thus maximizing productivity, and reducing costs and travel time to the general public. The Revised Project alternatives would also improve the reliability and safety of the transportation system, playing a significant role in raising the region's standard of living, which also constitute key 2050 RTP goals. In particular, the Action Alternatives would enable more people to use transit, which is a focus of the 2050 RTP. Therefore, the Action Alternatives would be consistent with the 2050 RTP.

Consistency with the Bicycle Master Plan Update

Bicyclists would be able to walk their bicycles through the cross-border pedestrian facilities provided under the Revised Project, which would allow them to make the connection between the BMP Update's planned bicycle network on the U.S. side of the border and existing and planned bicycle facilities on the Mexican side of the border.

The Action Alternatives would not result in impacts related to plan and policy consistency.

No Action Alternative

Under the No Action Alternative, the Approved Project would be implemented with no changes. As mentioned above, the Final EIS and ROD determined that the Approved Project is consistent with SANDAG's RCP and 2030 RTP; the City's General Plan, the SYCP, and the MSCP.

Consistency with the 2050 Regional Transportation Plan

As noted for the Action Alternatives, the No Action Alternative would be consistent with key policy objectives of the 2050 RTP regarding maximizing productivity, reducing costs and travel time to and improving the reliability and safety of the transportation system. It would not facilitate transit use to the same degree as the Action Alternatives, but would nevertheless be consistent with the general policies of the 2050 RTP.

Consistency with the Bicycle Master Plan Update

Although the Revised Project Action Alternatives would provide the most direct connections for bicycles, the No Action Alternative would implement the Approved Project, which would include some cross-border pedestrian facilities that would allow bicyclists to make the connection between the BMP Update's planned bicycle network on the U.S. side of the border and existing and planned bicycle facilities on the Mexican side of the border. Thus, the No Action Alternative would be consistent with the BMP Update.

The No Action Alternative would not result in impacts related to plan and policy consistency.

Avoidance, Minimization, and/or Mitigation Measures

Action Alternatives and the No Action Alternative

Because the Action Alternatives and the No Action Alternative would be consistent with relevant land use plans, no avoidance, minimization, and/or mitigation measures are required.

4.1.3 Parks and Recreational Facilities

Regulatory Setting and Affected Environment

As noted in the Final EIS, five neighborhood parks and two community parks are located within the SYCP Area. No changes to park facilities have occurred since the Final EIS.

Environmental Consequences

Action Alternatives

The Six-lane and Ten-lane Alternatives would occur in the same locations with the similar footprints. Although the Ten-lane Alternative would have a larger impact footprint than the Six-lane Alternative, neither impact area contains any public parks and recreational facilities. Therefore, potential impacts related to parks and recreational facilities would be the same under both action alternatives.

The Final EIS and ROD determined that the Approved Project would not impact any public parks or recreational facilities in the vicinity of the LPOE. The Revised Project Action Alternatives would occur within a similar footprint to that of the Approved Project, and like the Approved Project, would not impact any public parks or recreational facilities in the Socioeconomic Study Area.

No Action Alternative

Under the No Action Alternative, the Approved Project would be implemented with no changes. The Final EIS and ROD determined that the Approved Project would not impact any public parks or recreational facilities in the vicinity of the LPOE. Accordingly, no impacts would occur to public parks and recreational facilities as a result of the No Action Alternative.

Avoidance, Minimization, and/or Mitigation Measures

Action Alternatives and the No Action Alternative

Because the Action Alternatives and the No Action Alternative would not adversely affect parks or recreational facilities, no avoidance, minimization, and/or mitigation measures are required.

4.1.4 Community Cohesion and Community Character

Regulatory Setting

NEPA established that the U.S. Government use all practicable means to ensure for all Americans safe, healthful, productive, and aesthetically and culturally pleasing surroundings [42 U.S.C. 4331(b)(2)]. In its implementation of NEPA, GSA directs that final decisions regarding projects are to be made in the best overall public interest. This requires taking into account adverse environmental impacts, such as destruction or disruption of human-made resources, community cohesion, and the availability of public facilities and services.

Affected Environment

The SCIA evaluated the community facilities, and social and economic conditions for the Revised Project Footprint and the larger Socioeconomic Study Area (defined below as the SYCP Area). The analysis presented in this subchapter is based on the SCIA, along with other applicable data.

While the San Ysidro LPOE would serve the larger binational region, the community of San Ysidro would experience the most direct and immediate effects of the Revised Project. As in the case of the Final EIS, this SEIS uses demographic statistics and regional growth forecasts prepared by SANDAG to analyze potential community impacts. The SANDAG demographic statistics used in the Final EIS were based on the 2000 U.S. Census, augmented by annual population and housing estimates that are developed in cooperation with local agencies and the California Department of Finance. The SCIA uses SANDAG's current data, which are based on the 2010 U.S. Census (when available), with similar adjustments. SANDAG data are available at the regional, subregional, community, and census-tract levels. The 2010 Census-based data are only available for overall population levels and forecasts, gender breakdowns, race/ethnicity breakdowns, age distributions, housing unit types and housing vacancy rates. Other data, such as employment and education categories, are not yet available from the 2010 Census at the census-tract or community planning area level. The Socioeconomic Study Area is defined as the SYCP Area (refer to Figure 4.1-1), and data in the SCIA are taken from the community planning area level demographic profile provided by SANDAG. For comparative purposes, data are also frequently provided for San Diego County as a whole, and for the South Bay Subregional Area (SRA), which includes the City of Imperial Beach, the City (including the communities of Otay Mesa-Nestor, San Ysidro, Otay Mesa, and Tijuana River Valley), and the unincorporated community of Otay Mesa.

Traffic and air quality technical studies conducted for the Revised Project were reviewed for potential relevance to the socioeconomic impact analysis. In addition, on-line property records, San Diego County Assessor's maps, the 2050 RTP, and other sources of published information were consulted.

The Revised Project was discussed with community groups and public agency staff. In general, stakeholders agreed that the proposed Virginia Avenue public transit facilities and the expanded pedestrian facilities are needed and would be a positive addition for the community and the region.

Community Setting

The Revised Project Footprint is located in the southern portion of the U.S.-Mexico border community of San Ysidro in the City of San Diego, California. San Ysidro is located approximately 14 miles southeast of downtown San Diego and lies directly across the Mexican border from Tijuana, Baja California. The shape of the community generally follows the I-5 freeway from the San Ysidro LPOE past its merge with I-805 to encompass both freeways as they continue northward to their interchanges with State Route (SR-) 905. The LPOE, I-5 and I-805 are defining features of the San Ysidro community.

Demographic Characteristics

As described in the Final EIS, San Ysidro's demographic characteristics reveal that San Ysidro differs in many respects from the South Bay SRA and the greater San Diego region. In general, the SYCP Area includes a relatively large population of residents who are very young (under 20-years of age). Residents in the SYCP Area are more likely to be Hispanic, have substantially lower median household incomes, and be below the poverty level, compared to residents of San Diego County overall. Table 4.1-2 presents an update of the Final EIS demographic profile of the SYCP Area, with data, as available, for the South Bay SRA and the San Diego County region provided for comparative purposes.

Table 4.1-2 2012 SYCP AREA, SOUTH BAY SRA, AND SAN DIEGO COUNTY POPULATION AND HOUSING CHARACTERISTICS			
Characteristic	SYCP Area	South Bay SRA	San Diego County
2012 Population Estimate (SANDAG)	28,336	135,592	3,143,429
Gender (2012 SANDAG)			
Male	47.6%	50.3%	50.1%
Female	52.4%	49.7%	49.9%
Age Distribution (2012 SANDAG)			
Under 5 years	9.9%	6.9%	6.5%
5 to 19	27.0%	24.1%	20.4%
20 to 34	22.0%	23.4%	23.5%
35 to 54	23.7%	26.0%	26.7%
55 to 64	8.5%	9.7%	11.1%
65+	8.9%	9.9%	11.9%

Table 4.1-2 (cont.) 2012 SYCP AREA, SOUTH BAY SRA, AND SAN DIEGO COUNTY POPULATION AND HOUSING CHARACTERISTICS			
Characteristic	SYCP Area	South Bay SRA	San Diego County
Median Age (2012 SANDAG)	27.8	31.8	34.8
Median Household Income-Inflation Adjusted (2012 SANDAG)	\$39,648	\$51,544	\$67,148
Estimates of Families Below Poverty Level (2012 SANDAG)			
Households with Income Less than \$15,000	18%	11%	8%
Households with Income Less than \$30,000	39%	28%	20%
Population by Race & Ethnicity (2012 SANDAG)			
Non-Hispanic	6.6%	30.4%	67.1%
American Indian and Alaska Native	0.1%	0.2%	0.5%
Asian & Pacific Islander	2.4%	9.6%	11.3%
Black or African American	1.1%	3.7%	4.4%
White	2.5%	14.5%	47.5%
Other or Multiple Race	0.6%	2.4%	3.4%
Hispanic	93.4%	69.6%	32.9%
2012 Total Housing Units (2012 SANDAG)	7,410	38,866	1,165,818
Total Occupied Units	7,291	37,362	1,103,034
Housing Unit Type			
Single Family Residence (detached)	27.9%	43.0%	48.6%
Attached Units	65.5%	50.0%	47.8%
Mobile Homes and Other	6.6%	7.0%	3.7%
Persons per Household	3.88	3.50	2.76
Housing Vacancy Rate	1.6%	3.9%	5.4%
Total Employment (2012 SANDAG)*	11,894	43,409	1,501,080

Source: SANDAG's Profile Warehouse, accessed June 11, 2013.

*Only 2008 data available.

Growth Dynamics

Table 4.1-3 presents updated SANDAG forecasts (relative to the Final EIS) for population, housing units, and employment to 2050. The SYCP Area is expected to experience slower growth during the forecast period the South Bay SRA and San Diego County, because the SYCP Area is largely built out. The total number of residents in the SYCP Area was forecast by SANDAG to grow 22 percent, from 28,336 in 2012 to 34,522 in 2050. This is significantly slower than the expected growth for the South Bay SRA (68 percent) and for the County (39 percent).

The total number of housing units in the SYCP Area was forecast by SANDAG to grow 17 percent between 2012 and 2030. This is slightly more than half the growth rate for the housing inventory for the County (31 percent) and less than one-third the growth rate for the South Bay SRA (58 percent).

The total employment in the SYCP Area was forecast by SANDAG to grow 34 percent from current levels by 2050. This rate of employment growth is comparable to the County average (33 percent), but less than the strong growth in employment expected for the South Bay SRA (140 percent).

Table 4.1-3 GROWTH FORECASTS FOR POPULATION, HOUSING, AND EMPLOYMENT					
Geographic Area/ Economic Forecast Category	2012	2030	2050	2012-2050	
				Number	Percent Change
SYCP Area					
Total Population	28,336	32,304	34,522	6,186	22%
Total Housing Units	7,410	8,151	8,676	1,266	17%
Total Employment	11,894*	13,890	15,929	4,035	34%
South Bay SRA					
Total Population	135,592	191,668	228,364	92,772	68%
Total Housing Units	38,866	51,224	61,490	22,624	58%
Total Employment	43,409*	72,060	104,111	60,702	140%
San Diego County					
Total Population	3,143,429	3,870,000	4,384,867	1,241,438	39%
Total Housing Units	1,165,818	1,369,807	1,529,090	363,272	31%
Total Employment	1,501,080*	1,752,630	2,003,038	501,958	33%

Source: SANDAG's Profile Warehouse, accessed June 11, 2013.

* Only 2008 data available.

Local Schools and Parks

As discussed in the Final EIS, there are six public elementary schools and one public middle school in the SYCP Area as well as one private K-8 school and one private K-12 school. Willow Elementary School (which is public) is the only school located south of I-5, and is closest to the Project at a distance of approximately 0.5 miles. As noted in Section 4.1.3, five neighborhood parks and two community parks are located within the SYCP Area. No changes to local schools or park facilities have occurred since the Final EIS.

Community Cohesion

San Ysidro is an international crossroads that hosts North America's busiest border crossing. As a result, this community exhibits strong ties to Mexico and many of the community's commercial uses are oriented toward tourists and other cross-border travelers. Just as important to both border transport and community dynamics is the configuration of the transportation corridors. I-5 traverses northwest-southeast and I-805 traverses north-south through San Ysidro; and the two freeways merge in the central portion of the community, north of the LPOE. South of the junction, I-5 directs freeway traffic straight to the LPOE. The freeways, together with the northwest-southeast trolley corridor, expedite travel to and from the border crossing, but in doing so create a physical partition of the SYCP Area. These physical divisions have translated into a social division of the community, since few bridges over or under the freeways and trolley line connect the distinct portions of the community. As noted in the SYCP, the transportation corridors create divisions that limit pedestrian activity, and bar social, visual, and physical connections, all of which contribute to a divided community.

Economic Character and Fiscal Setting

Regional Economy

Since the publication of the Final EIS, the San Diego region, along with the nation, has continued to experience all the features of a recession and a slow recovery. The San Diego economy recorded a decline that started in early 2008, about six to nine months ahead of the national economy. This was the first year of negative real growth for the local economy since the early 1990s. The economic problems for the San Diego region started in the housing market in 2007, when a significant slowdown in housing sales and median home prices was experienced. Construction employment declined in response to a drop in housing starts and then additional factors such as high gasoline prices in the spring of 2008 and the financial collapse in the fall of 2008 compounded the weakness in the region.

The San Diego County Index of Leading Economic Indicators, published by the University of San Diego (USD) Burnham-Moores Center for Real Estate, has risen slowly and steadily since early 2009; in February 2013 (the latest data available) it reached its highest level since March 2009 (USD 2013). Recently, a recovering construction industry and an improving job market are helping drive optimism about San Diego's economy (KPBS 2013).

The median household income in the San Diego region in for the 2007-2011 period was \$63,857, slightly higher than the California median of \$61,632 and about \$9,000 higher than the U.S. median income of \$52,762 (U.S. Census 2013).

For the year 2012, the San Diego Gross Metropolitan Product (GMP; defined as the market value of all final goods and services produced in the San Diego Region) was estimated to reach \$184.5 billion, a substantial increase after the tumultuous years of the recession that began in 2008 (Federal Reserve Economic Data 2013). Similarly, San Diego County unemployment, which rose precipitously starting in 2008 and reached a high of 10.6 percent in 2010, dropped to 8.9 percent for 2012, and continues to decline (National University System Institute for Policy Research 2012).

Local Retail Business Community

As discussed in the Final EIS, the four shopping centers/retail outlets at the southernmost commercial zones of San Ysidro and Mexico border closest to the Revised Project Footprint include the Plaza de Las Americas, the San Diego Factory Outlet Center (also known as San Ysidro Village), the Border Village Shopping Center, and the McDonald's Trolley Station shopping center. In addition to these four shopping centers, numerous individual stores are located along Camino de la Plaza, East San Ysidro Boulevard, East Beyer Boulevard, and West San Ysidro Boulevard. Businesses along these streets include paid parking lots, restaurants, motels, and Mexican insurance and currency exchange establishments. No substantial change to this general pattern of local business activities has occurred since the Final EIS.

South Bay Retail Market

As of the first quarter of 2013, South San Diego County had an inventory of 18.96 million square feet of retail space, about 14 percent of the countywide total of 138.4 million square feet. In general, the South County retail market has recorded slightly higher vacancy rates than the San Diego region (4.73 percent versus 4.52 percent; the lowest vacancy rates were in the central and eastern parts of the county). The San Ysidro market had about 3.9 million square feet of

retail space as of 2012 (much higher than the approximately 1 million square feet recorded at the time of the Final EIS), and has recorded higher retail vacancy rates than the county average (6.6 percent compared to 5.3 percent countywide). (Colliers 2013)

Taxable Retail Sales

Retail sales within San Diego County were about \$45.1 billion in 2011, including about \$19.5 billion in the City of San Diego. Retail sales within the City decreased about 15 percent (17 percent decrease in the County) immediately in the period from 2007 to 2009. Regional retail sales growth has gradually rebounded since 2009, along with the national economy.

Environmental Consequences

Impacts to community character and cohesion, under federal guidelines, are expected to occur when any of the following result:

- A disruption or division of the physical arrangement of an established community
- A conflict with established recreational, educational, religious, or scientific uses of the area

Impacts are based on the project's effect on local residents' sense of belonging in relation to their neighborhood or the community at large, as well as anticipated changes in the physical character of the community. Features of community character may include circulation/access, parking, property values, and employment opportunities. The Revised Project would represent impacts to a community if it presents either a physical or psychological barrier to activity or uses of the community.

Action Alternatives

The Six-lane and Ten-lane Alternatives would occur in the same locations with similar footprints and within the same community. Although the Ten-lane Alternative would have a larger impact footprint with a wider southbound roadway than the Six-lane Alternative, the additional impact area would not create additional barriers or increase physical division of the SYCP Area. Therefore, potential impacts related to community character and cohesion would be the same under both action alternatives.

Community Cohesion

As noted in the Final EIS, the area surrounding the San Ysidro LPOE currently experiences a moderate lack of community cohesion due to existing community divisions caused by the presence of the I-5 and I-805 freeways, the trolley line, and the existing border facilities. There are no residents in the immediate vicinity of the Revised Project footprint, and the Revised Project (or the Approved Project) would not create a new facility, but rather would renovate and expand the existing LPOE. Therefore, it is unlikely that the Action Alternatives would impair or destroy SYCP Area residents' feelings of social or cultural affiliation with the community. The Action Alternatives would be consistent with the existing SYCP, and would not further divide the established community beyond the existing condition. On the contrary, the newly constructed east-west pedestrian bridge restores some connectivity between the divided eastern and western sides of the community near its southern boundary because it provides an improved linkage over the freeway. The new pedestrian bridge is Architectural Barriers Act Accessibility

Standards (ABAAS)-compliant and, when completed in Phase III, will connect directly to Camino de la Plaza, the San Ysidro Intermodal Transportation Center, the modified Camiones Way, and Virginia Avenue.

The Action Alternatives would provide two bi-directional pedestrian crossings (one on each side of I-5) during Phase I of the Revised Project, thus eliminating the need to traverse the freeway to cross the border. In this way, the Action Alternatives would provide improved access for both sides of the San Ysidro and Tijuana communities, as well as improved connections to transit on both the east side (SYITC) and west side (Virginia Avenue transit facility). This improved mobility would increase both internal community cohesion and cross-border community cohesion, facilitating social and business connections between the residents of San Ysidro and Tijuana.

Access

As discussed in Section 4.2, *Traffic and Transportation/Pedestrian and Bicycle Facilities*, the Action Alternatives would result in the following impacts on local circulation:

- Project-level roadway segment impact (2016): Camino de la Plaza between Virginia Avenue and the I-5 southbound ramps
- Cumulative intersection impact (2035): East San Ysidro Boulevard/Camino de la Plaza/Beyer Boulevard
- Cumulative intersection impact (2035): Camino de la Plaza/Virginia Avenue
- Cumulative roadway segment impact (2035): Camino de la Plaza between Virginia Avenue and the I-5 southbound ramps
- Cumulative roadway segment impact (2035): Camino de la Plaza between the I-5 southbound ramps and East San Ysidro Boulevard

The Revised Project TIS (LLG 2013) proposes mitigation measures, which, if implemented, would minimize these adverse impacts.

Regardless of these potential circulation impacts, the Action Alternatives are not expected to have an adverse impact on public access to educational or religious institutions, or recreational facilities, which are not located in the immediate vicinity of the Revised Project Footprint or the roadways and intersections subject to potential impacts. After the construction period, the Action Alternatives would improve pedestrian and bicycle access to public transit serving the San Ysidro community, the border area, the San Diego region, and beyond.

Throughout the construction period, access to businesses would be maintained. Impacts to traffic flow and business access within the Project vicinity would be avoided or minimized during the construction period. Limited hours of construction activity along with best management practices would be followed to reduce the likelihood that commercial customers, residents, and recreational and other users would be discouraged by construction activities and related traffic congestion. Best management practices would include a Traffic Management Plan (TMP) to minimize interruptions to traffic patterns, and to avoid related safety hazards during construction. The residents and businesses of the local community could experience some temporary noise and traffic circulation restrictions during construction, but the Action Alternatives would not result in substantial adverse impacts to community access.

Parking

As part of the Approved Project, implementation of the Action Alternatives (or the No Action Alternative) would remove a portion of the existing surface parking lots between Virginia Avenue and I-5. The parking lot fronting the east side of Virginia Avenue is currently used exclusively for LPOE employees. Loss of this employee parking would be offset by the construction of a new parking structure and surface parking on the west side of southbound I-5. The Action Alternatives also would remove a surface parking lot off Camiones Way, between the Virginia Avenue LPOE employee lot and a commercial retail building (UETA Duty Free Shop). This lot currently provides 1,178 parking spaces and is available for public parking at a fee. Potential parking impacts associated with removal of this parking lot were analyzed in the Final EIS, and would apply to both the Approved Project and the Revised Project. The Action Alternatives would displace this lot during Phase III. However, as discussed in the Final EIS, there are several other fee-based parking lots in the vicinity of the LPOE that are also available for public use. Loss of this parking would be accommodated at these other parking facilities. Additionally, the Action Alternatives would not preclude private commercial enterprises from taking advantage of the economic opportunity that the LPOE represents, including provision of additional fee-based parking lots, if the demand for such facilities arises. Those wishing to park their cars and cross the border on foot may also park in more distant public lots, including designated park and ride lots and utilize transit or taxi service to reach the border. The improved transit facilities at Virginia Avenue proposed under the Action Alternatives would help reduce the demand for parking at the border. Overall, the Action Alternatives would not result in substantial parking impacts.

Property Values

As discussed in the Final EIS, negative marginal impacts on property values due to construction activities would be temporary and would not be substantial. Potential negative effects could include traffic congestion, dust, noise, or visual effects expected to occur during the construction period. These temporary effects would be minimized by implementation of construction best management practices and the TMP.

The Action Alternatives would generate positive marginal economic benefits derived from improved regional transportation in conformance with adopted regional land use plans. Improved regional transportation performance, better accessibility, and safer, more efficient border crossing operations would result in increased demand for residential and commercial properties within the local community and the greater San Diego region.

The marginal economic value to the region generated by the Action Alternatives and the resulting decrease in border wait times would be substantial and were estimated in the Final EIS to be as large as \$13 to \$17 billion.³

The demand for real property within the region would be expected to increase with the growth of the local economy. The resulting countywide property values would likely increase at least proportionately with economic growth and could exceed the marginal economic growth, because of the finite supply of developable land within the region. As in the rest of the county,

³ SANDAG, *Economic Impacts of Wait Times at the San Diego-Baja California Border*, January 2006. The study estimated a \$2.8 billion impact from a marginal 40 minute increased wait time. This study was never intended to measure the impacts of an 8.5 hour increase in border wait time. Yet, this is the most definitive study available for evaluating the potential benefits to the San Diego economy from the Project. A more conservative, five-hour maximum wait time was used for the economic impact analysis in the Final EIS.

property values in the SYCP Area would be expected to increase at least proportionately with economic growth.

Employment

The Final EIS determined that an estimated 60 employees would be displaced by the business relocations resulting from GSA acquisition of parcels for the Approved Project. Some of these acquisitions have already occurred as part of the implementation of the Approved Project while others are pending; no new employee displacements would be expected under the Revised Project. The local community may also benefit to some degree from the employment opportunities that the Action Alternatives would generate. The SCIA indicates that the average labor demand for construction of the Action Alternatives would be about 464 jobs per year during the approximately four-year phased construction period. Operationally, the Final EIS determined that the Approved Project would be expected to provide work for approximately 100 to 150 more employees than it currently employs; under the Revised Project, the number of employees could be slightly higher. As indicated in the Final EIS for the Approved Project, the Action Alternatives would also be expected to indirectly generate 90,000 to 130,000 new jobs within the region.

Conclusion

Overall, the Action Alternatives would not be expected to result in adverse impacts to community cohesion or community character.

No Action Alternative

The No Action Alternative would implement the Approved Project. Similar to the Action Alternatives, and as determined in the Final EIS and ROD, the No Action Alternative would restore some connectivity between the divided eastern and western sides of the community, and would not disrupt community cohesion. The Final EIS and ROD also determined that the Approved Project would not result in substantial parking impacts, and although it would generate impacts to local circulation and temporary construction circulation impacts similar to those described for the Action Alternatives, it would not result in substantial adverse impacts to community access. Similar to the Action Alternatives (as described above), the No Action Alternative would be expected to have generally positive effects on property values and employment. Overall, the No Action Alternative would not be expected to result in substantial adverse impacts to community cohesion or community character.

Avoidance, Minimization, and/or Mitigation Measures

Action Alternatives and the No Action Alternative

Because no substantial adverse impacts associated with community character or community cohesion would result from implementation of the Action Alternatives or the No Action Alternative, no avoidance, minimization, or mitigation measures are required.

4.1.5 Parcel Acquisitions and Relocations

Regulatory Setting

GSA's relocation assistance program is based on the Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (as amended) and Title 49 CFR, Part 24. The purpose of GSA's relocation assistance program is to ensure that persons displaced as a result of a GSA project are treated fairly, consistently, and equitably so that such persons will not suffer disproportionate negative effects as a result of projects designed for the benefit of the public as a whole. All relocation services and benefits are administered without regard to race, color, national origin, or sex in compliance with Title VI of the Civil Rights Act (42 U.S.C. 2000d, et seq.).

Affected Environment

As listed on the San Diego County Assessor's database, the Revised Project Footprint encompasses federally owned parcels associated with the existing LPOE; two parcels along Camiones Way currently used as a Duty Free shop (Assessor Parcel Number [APN] 666-34-208) and a public parking lot (APN 666-34-210) that were evaluated in the Final EIS but have not yet been acquired; and a portion of another privately owned parcel (APN 666-40-015) that currently consists of a paved, graded lot. In addition, Caltrans and City roadway rights-of-way (ROW) occur in the Revised Project Footprint.

Environmental Consequences

Action Alternatives

The Six-lane and Ten-lane Alternatives would occur in the same locations with similar footprints. Although the Ten-lane Alternative would have a larger impact footprint than the Six-lane Alternative, the additional impact area would not require any further acquisitions. Therefore, potential impacts related to parcel acquisitions and relocations would be the same under both action alternatives.

Property Acquisitions and Relocations

The Revised Project Action Alternatives include only those parcels whose acquisition was analyzed for the Approved Project in the Final EIS. Most of these parcels have been acquired by GSA and are currently federal land. The exceptions are two parcels along Camiones Way currently used as a Duty Free shop (APN 666-34-208) and a public parking lot (APN 666-34-210); these were evaluated in the Final EIS but have not yet been acquired. A permanent easement would be required on a portion of a privately owned parcel consisting of graded paved lot between Virginia Avenue and the Las Americas shopping center, but the only parcel acquisitions to occur were already evaluated in the Final EIS.

The Action Alternatives also would not require residential relocations. No substantial impacts from parcel acquisitions or relocation of residents of the community would result from the Action Alternatives.

Property Tax Impacts

The Final EIS determined that property tax revenue would be reduced by GSA's full or partial acquisitions, which would become government-owned parcels and would not be subject to property tax. The total estimated annual property tax loss resulting from the acquisition of privately owned parcels analyzed in the Final EIS was \$204,935 in fiscal year 2009. No additional property tax losses would occur under the Action Alternatives, because there would be no further parcel acquisitions. Furthermore, the Action Alternatives (and the No Action Alternative) would be expected to increase economic activity throughout the region over the longer term, resulting in increased property values (as discussed above, under *Property Value Impacts*). Therefore, the Action Alternatives would not result in substantial adverse impacts associated with loss of property tax revenues.

Sales Tax Impacts

City sales tax revenues are primarily attributed to retail land uses. The Final EIS determined that some sales tax revenues could be lost, due to closure of businesses on acquired parcels. The displaced businesses that have already been acquired have since relocated and continue to do business, however, so their sales tax revenues have not been lost; the same would be anticipated for the remaining businesses analyzed in the Final EIS, for which parcel acquisition is still pending. Under the Action Alternatives, no new business disruptions would occur beyond those analyzed in the 2009 CIA and Final EIS, and businesses in the Revised Project vicinity would be expected to benefit from the increased efficiency of cross-border travel, and the associated increased business demand and labor pool. Therefore, the Action Alternatives would not result in substantial adverse impacts associated with loss of sales tax revenues.

Conclusion

The Action Alternatives would not be expected to result in adverse impacts associated with parcel acquisitions or relocations.

No Action Alternative

The No Action Alternative would implement the Approved Project. All of the parcel acquisitions for the Approved Project have already occurred or were analyzed in the Final EIS and are still pending. The Final EIS and ROD determined that the Approved Project would have no substantial adverse impacts related to parcel acquisitions because all acquisitions would be undertaken pursuant to the Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (as amended) and Title 49 CFR, Part 24. Therefore, the No Action Alternative would have no substantial adverse impacts associated with parcel acquisitions.

As determined in the Final EIS and ROD, no residential relocations would occur as a result of the Approved Project, so no impacts from relocation of residents of the community would result from the No Action Alternative.

As discussed for the Action Alternatives, the No Action Alternative (i.e., further implementation of the Approved Project) is not anticipated to result in substantial adverse fiscal (property tax and sales tax) impacts, beyond those associated with the business displacements that have already occurred or were analyzed in the Final EIS and are still pending.

Avoidance, Minimization, and/or Mitigation Measures

Action Alternatives and the No Action Alternative

Because no substantial adverse impacts associated with parcel acquisitions, residential relocations, or tax revenues would result from implementation of the Action Alternatives or the No Action Alternative, no avoidance, minimization, or mitigation measures are required.

4.1.6 Environmental Justice

Regulatory Setting

All projects involving a federal action (funding, permit, or land) must comply with EO 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, signed by (former) President Clinton on February 11, 1994. This EO directs federal agencies to take the appropriate and necessary steps to identify and address disproportionately high and adverse effects of federal projects on the health or environment of minority and low-income populations to the greatest extent practicable and permitted by law. It should be noted that, according to the CEQ: “under NEPA, the identification of a disproportionately high and adverse human health or environmental effect on a low-income population, minority population, or Indian tribe does not preclude a proposed agency action from going forward, nor does it necessarily compel a conclusion that a proposed action is environmentally unsatisfactory. Rather, the identification of such an effect should heighten agency attention to alternatives (including alternative sites), mitigation strategies, monitoring needs, and preferences expressed by the affected community or population.”

All considerations under Title VI of the Civil Rights Act of 1964 and related statutes have also been included in the project.

Affected Environment

As discussed above in the demographics section, the SYCP Area continues to have a high minority population (97.5 percent, compared to 52.5 percent in the San Diego region overall). The population is also considered low-income, since 18 percent of the SYCP Area population has a household income below \$15,000 per year (compared to 8 percent in the San Diego region overall), and 39 percent has a household income below \$30,000 per year (compared to 20 percent in the San Diego region overall). The federal poverty level threshold ranges from \$11,945 to \$44,387, depending on family size. Consequently, any substantial, adverse, unmitigated impacts of the Revised Project would be considered to fall disproportionately on a minority and low-income population. In such a case, where there is the potential for environmental justice impacts, EO 12898 requires that extensive outreach efforts be made to the affected community.

Environmental Consequences

Action Alternatives

The Six-lane and Ten-lane Alternatives would occur in the same locations with similar footprints, and within the same community. Therefore, potential environmental justice impacts would be the same under both action alternatives.

The Action Alternatives would result in improved public safety in the LPOE vicinity, improved mobility and access (to both sides of the community and to transit facilities), improved air quality due to more rapid vehicle processing, and economic benefits to the SYCP Area population (which is a minority and low-income population) in the form of employment opportunities, increased property values, and improved vehicle, pedestrian, bicycle, and transit access for cross-border visitors attracted to San Ysidro's retail establishments. However, the following adverse impacts to the SYCP Area population would occur as a result of the Action Alternatives:

- Economic losses experienced by businesses due to reduced access, and/or reduced parking during construction;
- Temporary construction impacts such as noise increases, air pollutant emissions, and mobility delays or detours;
- Temporary visual impacts from construction activities;
- Brief interruptions in utility service where relocation or connections would be required;
- Traffic impacts on local roadways and freeways; and
- Interruptions in border crossings where temporary lane obstructions would be required during construction.

Because these impacts would fall primarily on a minority and low-income population, EO 12898 requires that extensive outreach efforts be made to the affected community, to educate the community regarding the Action Alternatives and their potential impacts, and receive public input into the development of the Action Alternatives.

Accordingly, a public scoping meeting was advertised and held on May 1, 2013. Additional community outreach efforts associated with the Revised Project have included frequent meetings of the Community Representative Committee (several times per year since 2005), as well as participation in community meetings and workshops.

The Revised Project design is the result of public input from community members and stakeholder agencies, addressing many of the concerns expressed in comments on the NOI, during the scoping meeting, and in subsequent meetings. In particular, the bi-directional pedestrian crossing and enhanced Virginia Avenue transit center were developed at the request of community stakeholders. Because of the public outreach efforts, design changes in response to community concerns, and implementation of other avoidance, minimization and mitigation measures discussed throughout the Final EIS, no adverse environmental justice impacts would be anticipated.

No Action Alternative

Most of the benefits (except those associated with the expanded facilities at Virginia Avenue) and adverse effects discussed above for the Action Alternatives would also occur under the No Action Alternative. Because of the public outreach efforts during development of the Approved Project, design changes to the Approved Project in response to community concerns, and implementation of other avoidance, minimization and mitigation measures discussed throughout the Final EIS, no adverse environmental justice impacts would be anticipated.

Avoidance, Minimization, and/or Mitigation Measures

Action Alternatives and the No Action Alternative

Because no substantial adverse environmental justice impacts would result from implementation of the Action Alternatives or the No Action Alternative, no avoidance, minimization, or mitigation measures are required.

4.1.7 Environmental Health and Safety Risks to Children

Pursuant to EO 13045, *Protection of Children from Environmental Health Risks and Safety Risks*, Federal agencies are directed, as appropriate and consistent with the agency's mission, to make it a high priority to identify and assess environmental health risks and safety risks that may disproportionately affect children.

Affected Environment

As noted in the Final EIS, the closest school to the LPOE is Willow Creek Elementary School at approximately 0.4 mile distance, bordering the I-5/I-805 interchange on its western side. Similarly, the nearest residential areas are located approximately 0.5 mile away, near the corner of Camino de la Plaza and Willow Road. Children at these and other nearby locations may be disproportionately affected by any health risks associated with the emissions from traffic travelling to and from the LPOE.

Environmental Consequences

Action Alternatives

The Six-lane and Ten-lane Alternatives would occur in the same locations with similar footprints, and within the same community. Although the Ten-lane Alternative would have a larger impact footprint than the Six-lane Alternative, the additional impact area does not contain any schools or other facilities where children congregate, nor does it reduce the distance between the Revised Project Footprint and any existing schools. Therefore, potential impacts related to environmental health and safety risks to children would be the same under both action alternatives.

As noted above, the closest school and residential areas to the Revised Project Footprint are located at a distance of approximately 0.5 mile. This is considered too far away for there to be substantial environmental health and safety risks to children from localized construction impacts. Furthermore, the San Ysidro LPOE would be fenced and under heavy security due to its Homeland Security mission, so that the likelihood of children entering the LPOE and encountering safety risks is low. Willow Elementary School, is however, immediately adjacent to the I-5/I-805 interchange, where traffic produces air pollutant emissions. Overall, conditions related to children's health would be likely to improve with implementation of the Action Alternatives, since pollutant emissions currently associated with heavy congestion and reduced speeds on I-5 and I-805 near the border are expected to be reduced, due to shortened queues of vehicles idling as they wait to pass through the LPOE. Similarly, higher Mobile Source Air Toxics (MSAT) emissions associated with additional vehicle miles traveled due to increased capacity at the LPOE would be offset by a reduction in idling emissions. No adverse impacts related to environmental health and safety risks to children are anticipated as a result of the Action Alternatives.

No Action Alternative

The No Action Alternative would entail the implementation of the Approved Project. The Final EIS and ROD determined that that the Approved Project would not result in adverse impacts related to environmental health and safety risks to children, so no such impacts are anticipated as a result of the No Action Alternative

Avoidance, Minimization, and/or Mitigation Measures

Action Alternatives and the No Action Alternative

Because no substantial adverse impacts related to environmental health and safety risks to children would result from implementation of the Action Alternatives or the No Action Alternative, no avoidance, minimization, or mitigation measures are required.

4.2 TRAFFIC AND TRANSPORTATION/PEDESTRIAN AND BICYCLE FACILITIES

This subchapter evaluates potential environmental effects to traffic, transportation, and pedestrian and bicycle facilities as a result of the Revised Project. The conclusions are based on the analysis contained in the Final EIS that addressed the Approved Project, as well as additional analysis and environmental studies that were conducted to evaluate the proposed modifications that comprise the Revised Project.

4.2.1 Regulatory Setting

The Architectural Barriers Act (ABA) was enacted in 1968 and applies to all federal government buildings. The ABA requires that facilities designed, built, altered, or leased with certain federal funds be accessible to the public. The ABA Accessibility Standards (ABAAS) constitute strict standards that require federal facilities to be accessible to all users. While the Americans with Disabilities Act (ADA) applies to private projects, the ABAAS are applicable for federal projects. GSA has enacted policies for the implementation of the ABA, including a requirement to design and build federal facilities in compliance with the Uniform Federal Accessibility Standards (UFAS). Compliance with these accessibility standards reinforces GSA's commitment to build facilities that provide equal access for all persons.

4.2.2 Affected Environment

The analysis and conclusions presented in this subchapter are based on a traffic impact study (TIS) prepared for the Revised Project (*Traffic Impact Study Virginia Avenue Pedestrian Facility & I-5 Southbound Realignment*, March 26, 2013; LLG 2013). The Revised Project TIS evaluated the potential traffic impacts on local roadways, freeways, and intersections in the Revised Project area under existing and future conditions resulting from the proposed bi-directional pedestrian crossing facility on the west side of the LPOE at Virginia Avenue and southbound traffic and corresponding southbound inspections on the alignment alternatives for the proposed southbound roadway between I-5 and Mexico's El Chaparral LPOE. Specifically, the 2013 TIS includes an evaluation of vehicular traffic impacts related to increased pedestrian demand anticipated to cross the border at the proposed bi-directional pedestrian crossing facility at Virginia Avenue and the effects related to vehicle queuing on I-5 and I-805 due to the proposed Action Alternatives and continuation of "pulse and surge" southbound inspections by CBP. The TIS did not address those components of the Approved Project that would remain unchanged for the Revised Project, such as increases in northbound vehicle inspection capacity.

The 2009 TIS prepared for the Approved Project (*San Ysidro Land Port of Entry Border Station Expansion Traffic Impact Study*, July 2009) did not evaluate southbound traffic at the LPOE because implementation of southbound inspections is an operational issue that is dependent on CBP protocols. At the time of preparation of the Final EIS, it was undetermined if CBP would continue their existing "pulse and surge" inspections or implement new southbound inspection protocols. Therefore, the 2009 TIS prepared for the Approved Project focused on traffic conditions resulting from the proposed improvements of the Approved Project, which did not include southbound inspections. Some of the analysis and conclusions of the 2009 TIS remain applicable to the Revised Project because in addition to the proposed changes to the Approved Project, the Revised Project also includes the other components of the Approved Project that have not changed. Applicable information from the Final EIS as it relates to the Revised Project is summarized in this subchapter.

Traffic Study Area

The traffic study area for the Revised Project TIS includes roadway segments, freeway segments, and intersections that are likely to be affected by the proposed bi-directional pedestrian crossing facility at Virginia Avenue and the proposed southbound roadway alternatives of the Revised Project. The traffic study area was developed based on the purpose and need of the Revised Project, City of San Diego traffic study guidelines, review of traffic analyses of other projects in the immediate area, and a working knowledge of the local transportation system. The traffic study area, shown in Figure 4.2-1, *Traffic Study Area*, includes the following 6 roadway segments, 3 freeway segments, and 14 intersections:

Roadway Segments

- East Beyer Boulevard, north of East San Ysidro Boulevard
- Camino de la Plaza, from Virginia Avenue to the I-5 southbound ramps
- Camino de la Plaza, from the I-5 southbound ramps to East San Ysidro Boulevard
- Via de San Ysidro, from the I-5 southbound ramps to I-5 the northbound off-ramp
- East San Ysidro Boulevard, from the I-805 southbound ramps to the I-805 northbound ramps
- Proposed southbound roadway, from the Camino de la Plaza overcrossing to the international border (temporary and proposed alignments)

Freeway Segments

- Southbound I-5, north of the I-5/I-805 merge
- Southbound I-5, from the I-5/I-805 merge to Camino de la Plaza
- Southbound I-805, north of the I-5/I-805 merge

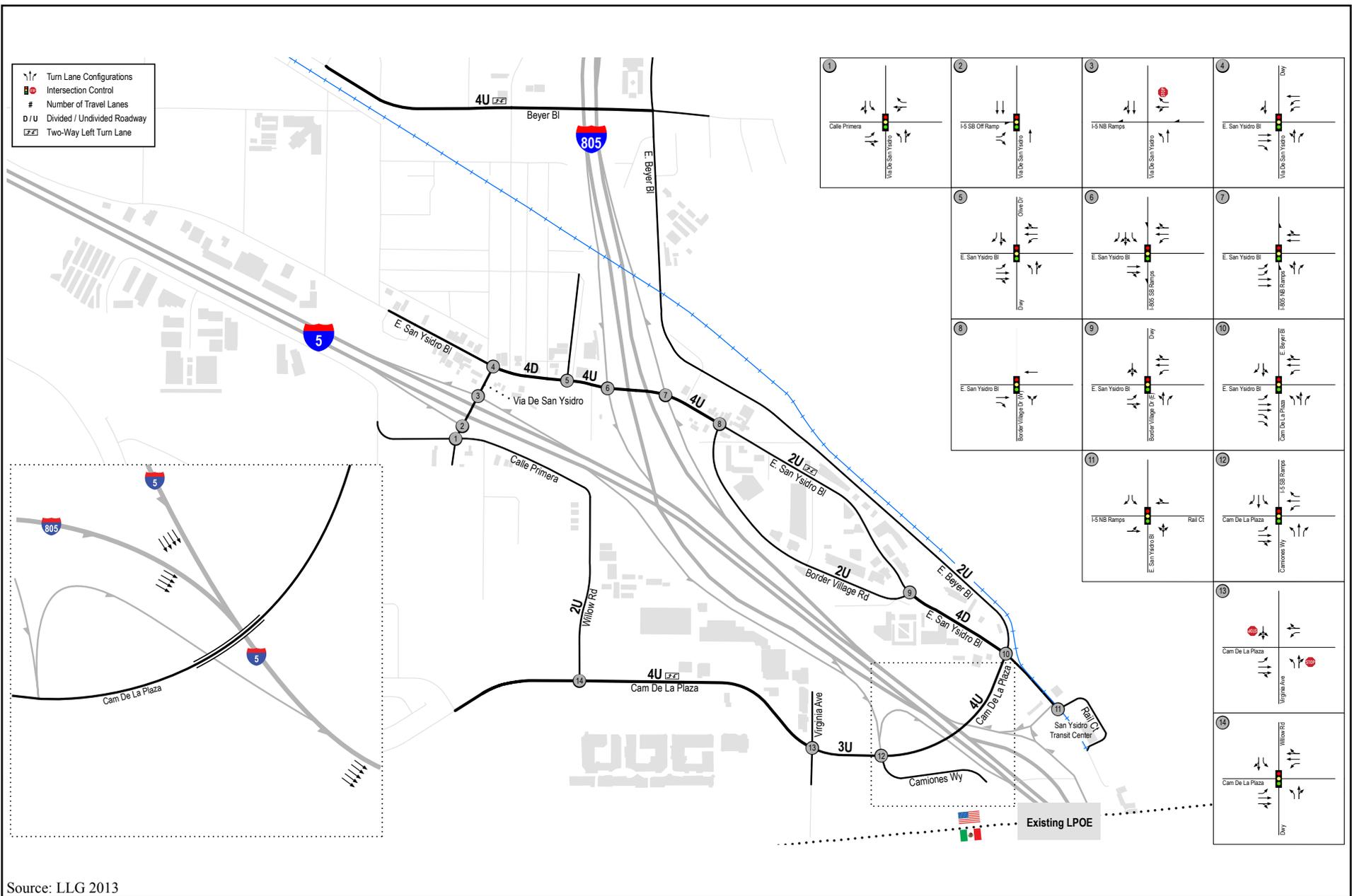
Intersections

- Via de San Ysidro/Calle Primera
- Via de San Ysidro/I-5 southbound off-ramp
- Via de San Ysidro/I-5 northbound ramps
- Via de San Ysidro/East San Ysidro Boulevard
- East San Ysidro Drive/Olive Drive
- East San Ysidro Boulevard/I-805 southbound ramps
- East San Ysidro Boulevard/I-805 northbound ramps
- East San Ysidro Boulevard/Border Village Drive (west)
- East San Ysidro Boulevard/Border Village Drive (east)
- East San Ysidro Boulevard/Camino de la Plaza/Beyer Boulevard
- East San Ysidro Boulevard/I-5 northbound ramps
- East San Ysidro Boulevard/I-5 southbound ramps/Camiones Way
- Camino de la Plaza/Virginia Avenue
- Camino de la Plaza/ Willow Road

Roadway Network

Existing roadways and freeways analyzed in the Revised Project traffic study area are briefly described below.

I:\PROJECTS\GSA\GSA-03_SanYsidroPOE\Map\ENV\SEIS\Fig-2-1_TrafficStudyArea.mxd GSA-03 06/19/13-KF



Source: LLG 2013

Traffic Study Area

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Figure 4.2-1

Interstate 5

I-5 is a north-south interstate highway on the west coast of the U.S. that extends approximately 1,400 miles from the San Ysidro LPOE at the U.S. – Mexico border through San Diego, and continues north through California to the U.S. – Canada border. Within the vicinity of the LPOE, I-5 contains eight lanes (four in each direction). A temporary southbound roadway at the terminus of I-5 (at the Camino de la Plaza overcrossing) roadway transitions from six freeway lanes to five lanes (four POV lanes plus a dedicated lane for buses and other large vehicles) and then curves westward immediately south of the U.S.–Mexico border on Avenida Internacional in Tijuana, Mexico to approach the El Chaparral LPOE (refer to Figure 3-4, *Temporary Southbound Roadway Alignment*). All southbound operations at Mexico’s Puerta Mexico inspection station were permanently relocated to the El Chaparral LPOE on November 1, 2012.

Interstate 805

I-805 runs north-south, connects with I-5 approximately one mile north of the San Ysidro LPOE, and extends approximately 30 miles north to rejoin I-5 in northern San Diego. Within the vicinity of the LPOE, I-805 contains eight lanes (four in each direction).

Camino de la Plaza

Camino de la Plaza extends east-west from East Beyer Boulevard, crosses over I-5, and then turns northwestward to Dairy Mart Road. The east-west segment is lined with commercial uses, most notably the Plaza de Las Americas shopping center. West of the shopping center, the roadway fronts a single family residential neighborhood, the Tijuana River, and agricultural fields. Camino de la Plaza is classified as a Four-lane Collector road in the SYCP and most of Camino de la Plaza is constructed as a four-lane facility with a center two-way left-turn lane with a pavement width of approximately 64 feet. The segment of Camino de la Plaza between Virginia Avenue and the I-5 southbound ramps is currently a Three-lane Collector road with one westbound and two eastbound travel lanes. From the I-5 southbound ramps to its transition to Beyer Boulevard, it continues as an undivided four-lane facility. The speed limit is 45 miles per hour (mph) west of Sipes Lane and 30 mph east of Sipes Lane. Class II bicycle lanes (i.e., striped and stenciled lane for one-way bicycle travel on the roadway) occur on both sides of the street between Dairy Mart Road and Boston Avenue, and only on the south side between Boston Avenue and Virginia Avenue. Sidewalks occur on both sides of the roadway except for the segment on the north side between Virginia Avenue and the I-5 southbound ramps. On-street parking is permitted on the northern side of the roadway, between Boston Avenue and Virginia Avenue.

East Beyer Boulevard

East Beyer Boulevard extends north-south from Beyer Boulevard, and then curves southeastward and generally parallels East San Ysidro Boulevard until it intersects with East San Ysidro Boulevard. The roadway is lined with commercial and industrial uses, the trolley and railroad corridors to the east, an elementary school, and some residences. East Beyer Boulevard is classified in the SYCP as a Four-lane Collector between East San Ysidro Boulevard and Otay Mesa Road. The speed limit is 30 mph. It is currently constructed as an undivided two-lane road with an approximate pavement width of 40 feet. Class II bike lanes occur along both sides for approximately 0.25 mile northwest of East San Ysidro Boulevard and

again from Center Street to Otay Mesa Road. On-street parking and sidewalks are provided on portions along both sides of the roadway.

Via de San Ysidro

Via de San Ysidro extends generally north-south from East San Ysidro Boulevard, under the I-5, and terminates as a dead-end street just south of Calle Primera. This roadway serves as a connecting roadway from the I-5 ramps to San Ysidro Boulevard and Calle Primera. Via de San Ysidro is classified in the SYCP as a Four-lane Major roadway and is built as an undivided four-lane road with an approximate pavement width of 60 feet. Sidewalks occur on both sides of the road. No bikeways are provided, and on-street parking is limited to the segment south of Calle Primera. There is no posted speed limit.

West San Ysidro Boulevard

West San Ysidro Boulevard generally extends parallel to the north side of I-5 between Via de San Ysidro and Via Suspiro. The roadway is lined with a mixture of commercial and residential uses. Between Dairy Mart Road and Smythe Avenue, West San Ysidro Boulevard is classified in the SYCP as a modified Four-lane Collector and is built as a two-lane road with a center two-way left-turn lane and a pavement width of approximately 48 feet. Between Smythe Avenue and Via de San Ysidro, the West San Ysidro Boulevard is classified as a Two-lane/Three-lane Major and is built as a two-lane road with a center two-way left-turn lane. The speed limit is 35 mph. On-street parking is provided along portions of this roadway.

East San Ysidro Boulevard

East San Ysidro Boulevard generally runs parallel to the north side of I-5 between the SYITC and Via de San Ysidro. East San Ysidro Boulevard provides access to the SYITC and is lined with commercial and retail development. It is constructed as a Four-lane Major street between Via de San Ysidro and Camino de la Plaza. The SYCP classifies the segment between Via de San Ysidro and the I-5 northbound ramps as a Four-lane Major roadway. This roadway is currently built as four-lane roadway between Via de San Ysidro and Border Village Road (west) with a pavement width varying between 62 and 66 feet. Between Border Village Road (west) and Border Village Road (east), East San Ysidro Boulevard is built as a two-lane roadway with a two-way left-turn lane with a pavement width of approximately 62 feet. Between Border Village Road (east) and East Beyer Boulevard, the roadway is built as a five-lane roadway (three lanes southbound and two lanes northbound) with a pavement width of approximately 110 feet and 22-foot-wide raised/landscaped median. The posted speed limit is 25 mph. Sidewalks occur on both sides of the roadway. No bikeways are provided, and on-street parking is permitted along portions of the roadway.

Calle Primera/Willow Road

Calle Primera generally runs parallel to the south side of I-5 and west of I-805 between Via Tercero and Willow Road. Willow Road is a north-south roadway that extends between Calle Primera and Camino de la Plaza. Calle Primera is lined with a mixture of residential and commercial uses, and Willow Road is lined with residential uses and an elementary school. The segment of these roadways between Via de San Ysidro and Camino de la Plaza is classified in the SYCP as a Four-lane Collector and is built as a two-lane roadway with a pavement width of approximately 44 feet. The posted speed limit is 25 mph. There are no bikeways or sidewalks, and on-street parking is provided along portions of the roadway.

Methodologies and Thresholds

As reported in the 2013 TIS, intersection turning movement counts were conducted during the weekday morning (AM) peak period from 7 to 9 AM and during the evening (PM) peak period from 4 to 6 PM in the months of June 2010 and March 2011. Weekday average daily trip volumes (ADT) were obtained through machine data collection in the months of June 2010, March 2011, and April 2011. Existing AM and PM peak hour, ADT volumes, and traffic volumes for I-5 and I-805 were provided by GSA. Directional pedestrian counts were taken for an 18-hour period (3 AM to 8 PM) in January 2009 at both northbound and southbound portals to determine daily crossing characteristics of pedestrians. Pedestrian counts were interpolated for the period from 9 PM to 2 AM.

Level of service (LOS) is the professional industry standard term used to denote the different operating conditions that occur on a given roadway segment or intersection under various traffic volume loads and delay times. LOS is a qualitative measure used to describe a quantitative analysis taking into account factors such as roadway geometrics, signal phasing, speed, travel delay, freedom to maneuver, and safety. LOS provides an index to the operational qualities of a roadway segment or an intersection and is defined on a scale of A to F, where LOS A represents the best operating conditions, and LOS F represents the worst operating conditions. LOS A facilities are characterized as having free-flowing traffic conditions with no restrictions on maneuvering and little or no delays. LOS F facilities are characterized as having highly unstable, congested conditions with long delays. In general, LOS D or better is considered acceptable for roadway, freeway, and intersection operations.

Roadway Segments

The LOS of roadway segments is based on the functional classification of the roadway, the maximum capacity, roadway geometrics, and ADT. The extent of a project's traffic impact on a roadway segment is measured in terms of the change in the volume-to-capacity ratio (V/C) caused by the addition of project traffic. V/C is a measure of traffic demand on a roadway segment (expressed as volume) compared to its traffic-carrying capacity.

Intersections

The LOS at intersections is determined by intersection delays, which are measured in seconds, during the AM and PM peak periods. The morning peak period occurs between 7 and 9 AM, and the afternoon peak period occurs between 4 and 6 PM. Delay is a measure of driver and/or passenger discomfort, frustration, fuel consumption, and lost travel time.

Queuing

Queuing occurs when the demand exceeds the capacity at a given roadway or freeway segment, turning movement at an intersection, or inspection facility (such as an LPOE or vehicular checkpoint), and traffic flows are reduced such that a line of vehicles backs up along the congested roadway or freeway. Vehicle queues are defined in terms of the overall length of cars created by the excess demand.

Impact Thresholds

Neither NEPA nor the CEQ Regulations specify a range of quantitative, qualitative, or performance levels for particular environmental effects, including traffic, and GSA also does not

have any adopted traffic impact thresholds in their NEPA procedures. Therefore, because the San Ysidro LPOE is located within the City, traffic impact thresholds of the City (City of San Diego 2011) were used to assess traffic impacts associated with the proposed modifications that comprise the Revised Project. The City’s traffic impact criteria identify defined thresholds for unacceptable traffic increases resulting from a project; these are identified in Table 4.2-1, *City of San Diego Traffic Impact Thresholds*.

Table 4.2-1 CITY OF SAN DIEGO TRAFFIC IMPACT THRESHOLDS			
LOS with Project	Allowable Increase Due to Project Traffic		
	Roadway Segments		Intersections
	V/C	Speed (mph)	Delay (seconds)
E	0.02	1.0	2.0
F	0.01	0.5	1.0

Generally unacceptable traffic increases occur to roadways when (1) the LOS is degraded to E or F with the project or (2) the V/C increases by more than the values in Table 4.2-1 for roadway segments that would operate at LOS E or F without the project and would continue to operate at LOS E or F with the project. Unacceptable increases occur to intersections when (1) the LOS degrades to E or F with the project or (2) the delay increases by more than the values in Table 4.2-1 for intersections that would operate at LOS E or F without the project and would continue to operate at LOS E or F with the project.

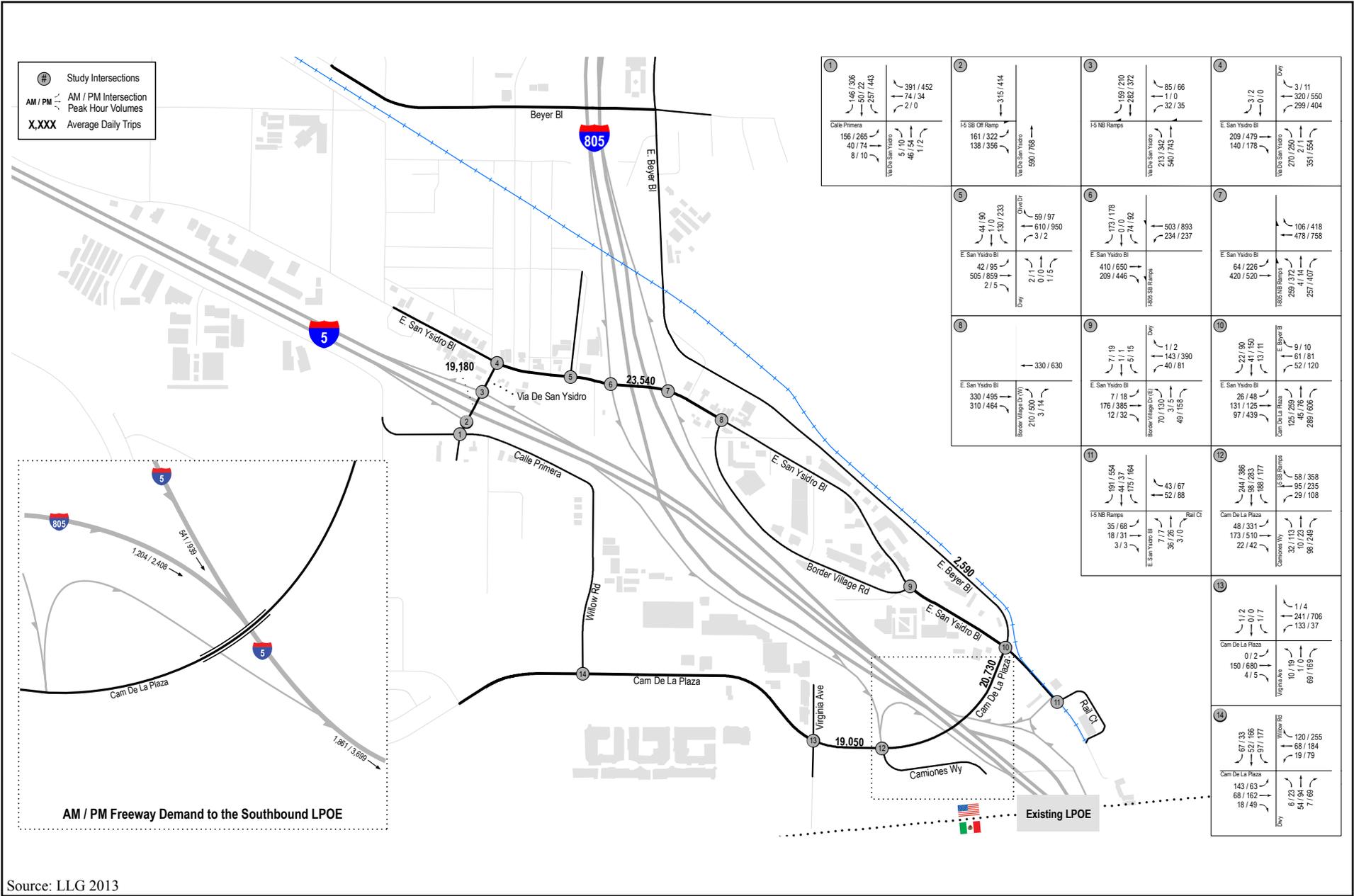
Existing Conditions of Roadway Segments

Table 4.2-2, *Existing Roadway Segment Conditions*, shows the existing ADT, V/C, and LOS for roadway segments within the traffic study area of the Revised Project. Existing traffic volumes are also illustrated in Figure 4.2-2, *Existing Traffic Volumes*. Under existing conditions, all analyzed roadway segments operate at LOS D or better except the following:

- Camino de la Plaza, between Virginia Avenue and the I-5 southbound ramps (LOS E)

Table 4.2-2 EXISTING ROADWAY SEGMENT CONDITIONS				
Roadway Segment	Lanes/Classification	ADT	V/C	LOS
East Beyer Boulevard				
North of East San Ysidro Boulevard	2/Collector	2,590	0.259	A
Camino de la Plaza				
Virginia Avenue to I-5 SB ramps	3/Collector	19,050	0.847	E
I-5 SB ramps to East San Ysidro Boulevard	4/Collector	20,730	0.691	C
Via de San Ysidro				
I-5 SB ramps to I-5 NB ramps	4/Collector	19,180	0.639	C
East San Ysidro Boulevard				
I-805 SB ramps to I-805 NB ramps	4/Major	23,540	0.589	C

NB = northbound; SB = southbound
Source: LLG 2013



Source: LLG 2013

Existing Traffic Volumes

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Figure 4.2-2

Existing Conditions of Intersections

Table 4.2-3, *Existing Intersection Conditions*, shows the existing conditions for intersections within the traffic study area. Existing traffic volumes are also illustrated in Figure 4.2-2. As seen in the table, all intersections in the traffic study area operate at LOS D or better, except the following:

- Via de San Ysidro/I-5 northbound ramps (LOS F during the PM peak period)

Number ¹	Intersection	AM Peak		PM Peak	
		Delay (sec)	LOS	Delay (sec)	LOS
1	Via de San Ysidro/Calle Primera	28.0	C	39.9	D
2	Via de San Ysidro/I-5 SB off-ramp	23.3	C	41.7	D
3	Via de San Ysidro/I-5 NB ramps ²	27.6	D	>100.0	F
4	Via de San Ysidro/East San Ysidro Boulevard	10.6	B	12.8	B
5	East San Ysidro Boulevard/Olive Drive	9.2	A	14.2	B
6	East San Ysidro Boulevard/I-805 SB ramps	9.5	A	9.8	A
7	East San Ysidro Boulevard/I-805 NB ramps	10.6	B	22.4	C
8	East San Ysidro Boulevard/Border Village Drive (W)	6.4	A	14.4	B
9	East San Ysidro Boulevard/Border Village Drive (E)	8.5	A	14.5	B
10	East San Ysidro Boulevard/Camino de la Plaza/ East Beyer Boulevard	14.7	B	19.6	B
11	East San Ysidro Boulevard/I-5 NB ramps	8.9	A	9.7	A
12	East San Ysidro Boulevard/I-5 SB ramps/ Camiones Way	15.0	B	26.5	C
13	Camino de la Plaza/Virginia Avenue ²	15.8	C	32.1	D
14	Camino de la Plaza/Willow Road	17.5	B	19.3	B

¹ Number corresponds to intersection location in Figure 4.2-1.

² Unsignalized intersection.

NB = northbound; SB = southbound; W = west; E = east

Source: LLG 2013

Existing Freeway Queuing at the San Ysidro LPOE

The temporary southbound roadway at the LPOE consists of five lanes (four POV lanes and one bus/large vehicle lane) that transition from six lanes on I-5. Due to the alignment of the temporary roadway, a speed reduction occurs as vehicles travel through the curve of the roadway. Vehicles must slow down from a freeway speed of 65 mph to 35 mph along the temporary roadway. This causes some minor congestion, but no measurable vehicle queues. The existing temporary roadway allows for processing of 1,080 vehicles per hour per lane (or 540 vehicles per 30 minutes per lane) under unconstrained conditions (i.e., no southbound inspections). Existing southbound “pulse and surge” inspections are conducted intermittently by CBP and for a maximum period of 30 minutes. During the 30-minute inspection period, the

capacity per lane is reduced to 523 vehicles per hour per lane (or 261.5 vehicles per 30 minutes per lane). Assuming a one-hour period consists of 30 minutes of no inspections and 30 minutes with inspections, the existing hourly capacity at the southbound LPOE is calculated to be 4,008 vehicles ([540 vehicles x 5 lanes] + [261.5 vehicles x 5 lanes]). Under existing conditions with the temporary roadway and “pulse and surge” southbound inspections, the demand does not exceed the capacity during weekday the AM or PM peak hour, as shown in Table 4.2-4, *Existing Southbound Freeway Queuing*. As a result, no existing southbound queuing occurs on I-5 or I-805.

Period	Capacity (vehicles)	Demand (vehicles)	Excess Demand¹ (vehicles)	Queue (mile)
Weekday AM Peak	4,008	1,861	0	0
Weekday PM Peak	4,008	3,699	0	0

¹ Excess demand = demand – capacity
Source: LLG 2013

Pedestrian and Bicycle Facilities

The San Ysidro LPOE processes an average of over 50,000 pedestrians every day. The peak periods for pedestrian crossings occur between the hours of 6 to 8 AM and 4 to 6 PM, respectively. It should be noted that bicyclists crossing the border are processed as pedestrians, so these totals include both pedestrians and bicyclists. Pedestrian counts taken in both the northbound and southbound directions are presented in Table 4.2-5, *Existing LPOE Pedestrian Volumes*, and are consistent with these estimated total existing pedestrian volumes.

Period	Northbound	Southbound	Total
AM Peak	3,100	330	3,430
PM Peak	1,075	2,860	3,935
Total Daily	31,400	22,700	54,100

Source: LLG 2013

Existing pedestrian facilities within the LPOE include the recently constructed east-west pedestrian bridge, which provides pedestrian and bicycle access over I-5 and between the east and west sides of the San Ysidro community, and the U.S.-Mexico pedestrian crossing facility on the east side of the LPOE. Other pedestrian facilities in the vicinity of the LPOE primarily consist of sidewalks along local roadways.

Bicycle facilities within the vicinity of the LPOE include Class II bike lanes (i.e., striped and stenciled lane for one-way bicycle travel on the roadway), bicycle racks, and a bicycle parking lot. Bike lanes occur along portions of Camino de la Plaza and East Beyer Boulevard. Additional bike lanes are located to the north in the San Ysidro community, approximately one to two miles away; these include Class II bikeways on sections of Otay Mesa Road, Smythe

Avenue, and Dairy Mart Road. A 12-foot-wide, shared-use bike path extends northwestward from Camiones Way, under the Camino de la Plaza overcrossing, and connects to the street system near the Camino de la Plaza/I-5 southbound on-ramp intersection. Bicycle racks are provided near the path's connection with Camiones Way. Additionally, a bicycle parking lot that accommodates 300 bicycles is located at the northwest corner of the East San Ysidro Boulevard/I-5 northbound on-ramp intersection.

Many of the pedestrians crossing the border into the U.S. connect to other transportation modes to reach their ultimate destination. According to a recent pedestrian origin-and-destination survey, 41.6 percent of pedestrians crossing the border northbound use the trolley, 17.2 percent use buses, 4.6 percent use taxis, 21.7 percent use POVs, and 14.5 percent continue as pedestrians (LLG 2013).

Transit Facilities

Transit service and facilities are provided in the vicinity of the LPOE. The SYITC, located on the east side of I-5 at the southern end of East San Ysidro Boulevard, is a major transit hub and accommodates public access to the trolley and local bus routes, as well as taxis, private jitneys (e.g., vans or shuttle buses), intercity buses and shuttle buses. The San Ysidro Trolley Station, located along the MTS Blue Line that carries customers between the border and downtown San Diego, is the busiest trolley station in San Diego County. In 2011, there were approximately 11,500 boardings per day and a total of 20,000 trips per day that ended at this trolley station (SANDAG 2013a). Additionally, MTS bus routes 906 and 907 use the SYITC, as well as other bus stops on local roadways.

In addition to public transit, private transit operators, including taxis, jitneys, and long-haul buses, operate in the immediate area and utilize these transit facilities. Taxi service is provided to northbound travelers, with boarding areas at the SYITC (three stalls) and along the south side of the Camino de la Plaza overcrossing. Taxis also utilize the Camiones Way cul-de-sac as a drop-off point for southbound travelers. Jitney services are frequently used by northbound patrons to access nearby shopping centers. Jitney vehicles have designated areas for pick up at the SYITC (two shared stalls) and at Camiones Way, and queue along the east side of East San Ysidro Boulevard, north of Camino de la Plaza. Long-haul bus operations consist of private bus services that pick up and drop off travelers from outside the region; some of these companies operate out of an area owned by MTS near the San Ysidro Trolley Station.

4.2.3 Environmental Consequences

The 2013 TIS analyzed a Baseline scenario that represents an updated version of the Approved Project analyzed in the 2009 Final EIS, with revised projected volumes and growth rates. The 2013 TIS compared the Action Alternatives (Six-lane Alternative and Ten-lane Alternative) to this Baseline scenario. The transportation network was analyzed under near-term (2016) and long-term (2035) conditions; the near-term represents traffic conditions for opening day (completion of Phase III), and the long-term denotes future buildout traffic conditions.

The 2013 TIS does not evaluate proposed northbound LPOE traffic analyzed as part of the Approved Project. Because both the Action and No Action alternatives would incorporate the Approved Project northbound vehicle improvements, however, northbound wait time in Mexico would be reduced from three or four hours to approximately one hour under all alternatives, as documented in the Final EIS.

Each alternative (Six-lane Alternative, Ten-lane Alternative, and No Action Alternative) is analyzed for potential impacts in the following categories: roadway segments, intersections, and southbound freeway queuing in the near term; roadway segments, intersections, and southbound freeway queuing in the long term; construction impacts; pedestrian and bicycle facilities; transit facilities; and parking.

Six-lane Alternative

Near-term (2016) Conditions – Six-lane Alternative

Near-term Trip Generation

Near-term Pedestrian Trips. Pedestrian trips were evaluated both to assess impacts to pedestrians, and to assess vehicle traffic associated with pickup and drop-off of pedestrians. Northbound/southbound peak hour and total daily pedestrian volumes under near-term conditions were estimated by applying a 25-percent growth rate to existing (2012) pedestrian volumes, which results in a total daily pedestrian volume of approximately 67,600 persons. The Six-lane Alternative would provide two bi-directional pedestrian crossing facilities at the LPOE: one on the east side of the LPOE and one on the west side at Virginia Avenue. The pedestrian crossing facility on the east side was recently improved as part of Phase I to provide a new southbound facility, and the existing northbound facility at this location would be improved as part of Phase II improvements. The pedestrian crossing on the west side at Virginia Avenue is proposed as part of Phase I of the Six-lane Alternative, and also would include both southbound and northbound pedestrian facilities. It is estimated that approximately 70 percent of pedestrians and bicyclists would utilize the eastern pedestrian crossing and approximately 30 percent would use the western pedestrian crossing facility. Peak hour and total daily near-term pedestrian volumes are presented in Table 4.2-6, *Near-term LPOE Pedestrian Volumes*.

Pedestrian Crossing	Northbound Peak Hour Volumes ¹		Southbound Peak Hour Volumes		Total Peak Hour Volumes		Total Daily Volumes
	AM	PM	AM	PM	AM	PM	
Baseline¹							
Eastern	3,880	1,340	290	2,510	4,170	3,850	47,300
Western (Virginia Avenue)	0	0	120	1,070	120	1,070	20,300
Total	3,880	1,340	410	3,580	4,290	4,920	67,600
Action Alternatives							
Eastern	2,720	940	290	2,510	3,010	3,450	47,300
Western (Virginia Avenue)	1,160	400	120	1,070	1,280	1,470	20,300
Total	3,880	1,340	410	3,580	4,290	4,920	67,600

Source: LLG 2013

¹ Under the Baseline scenario, there would be no northbound pedestrian crossing at Virginia Avenue (only southbound). It is assumed that the same number of pedestrians would cross the border under this scenario; those crossing southbound at Virginia Avenue would use the eastern LPOE pedestrian facilities to cross northbound.

Pedestrian volumes generated by the bi-directional western pedestrian crossing at Virginia Avenue of the Six-lane Alternative were calculated by subtracting the existing pedestrian volumes from the projected near-term volumes, which are shown below in Table 4.2-7, *Net*

Near-term Pedestrian Volumes – Virginia Avenue Pedestrian Crossing. It should be noted that, under the Baseline scenario, pedestrian volumes would be the same, but would be distributed differently, since the Approved Project would provide only southbound pedestrian access at Virginia Avenue. The northbound pedestrian volumes identified in Tables 4.2-6 and 4.2-7 would travel through the eastern pedestrian processing facility instead.

Scenario	Northbound Peak Hour Volumes		Southbound Peak Hour Volumes		Total Peak Hour Volumes		Total Daily Volumes
	AM	PM	AM	PM	AM	PM	
Baseline¹							
Near-term Volume	0	0	120	1,070	120	1,070	20,300
Existing Volume	0	0	100	860	100	860	16,200
Net New Volume	0	0	20	210	20	210	4,100
Action Alternatives							
Near-term Volume	1,160	400	120	1,070	1,280	1,470	20,300
Existing Volume	930	320	100	860	1,030	1,180	16,200
Net New Volume	230	80	20	210	250	290	4,100

Source: LLG 2013

¹ Under the Baseline scenario, there would be no northbound pedestrian crossing at Virginia Avenue (only southbound). It is assumed that the same number of pedestrians would cross the border under this scenario; those crossing southbound at Virginia Avenue would use the eastern LPOE pedestrian facilities to cross northbound.

Near-term Pedestrian POV Trips. Potential traffic impacts to the local street system were based on the vehicular trips that would be generated by the net new pedestrian volumes. For the Six-lane Alternative, the number of peak hour and daily vehicular POV trips at Virginia Avenue under near-term conditions was estimated based on survey data regarding the forms of transportation used by pedestrians crossing the border. As previously discussed, the surveys indicated that 21.7 percent of northbound pedestrians use POVs to reach their destination. Of the 21.7-percent of pedestrians, it was assumed that 67 percent of them would be picked up and dropped off and 33 percent would walk to a car parked in an existing nearby lot. Of the total pedestrians that would be picked up and dropped off, 33 percent are estimated to travel in groups and 67 percent would travel alone. An average vehicle occupancy ratio of 2.5 was used for the 33 percent that would travel in groups, and an average vehicle occupancy ratio of 1.0 was used for the 67 percent that would travel alone. Pick-ups/drop-offs result in two vehicular trip ends per peak hour. A pick up during the AM peak generates one trip end when a drive arrives at the Virginia Avenue facility, and a second trip end is generated when the driver leaves the facility. The same two trip ends occur during the PM peak for the return. Thus, pick-up/drop-offs of pedestrians generated a total of four trip ends per day. For parked trips, two vehicular trip ends are generated: one during the AM peak when pedestrians would walk to the vehicle and drive to their destination in the U.S., and one during the PM peak when they would return to the parking lot and then drive into Mexico. The total POV trips is calculated by adding together the number of trips generated by pick-up/drop-offs and the parked vehicles. Table 4.2-8, *Near-term Pedestrian POV Volumes – Virginia Avenue Pedestrian Crossing*, shows the peak hour and total daily pedestrian POV volumes at the Virginia Avenue pedestrian crossing under near-term conditions.

POV Trip Mode	Northbound Peak Hour Volumes ¹		Southbound Peak Hour Volumes		Total Daily
	AM	PM	AM	PM	
Baseline¹					
Pick-up/Drop-off	0	0	4	50	1,920
Parked	0	0	1	15	600
Total	0	0	5	65	2,520
Action Alternatives					
Pick-up/Drop-off	54	20	4	50	1,920
Parked	17	6	1	15	600
Total	71	26	5	65	2,520

Source: LLG 2013

¹ Under the Baseline scenario, there would be no northbound pedestrian crossing at Virginia Avenue (only southbound). It is assumed that the same number of pedestrians would cross the border under this scenario; those crossing southbound at Virginia Avenue would use the eastern LPOE pedestrian facilities to cross northbound.

Near-term Employee Trips. The Six-lane Alternative would result in an estimated increase of 155 federal employees at the San Ysidro LPOE. Additional LPOE employees would travel to and from the proposed employee parking structure and would generate 155 vehicular trips during the AM and PM peak hours, resulting in a total employee trip generation of 310 daily trips.

Near-term Southbound Cross-border Vehicle Trips. Trip generation associated with the proposed southbound roadway modifications was determined based on Border Wizard¹ and SANDAG forecasts. Trips generated by the Six-lane Alternative are identified in Table 4.2-9, *Near-term Southbound Cross-border Vehicle Trips*.

Alternative/Scenario	Weekday AM Peak	Weekday PM Peak	Total Daily (ADT)
Baseline	2,119	4,258	52,128
Six-lane Alternative	2,174	4,369	53,483
Ten-lane Alternative	2,394	4,812	58,905

Source: LLG 2013

Near-term Network Conditions

Under near-term (2016) conditions, the following improvements to the existing circulation network were assumed for the Six-lane Alternative:

- Installation of a traffic signal at the Camino de la Plaza/Virginia Avenue intersection
- Installation of a second left-turn lane on northbound East San Ysidro Boulevard onto westbound Camino de la Plaza

¹ Border Wizard is a computer-based model developed by GSA, FHWA, CBP, and ICE that simulates cross-border movements of automobiles, buses, trucks, and pedestrians.

These two improvements are planned in conjunction with The Outlets at the Border project, which is an approved 140,000-square foot commercial retail development adjacent to the southwest corner of the Virginia Avenue/Camino de la Plaza intersection.

Like the Approved Project, the Six-lane Alternative would also remove Camiones Way to accommodate the proposed Phase III improvements. Under near-term conditions, traffic currently using Camiones Way would be rerouted to Virginia Avenue.

Near-term Traffic Volumes

Near-term traffic volumes were forecasted using an ambient growth rate that was calculated by comparing the SANDAG Series 11 Year 2010 model year to the 2030 model year. Although the SANDAG Series 12 traffic model was approved in 2012, use of the Series 11 model in the 2013 TIS is appropriate because the Series 12 traffic model for the Revised Project area is not yet calibrated, and Series 11 was used in The Outlets at the Border project adjacent to the LPOE. The calculated ambient growth rate was applied to existing traffic volumes and then project traffic from other future planned projects in the vicinity was added in to derive near-term base volumes (refer to Subchapter 4.10, *Cumulative Impacts*, for a list of cumulative projects that were included). Figure 4.2-3, *Near-term Traffic Volumes – Baseline*, illustrates the traffic volumes under Baseline near-term conditions.

To calculate the near-term volumes with the Six-lane Alternative, the Revised Project traffic volumes (as discussed above under *Trip Generation*) were distributed to the local roadway network and added to the near-term baseline volumes. Figure 4.2-4, *Near-term Traffic Volumes – Action Alternatives*, illustrates traffic volumes with the distribution and addition of the Six-lane Alternative traffic.

Near-term Roadway Segment Analysis

Table 4.2-10, *Near-term Roadway Segment Conditions*, shows the analyzed roadway segments under near-term conditions for the Baseline scenario and the Action Alternatives.

Table 4.2-10 NEAR-TERM ROADWAY SEGMENT CONDITIONS							
Roadway Segment	Baseline			Action Alternatives			Δ V/C
	ADT	V/C	LOS	ADT	V/C	LOS	
East Beyer Boulevard							
North of East San Ysidro Boulevard	3,030	0.303	A	3,282	0.328	A	0.025
Camino de la Plaza							
Virginia Avenue to I-5 SB ramps	21,200	0.942	E	23,468	1.043	F	0.101
I-5 SB ramps to East San Ysidro Boulevard	22,430	0.748	D	24,034	0.801	D	0.053
Via de San Ysidro							
I-5 SB ramps to East San Ysidro Boulevard	21,980	0.733	D	21,980	0.733	D	0
East San Ysidro Boulevard							
I-805 SB ramps to I-805 NB ramps	28,719	0.718	C	28,845	0.721	C	0.003

SB=southbound; NB=northbound; Δ = change/difference
Shaded results denote adverse traffic impacts.
Source: LLG 2013

As shown in Table 4.2-10, the following roadway segment would operate at LOS E under Baseline near-term conditions:

- Camino de la Plaza, between Virginia Avenue and the I-5 southbound ramps (LOS E)

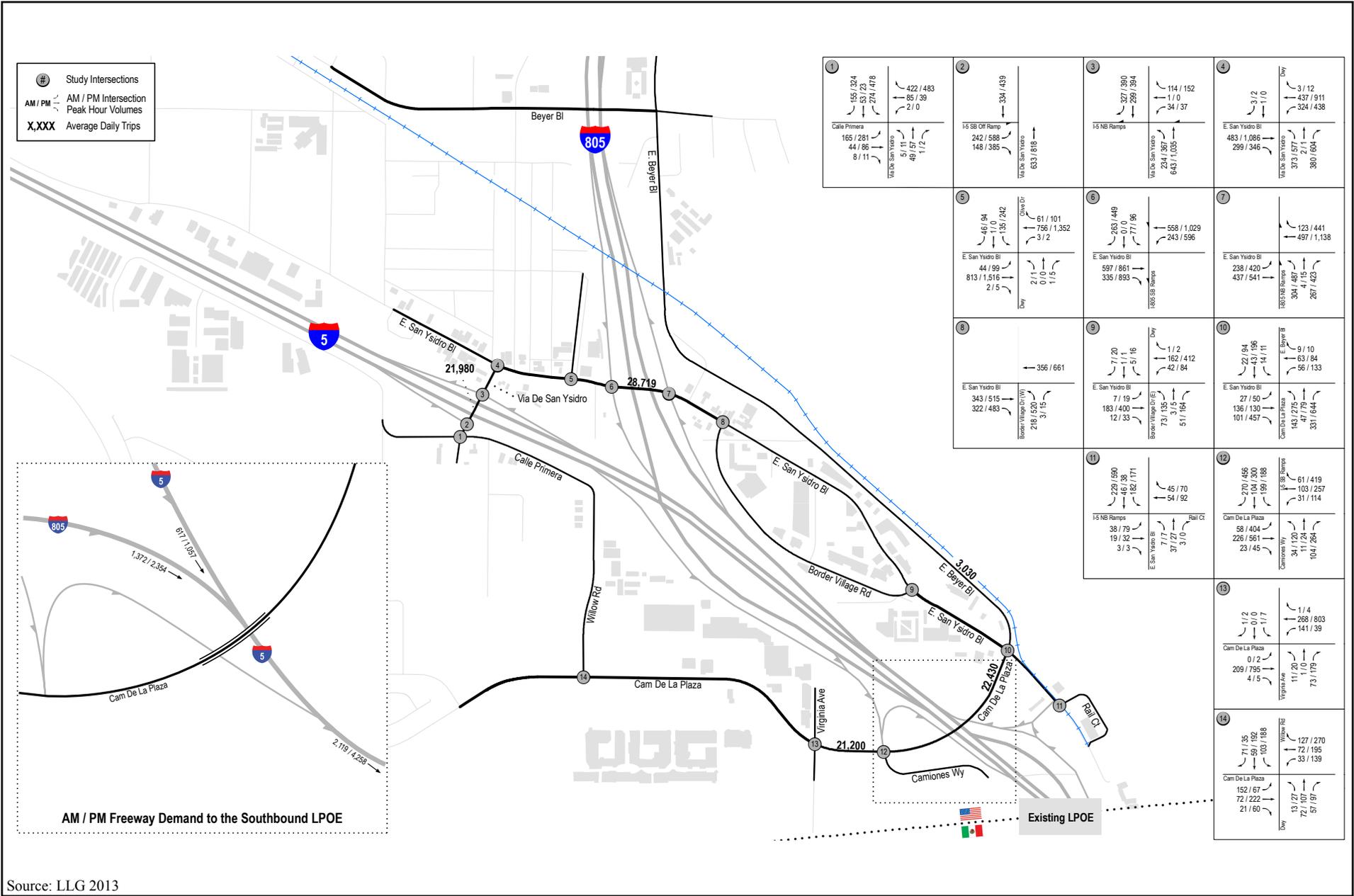
Traffic volumes on the segment of Camino de la Plaza, between Virginia Avenue and the I-5 southbound ramps would increase with the addition of traffic associated with the Six-lane Alternative, causing the LOS to degrade from E to F. The higher volumes and reduction in LOS would result in an adverse traffic impact to this roadway segment. Because the other segments that operate at LOS E or F would experience no or minimal changes with the addition of Six-lane Alternative traffic, no other adverse impacts would occur.

Near-term Intersection Analysis

Table 4.2-11, *Near-term Intersection Conditions*, shows the anticipated intersection delays and LOS under near-term conditions for the Baseline scenario and the Action Alternatives.

Table 4.2-11 NEAR-TERM INTERSECTION CONDITIONS							
Number ¹	Intersection	Baseline		Action Alternatives		Δ Delay (sec)	
		Delay (sec)	LOS	Delay (sec)	LOS		
AM Peak Period							
1	Via de San Ysidro/Calle Primera	35.2	D	35.2	D	0	
2	Via de San Ysidro/I-5 SB off-ramp	28.1	C	28.1	C	0	
3	Via de San Ysidro/I-5 NB ramps	59.7	E	59.7	E	0	
4	Via de San Ysidro/East San Ysidro Boulevard	14.2	B	14.3	B	0.1	
5	East San Ysidro Boulevard/Olive Drive	9.4	A	9.5	A	0.1	
6	East San Ysidro Boulevard/I-805 SB ramps	10.4	B	10.4	B	0	
7	East San Ysidro Boulevard/I-805 NB ramps	14.0	B	14.0	B	0	
8	East San Ysidro Boulevard/Border Village Drive (West)	6.6	A	6.6	A	0	
9	East San Ysidro Boulevard/Border Village Drive (East)	8.5	A	8.5	A	0	
10	East San Ysidro Boulevard/Camino de la Plaza/Beyer Boulevard ²	14.3	B	15.0	B	0.7	
11	East San Ysidro Boulevard/I-5 NB ramps	8.8	A	8.8	A	0	
12	East San Ysidro Boulevard/I-5 SB ramps/Camiones Way	15.8	B	12.9	B	(2.9)	
13	Camino de la Plaza/Virginia Avenue ³	14.9	B	22.0	C	7.1	
14	Camino de la Plaza/Willow Road	18.4	B	18.4	B	0	

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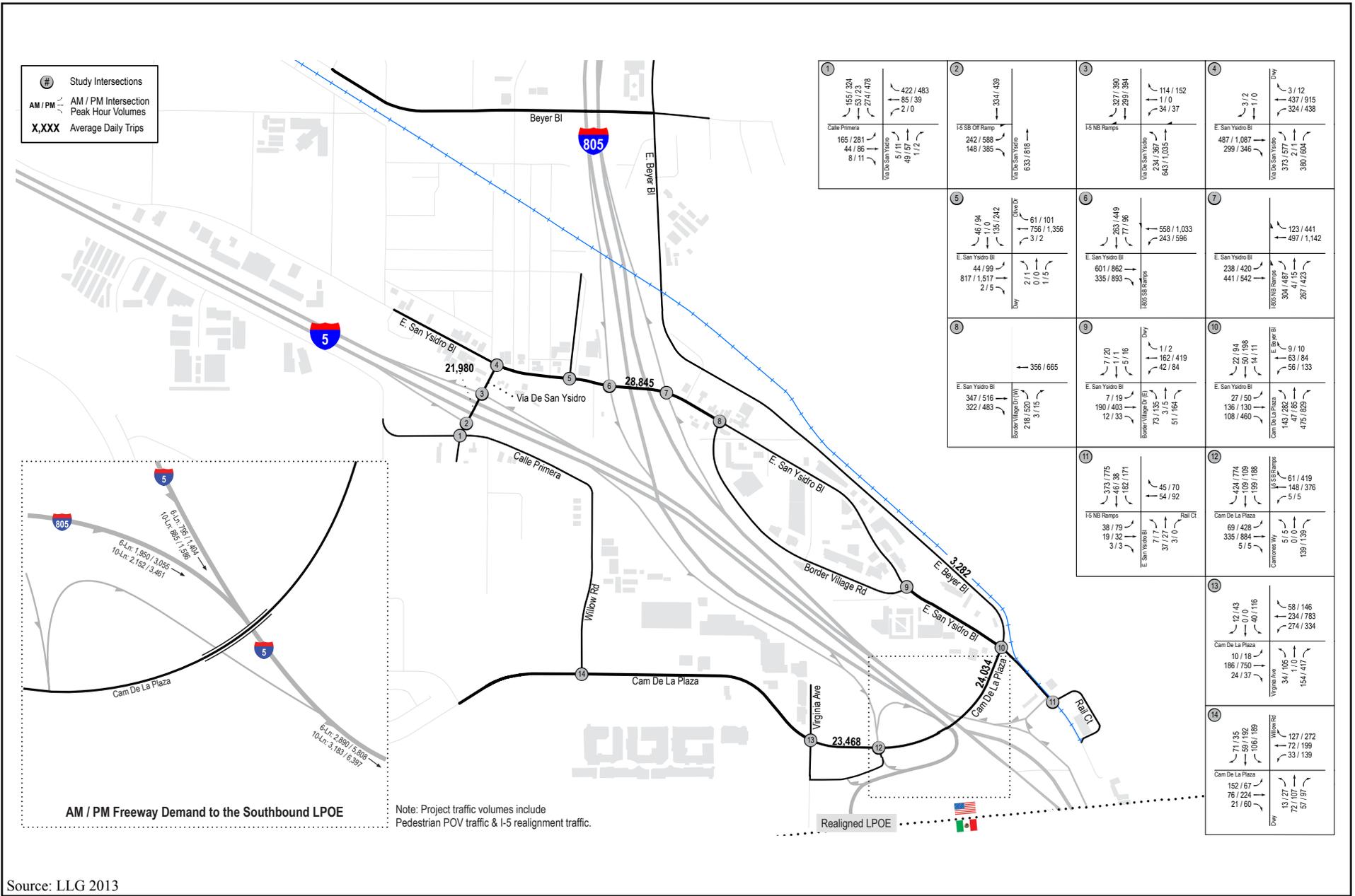


Source: LLG 2013

Near-term Traffic Volumes - Baseline

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Figure 4.2-3



Source: LLG 2013

Near-term Traffic Volumes - Action Alternatives

SAN YSIDRO LPOE IMPROVEMENTS

Figure 4.2-4

Table 4.2-11 (cont.) NEAR-TERM INTERSECTION CONDITIONS							
Number ¹	Intersection	Baseline		Action Alternatives		Δ Delay (sec)	
		Delay (sec)	LOS	Delay (sec)	LOS		
PM Peak Period							
1	Via de San Ysidro/Calle Primera	77.5	E	77.5	E	0	
2	Via de San Ysidro/I-5 SB off-ramp	83.7	F	83.7	F	0	
3	Via de San Ysidro/I-5 NB ramps	*Err	F	*Err	F	0	
4	Via de San Ysidro/East San Ysidro Boulevard	43.3	D	43.6	D	0.3	
5	East San Ysidro Boulevard/Olive Drive	19.3	B	19.3	B	0	
6	East San Ysidro Boulevard/I-805 SB ramps	61.8	E	61.8	E	0	
7	East San Ysidro Boulevard/I-805 NB ramps	83.6	F	84.3	F	0.7	
8	East San Ysidro Boulevard/Border Village Drive (West)	15.5	B	15.7	B	0.2	
9	East San Ysidro Boulevard/Border Village Drive (East)	15.0	B	15.0	B	0	
10	East San Ysidro Boulevard/Camino de la Plaza/Beyer Boulevard ²	20.9	C	25.8	C	4.9	
11	East San Ysidro Boulevard/I-5 NB ramps	10.0	A	10.3	A	0.3	
12	East San Ysidro Boulevard/I-5 SB ramps/Camiones Way	35.7	D	27.0	C	(8.7)	
13	Camino de la Plaza/Virginia Avenue ³	16.3	B	50.4	D	34.1	
14	Camino de la Plaza/Willow Road	21.4	C	21.5	C	0.1	

¹ Number corresponds to intersection location in Figure 4.2-1.

NB = northbound; SB = southbound; Δ = change/difference

*Err = volumes exceed intersection delay calculation methodology.

Source: LLG 2013

As shown in Table 4.2-11, the following intersections are calculated to operate at LOS E or F under Baseline near-term conditions:

- Via de San Ysidro/Calle Primera (LOS E during the PM peak hour)
- Via de San Ysidro/I-5 southbound off-ramp (LOS F during the PM peak hour)
- Via de San Ysidro/I-5 northbound ramps (LOS E/F during the AM/PM peak hours)
- East San Ysidro Boulevard/I-805 southbound ramps (LOS E during the PM peak hour)
- East San Ysidro Boulevard/I-805 northbound ramps (LOS F during the PM peak hour)

With the addition of traffic associated with the Six-lane Alternative and, there would be minor increases in delay under near-term conditions, but none would be substantial. Consequently, no adverse traffic impacts to these intersections would result from the Six-lane Alternative under near-term conditions.

Near-term Southbound Freeway Queuing Analysis

Table 4.2-12, *Near-term Southbound Freeway Queuing Operations (I-5 and I-805 Total)*, summarizes the near-term AM and PM peak hour freeway queuing analysis for the Baseline scenario, Six-lane Alternative and Ten-lane Alternative.

**Table 4.2-12
NEAR-TERM SOUTHBOUND FREEWAY QUEUING OPERATIONS (I-5 AND I-805 TOTAL)**

Scenario	Baseline		Six-lane Alternative		Ten-lane Alternative	
	Weekdays		Weekdays		Weekdays	
	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak
Capacity (vehicles)	4,008	4,008	4,809	4,809	8,015	8,015
Demand (vehicles)	2,119	4,258	2,174	4,369	2,394	4,812
Excess Demand ¹ (vehicles)	0	250	0	0	0	0
Total Queue ² (miles)	0	1.18	0	0	0	0
Change in Demand (vehicles) ³	--	--	55	111	275	554
Change in Total Queue (miles) ³	--	--	0	-1.18	0	-1.18

¹ Excess demand = demand – capacity

² Queue equal to the change in excess demand multiplied by a factor 25 feet per vehicle divided by 5,280 feet in a mile. (25 feet per vehicle) ÷ (5280 feet) = Queue in miles. Queue reported represents the total queue not accounting for the total number of lanes provided.

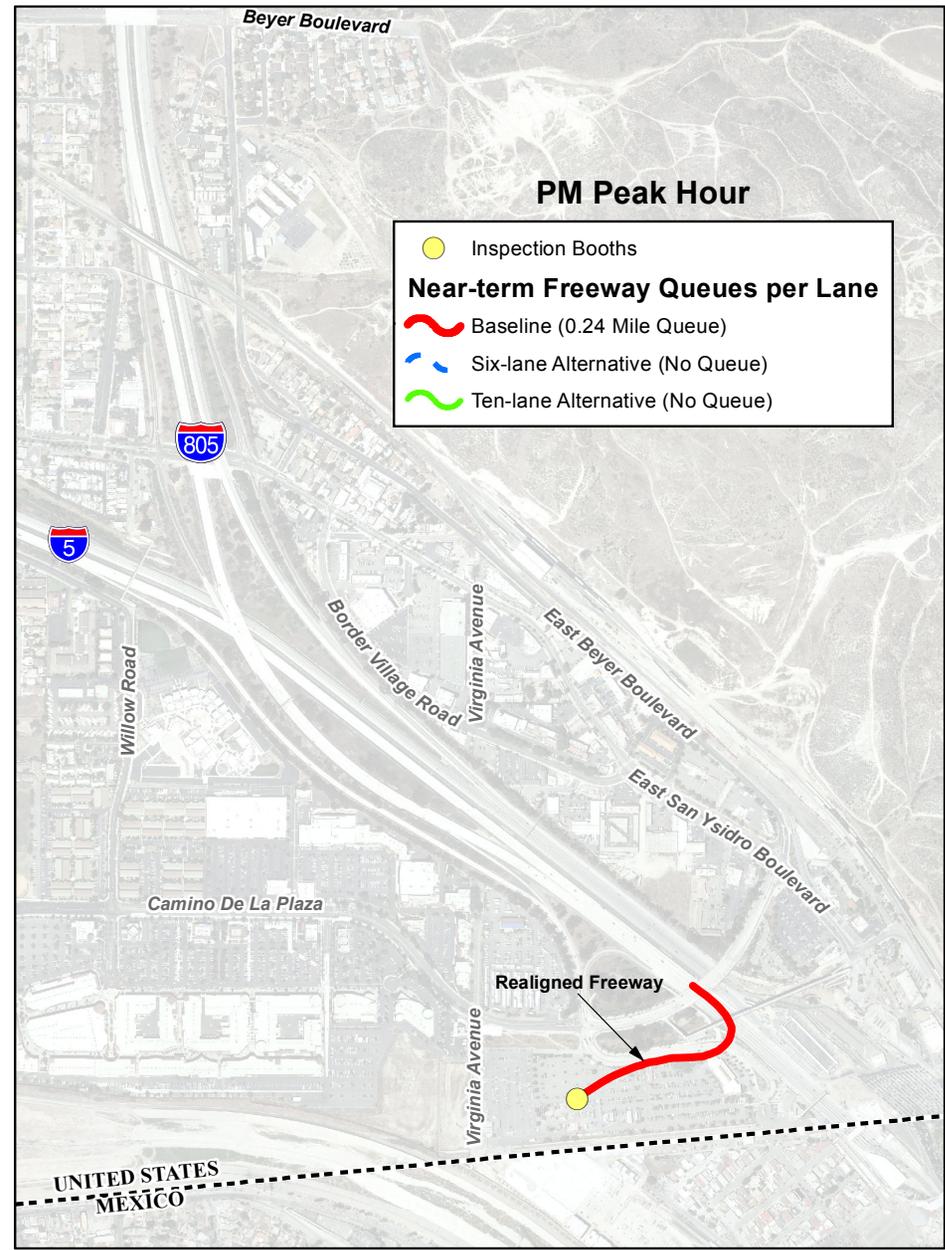
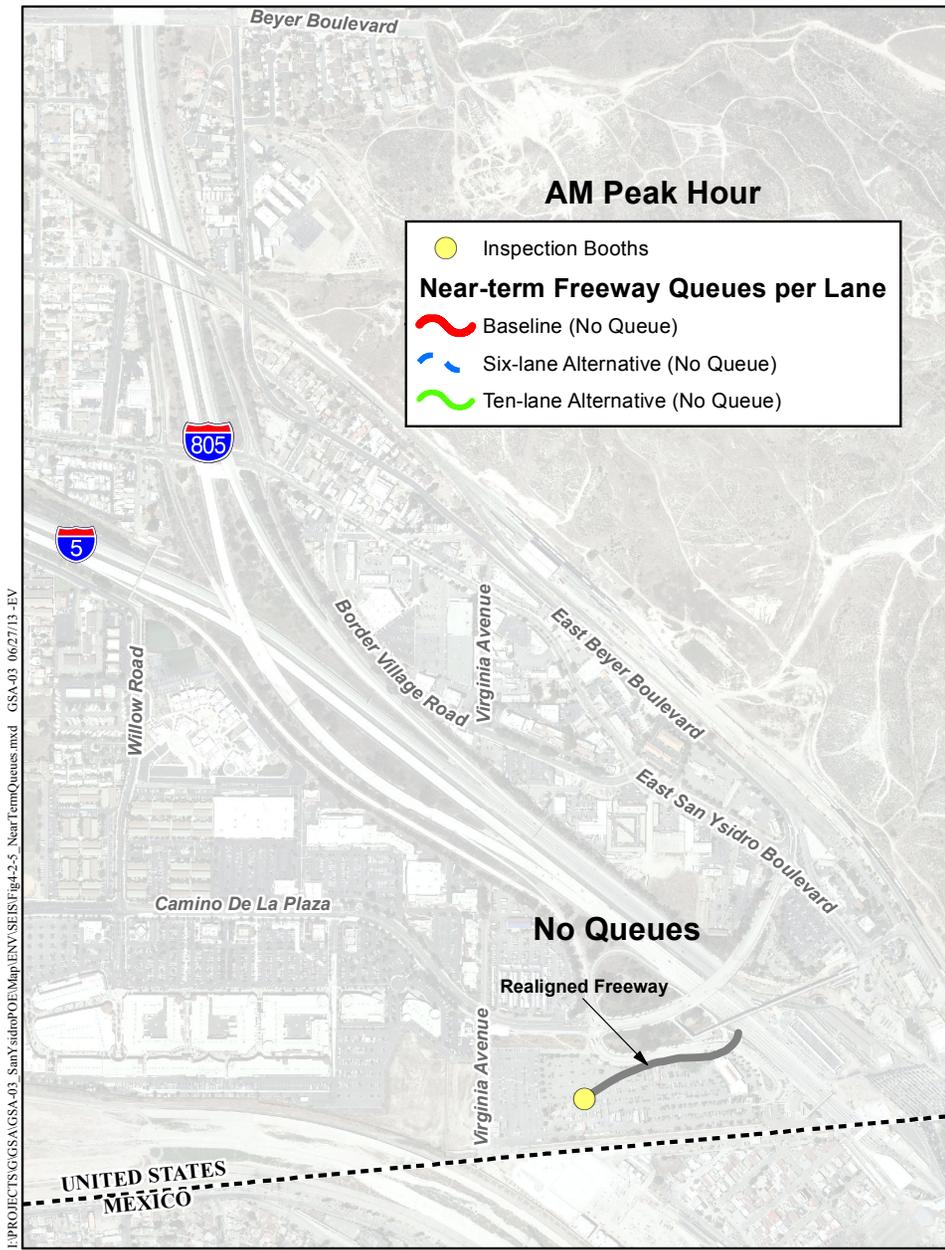
³ Compared to Baseline

Source: LLG 2013

As shown in Table 4.2-12, no queuing would occur during the AM peak hour under Baseline near-term conditions. During the PM peak hour, freeway queuing would amount to a total of 1.18 miles with an excess demand of 250 vehicles.

Under near-term conditions with the Six-lane Alternative, no queuing would occur during the AM peak hour, while an excess demand of 111 vehicles would be experienced during the PM peak hour. Despite this increase in demand, due to the increase in capacity under the Six-lane Alternative, there would be no queue in the near term, so total queuing during the PM peak hour under the Six-lane Alternative would 1.18 miles less than under the Baseline scenario.

To illustrate the actual queues that drivers would experience on the I-5 and I-805 freeways within the study area, the total queues calculated in Table 4.2-12 have been further refined to evaluate the queue lengths per lane for each freeway segment, as opposed to the total queue length (all lanes added together). Table 4.2-13, *Near-term Freeway Queuing Operations per Lane (PM Peak Hour)* and Figure 4.2-5, *Near-term Freeway Queues per Lane*, present the queue lengths per lane that drivers would experience in the near term, under the Baseline scenario and the Six-lane Alternative. Since the AM peak hour would not experience any queuing on the southbound freeway segments with the Baseline scenario or the Action Alternatives, only the PM peak hour queues are shown in the table.



Near-term Freeway Queues per Lane

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Figure 4.2-5

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Table 4.2-13 NEAR-TERM SOUTHBOUND FREEWAY QUEUING OPERATIONS PER LANE (PM PEAK HOUR) (miles)			
Freeway Segment	Baseline	Six-lane Alternative	Ten-lane Alternative
<i>I-5 Queue per Lane</i>			
A. Camino de la Plaza Overpass to the Inspection Booths	0.20	0	0
B. I-5/I-805 Merge to the Camino de la Plaza Overpass	0.04	0	0
C. I-5 Southbound to the I-5/I-805 Merge	0	0	0
Total Queue Length on I-5 Southbound to Inspection Booths (Segments A+B+C)	0.24	0	0
<i>I-805 Queue per Lane</i>			
D. I-805 Southbound to the I-5/I-805 Merge	0	0	0
Total Queue Length on I-805 Southbound to Inspection Booths (Segments A+B+D)	0	0	0

Source: LLG 2013

Note: No queuing would occur in the AM Peak Hour under any scenario.

As shown above, although excess demand is expected to occur under Baseline near-term conditions, with the additional capacity proposed by the Six-lane Alternative, a reduction in queue length would occur. The Six-lane Alternative is anticipated to alleviate near-term southbound border wait times and queue lengths because of the increase in the number of southbound lanes.

Long-term (2035) Conditions – Six-lane Alternative

Long-term Trip Generation

Long-term Pedestrian Trips. Northbound/southbound peak hour and total daily pedestrian volumes under long-term (2035) conditions for the Six-lane Alternative were estimated by applying an 88-percent growth rate to existing pedestrian volumes to estimate 2030 volumes, and then applying the growth rate between 2016 and 2030 for an additional five years to reach long-term (2035) conditions. This would result in a 2035 total daily pedestrian volume of approximately 101,600 (compared to 54,100 under existing conditions). As noted above for the near-term trip generation analysis, approximately 70 percent of pedestrians would utilize the eastern pedestrian crossing, and approximately 30 percent would utilize the western pedestrian crossing. Peak hour and total daily near-term pedestrian volumes are presented in Table 4.2-14, *Long-term LPOE Pedestrian Volumes*.

Pedestrian Crossing	Northbound Peak Hour Volumes ¹		Southbound Peak Hour Volumes		Total Peak Hour Volumes		Total Daily Volumes
	AM	PM	AM	PM	AM	PM	
Baseline¹							
Eastern	5,820	2,020	430	3,760	6,250	5,780	71,120
Western (Virginia Avenue)	0	0	190	1,610	190	1,610	30,480
Total	5,820	2,020	620	5,370	6,440	7,390	101,600
Action Alternatives							
Eastern	4,070	1,410	430	3,760	4,500	5,170	71,120
Western (Virginia Avenue)	1,750	610	190	1,610	1,930	2,220	30,480
Total	5,820	2,020	620	5,370	6,440	7,390	101,600

Source: LLG 2013

¹ Under the Baseline scenario, there would be no northbound pedestrian crossing at Virginia Avenue (only southbound). It is assumed that the same number of pedestrians would cross the border under this scenario; those crossing southbound at Virginia Avenue would use the eastern LPOE pedestrian facilities to cross northbound.

Pedestrian volumes generated by the bi-directional western pedestrian crossing at Virginia Avenue under the Six-lane Alternative were calculated by subtracting the existing pedestrian volumes from the projected long-term volumes, which are shown below in Table 4.2-15, *Net Long-term Pedestrian Volumes – Virginia Avenue Pedestrian Crossing*. Potential traffic impacts to the local street system were based on the vehicular trips that would be generated by the net new pedestrian volumes.

Scenario	Northbound Peak Hour Volumes ¹		Southbound Peak Hour Volumes		Total Peak Hour Volumes		Total Daily Volumes
	AM	PM	AM	PM	AM	PM	
Baseline¹							
Near-term Volume	0	0	190	1,610	190	1,610	30,500
Existing Volume	0	0	100	860	100	860	16,200
Net New Volume	0	0	90	750	90	750	14,300
Action Alternatives							
Long-term Volume	1,750	610	190	1,610	1,930	2,220	30,500
Existing Volume	930	320	100	860	1,030	1,180	16,200
Net New Volume	820	290	90	750	910	1,040	14,300

Source: LLG 2013

¹ Under the Baseline scenario, there would be no northbound pedestrian crossing at Virginia Avenue (only southbound). It is assumed that the same number of pedestrians would cross the border under this scenario; those crossing southbound at Virginia Avenue would use the eastern LPOE pedestrian facilities to cross northbound.

Long-term Pedestrian POV Trips. Table 4.2-16, *Long-term Pedestrian POV Volumes – Virginia Avenue Pedestrian Crossing*, shows the peak hour and total daily pedestrian POV volumes at the Virginia Avenue pedestrian crossing under long-term conditions. These volumes were calculated using the same assumptions detailed above for the near-term pedestrian POV trip analysis.

Table 4.2-16 LONG-TERM PEDESTRIAN POV VOLUMES – VIRGINIA AVENUE PEDESTRIAN CROSSING					
POV Trip Mode	Northbound Peak Hour Volumes¹		Southbound Peak Hour Volumes		Total Daily
	AM	PM	AM	PM	
Baseline¹					
Pick-up/Drop-off	0	0	22	178	6,760
Parked	0	0	7	54	2,080
Total	0	0	29	232	8,840
Action Alternatives					
Pick-up/Drop-off	194	70	22	178	6,760
Parked	59	21	7	54	2,080
Total	253	91	29	232	8,840

Source: LLG 2013

¹ Under the Baseline scenario, there would be no northbound pedestrian crossing at Virginia Avenue (only southbound). It is assumed that the same number of pedestrians would cross the border under this scenario; those crossing southbound at Virginia Avenue would use the eastern LPOE pedestrian facilities to cross northbound.

Long Term Employee Trips. Employee trips for the long-term scenario would be the same as those during near-term conditions, with a total of 155 vehicular trips generated during the AM and PM peak hours, and a total employee trip generation of 310 daily trips.

Long-term Southbound Cross-border Vehicle Trips. Trip generation associated with the proposed southbound roadway under the Six-lane Alternative was determined based on Border Wizard and SANDAG forecasts and is identified in Table 4.2-17, *Long-term Southbound Cross-border Vehicle Trips*.

Table 4.2-17 LONG-TERM SOUTHBOUND CROSS-BORDER VEHICLE TRIPS			
Alternative/Scenario	Weekday AM Peak	Weekday PM Peak	Total Daily (ADT)
Baseline	2,817	5,661	69,300
Six-lane Alternative	2,890	5,808	71,102
Ten-lane Alternative	3,183	6,397	78,309

Source: LLG 2013

Long-term Network Conditions

The network conditions included in the near-term (2016) condition also were assumed for the long-term (2035) conditions. Additionally, an extension of Siempre Viva Road from its current terminus in Otay Mesa to connect to Beyer Boulevard is planned. This new connection is anticipated to increase traffic entering the San Ysidro area from east Otay Mesa.

Long-term Traffic Volumes

Long-term traffic volumes were forecasted using the same methodology used to forecast the near-term traffic volumes identified above. To forecast 2035 conditions, the ambient growth rate used to forecast 2030 volumes was applied for an additional five years to reach 2035

conditions. Figure 4.2-6, *Long-term Traffic Volumes – Baseline*, illustrates the traffic volumes under Baseline long-term conditions.

The Six-lane Alternative traffic volumes (as discussed above under Trip Generation) were distributed to the local roadway network and added to the long-term base volumes to calculate the long-term Six-lane Alternative volumes. Figure 4.2-7, *Long-term Traffic Volumes – Action Alternatives*, illustrates traffic volumes with the distribution and addition of the Action Alternative traffic.

Long-term Roadway Segment Analysis

Table 4.2-18, *Long-term Roadway Segment Conditions*, shows the analyzed roadway segments under long-term conditions, comparing the Baseline scenario with the Action Alternatives.

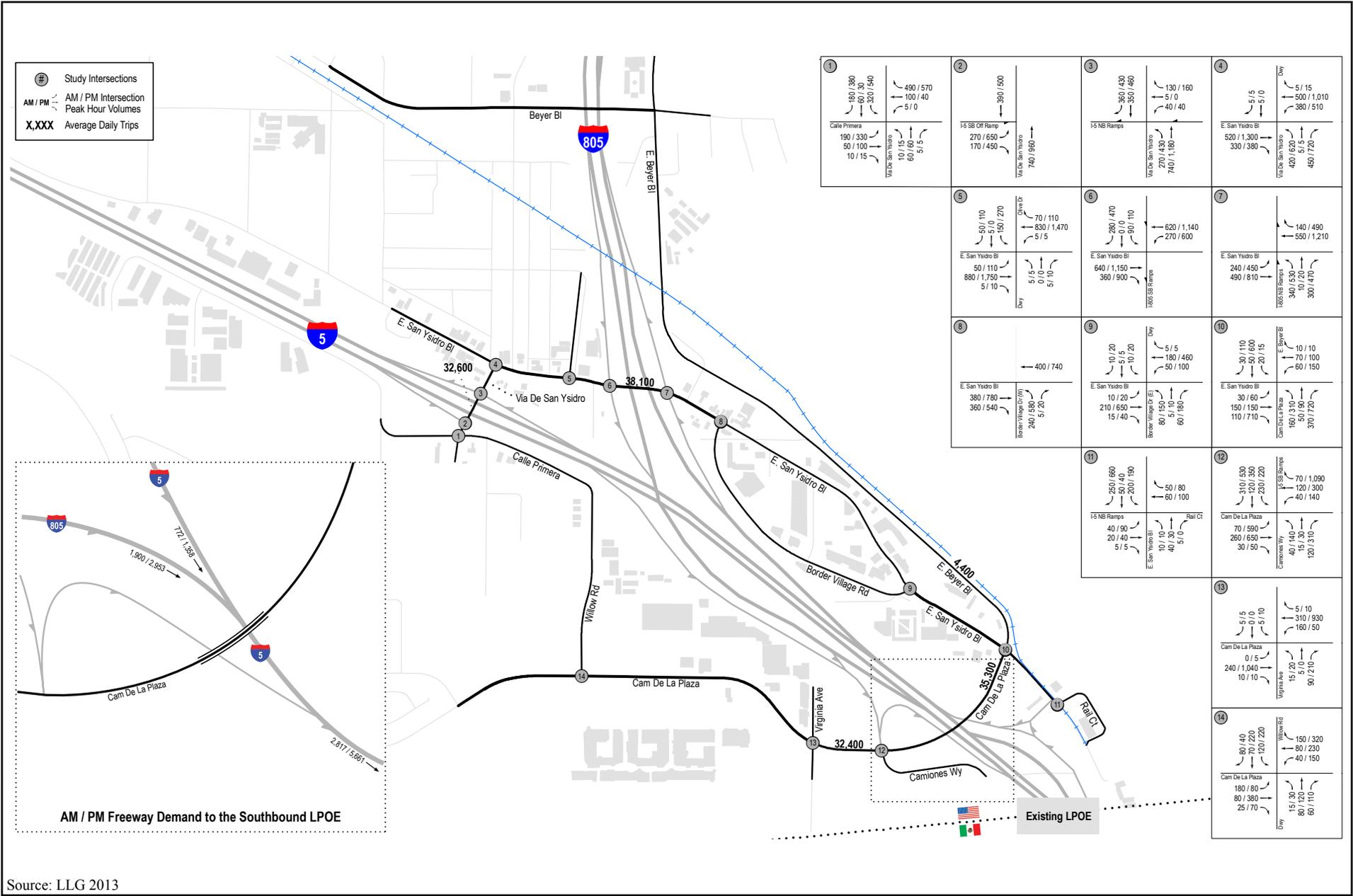
Table 4.2-18 LONG-TERM ROADWAY SEGMENT CONDITIONS							
Roadway Segment	Baseline			Action Alternatives			Δ V/C
	ADT	V/C	LOS	ADT	V/C	LOS	
East Beyer Boulevard							
North of East San Ysidro Boulevard	4,400	0.440	B	5,284	0.528	B	0.088
Camino de la Plaza							
Virginia Avenue to I-5 SB ramps	32,400	1.440	F	40,356	1.794	F	0.354
I-5 SB ramps to East San Ysidro Boulevard	35,300	1.177	F	40,598	1.353	F	0.177
Via de San Ysidro							
I-5 SB ramps to I-5 NB ramps	32,600	1.087	F	32,600	1.087	F	0
East San Ysidro Boulevard							
I-805 SB ramps to I-805 NB ramps	38,100	0.953	E	38,542	0.964	E	0.011

SB=southbound; NB=northbound; Δ = change/difference
Shaded results denote adverse traffic impacts.
Source: LLG 2013

As shown in Table 4.2-18, the following roadway segments would operate at LOS E or F under near-term conditions under the Baseline scenario:

- Camino de la Plaza between Virginia Avenue and the I-5 southbound ramps (LOS F)
- Camino de la Plaza between the I-5 southbound ramps and East San Ysidro Boulevard (LOS F)
- Via de San Ysidro between the I-5 southbound and northbound ramps (LOS F)
- East San Ysidro Boulevard between the I-805 northbound and southbound ramps (LOS E)

Traffic volumes on the segments of Camino de la Plaza, between Virginia Avenue and the I-5 southbound ramps, and between the I-5 southbound ramps and East San Ysidro Boulevard, would increase with the Six-lane Alternative; higher volumes would result in adverse traffic impacts to these two roadway segments. Because the other segments that operate at LOS E or F would experience no or minimal changes with the addition of Six-lane Alternative traffic, no other adverse impacts would occur.



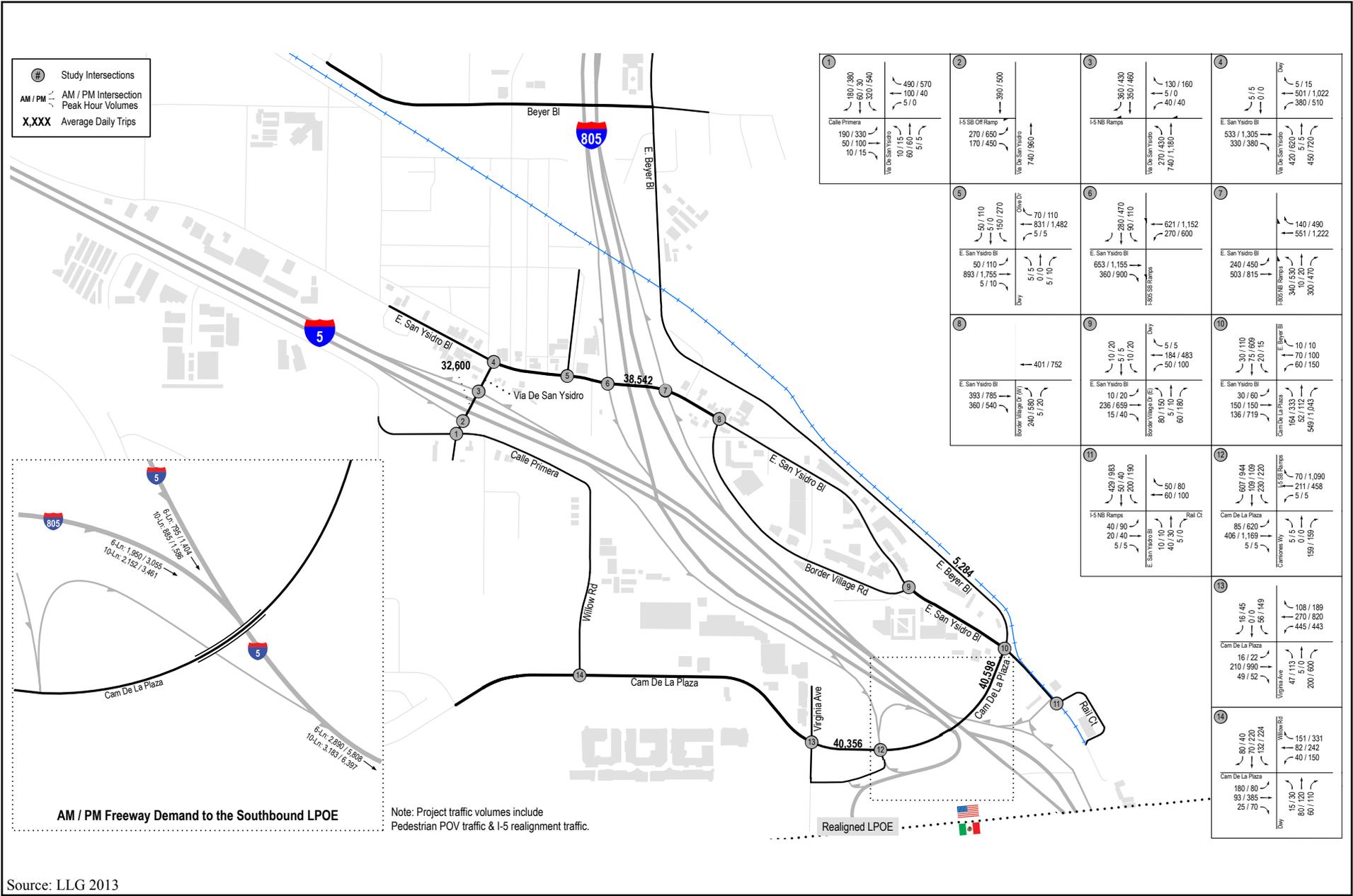
Source: LLG 2013

Long-term Traffic Volumes - Baseline

SAN YSIDRO LPOE IMPROVEMENTS

Figure 4.2-6

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Long-term Traffic Volumes - Action Alternatives

SAN YSIDRO LPOE IMPROVEMENTS

Figure 4.2-7

Long-term Intersection Analysis

Table 4.2-19 shows the anticipated intersection delays and LOS under long-term conditions, comparing the Baseline scenario with the Action Alternatives.

Table 4.2-19 LONG-TERM (2035) INTERSECTION CONDITIONS						
Number ¹	Intersection	Baseline		Action Alternatives		Δ Delay (sec)
		Delay (sec)	LOS	Delay (sec)	LOS	
AM Peak Period						
1	Via de San Ysidro/Calle Primera	48.4	D	48.4	D	0
2	Via de San Ysidro/I-5 SB off-ramp	34.2	C	34.2	C	0
3	Via de San Ysidro/I-5 NB ramps	681.3	F	681.3	F	0
4	Via de San Ysidro/East San Ysidro Boulevard	15.8	B	15.9	B	0.1
5	East San Ysidro Boulevard/Olive Drive	11.0	B	11.0	B	0
6	East San Ysidro Boulevard/I-805 SB ramps	11.3	B	11.3	B	0
7	East San Ysidro Boulevard/I-805 NB ramps	15.4	B	15.4	B	0
8	East San Ysidro Boulevard/Border Village Drive (West)	7.1	A	7.1	A	0
9	East San Ysidro Boulevard/Border Village Drive (East)	8.9	A	9.0	A	0.1
10	East San Ysidro Boulevard/Camino de la Plaza/Beyer Boulevard	14.8	B	15.9	B	1.1
11	East San Ysidro Boulevard/I-5 NB ramps	9.5	A	9.5	A	0
12	East San Ysidro Boulevard/I-5 SB ramps/Camiones Way	17.9	B	17.9	B	0
13	Camino de la Plaza/Virginia Avenue	15.5	B	28.9	C	13.4
14	Camino de la Plaza/Willow Road	24.5	C	24.5	C	0
PM Peak Period						
1	Via de San Ysidro/Calle Primera	105.0	F	105.0	F	0
2	Via de San Ysidro/I-5 SB off-ramp	135.9	F	135.9	F	0
3	Via de San Ysidro/I-5 NB ramps	*Err	F	*Err	F	0
4	Via de San Ysidro/East San Ysidro Boulevard	68.9	E	70.4	E	1.5
5	East San Ysidro Boulevard/Olive Drive	25.0	C	25.4	C	0.4
6	East San Ysidro Boulevard/I-805 SB ramps	63.7	E	64.4	E	0.7
7	East San Ysidro Boulevard/I-805 NB ramps	89.2	F	90.1	F	0.9
8	East San Ysidro Boulevard/Border Village Drive (West)	25.4	C	26.0	C	0.6
9	East San Ysidro Boulevard/Border Village Drive (East)	22.0	C	22.3	C	0.3
10	East San Ysidro Boulevard/Camino de la Plaza/Beyer Boulevard	42.2	D	91.5	F	>10.0
11	East San Ysidro Boulevard/I-5 NB ramps	10.7	B	16.5	B	5.8
12	East San Ysidro Boulevard/I-5 SB ramps/Camiones Way	93.8	F	94.4	F	0.6
13	Camino de la Plaza/Virginia Avenue	21.2	C	97.0	F	>10.0
14	Camino de la Plaza/Willow Road	25.3	C	25.4	C	0.1

¹ Number corresponds to intersection location in Figure 4.2-1.
 NB = northbound; SB = southbound; Δ = change/difference
 Shaded results denote adverse traffic impacts.
 *Err = volumes exceed intersection delay calculation methodology.
 Source: LLG 2013

As shown in Table 4.2-19, the following intersections are calculated to operate at LOS E or F under Baseline long-term conditions:

- Via de San Ysidro/Calle Primera (LOS F during the PM peak hour)
- Via de San Ysidro/I-5 southbound off-ramp (LOS F during the PM peak hour)
- Via de San Ysidro/I-5 northbound ramps (LOS F/F during the AM/PM peak hours)
- Via de San Ysidro/East San Ysidro Boulevard (LOS E during the PM peak hour)
- East San Ysidro Boulevard/I-805 southbound ramps (LOS E during the PM peak hour)
- East San Ysidro Boulevard/I-805 northbound ramps (LOS F during the PM peak hour)
- East San Ysidro Boulevard/I-5 southbound ramps/Camiones Way (LOS F during the PM peak hour)

With the Six-lane Alternative, these same intersections would continue to operate at LOS E or F. Although the intersections of Via de San Ysidro with Calle Primera and the I-5 southbound off-ramp would operate at LOS F during the PM peak period, implementation of the Six-lane Alternative would not increase delays at these intersections. The Via de San Ysidro/I-5 northbound ramps intersection would operate at LOS F during the AM and PM peak periods, but no increase in delay would occur with the Six-lane Alternative. For the intersection of Via de San Ysidro/East San Ysidro Boulevard, as well as the intersections of East San Ysidro Boulevard with the I-805 southbound and northbound ramps and I-5 southbound ramps/Camiones Way, there would be minor increases in delay under near-term conditions with the Six-lane Alternative, but none would be substantial. Accordingly, no adverse traffic impacts to these intersections would result from the Six-lane Alternative under long-term conditions.

With the addition of traffic associated with the Six-lane Alternative, delays at the following study area intersections would increase considerably, however, resulting in adverse long-term traffic impacts:

- East San Ysidro Boulevard/Camino de la Plaza/Beyer Boulevard (LOS F during the PM peak hour)
- Camino de la Plaza/Virginia Avenue (LOS F during the PM peak hour)

Long-term Southbound Freeway Queuing Analysis

Table 4.2-20, *Long-term Southbound Freeway Queuing Operations (I-5 and I-805 Total)*, presents the long-term AM and PM peak hour freeway queuing analysis under the Six-lane Alternative (compared to the Baseline and the Ten-lane Alternative).

Scenario	Baseline		Six-lane Alternative		Ten-lane Alternative	
	Weekdays		Weekdays		Weekdays	
	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak
Capacity (vehicles)	4,008	4,008	4,809	4,809	8,015	8,015
Demand (vehicles)	2,817	5,661	2,890	5,808	3,183	6,397
Excess Demand ¹ (vehicles)	0	1,653	0	999	0	999
Total Queue ² (miles)	0	7.83	0	4.73	0	0
Change in Demand (vehicles) ³	--	--	73	147	366	736
Change in Total Queue (miles) ³	--	--	0	-3.10	0	-7.83

¹ Excess demand = demand – capacity

² Queue equal to the change in excess demand multiplied by a factor of 25 feet per vehicle divided by 5,280 feet in a mile. (25 feet per vehicle) ÷ (5280 feet) = Queue in miles. Queue reported represents the total queue, adding together the individual queues in each lane.

³ Δ = change between the Six-lane Alternative and No Action Alternative

Source: LLG 2013

As shown in Table 4.2-20, no excess demand would occur during the AM peak hour under Baseline long-term conditions. During the PM peak hour, freeway queuing (adding together all lanes) would amount to a total of 7.83 miles with an excess demand of 1,653 vehicles.

Under Six-lane Alternative long-term conditions, the AM peak hour demand is calculated to increase by 73 vehicles; this corresponds to less than 0.005 mile. During the PM peak hour, an excess demand of 147 vehicles is calculated, but queuing would be reduced in total by 3.10 miles because of the increase in capacity under the Six-lane Alternative.

As noted above for the near-term southbound freeway queuing analysis, total queues have been further refined to evaluate the queue lengths per lane for each freeway segment, as distinct from the total queue length of 4.73 miles (adding all lanes together). Table 4.2-21, *Long-term Freeway Queuing Operations per Lane (PM Peak Hour)* and Figure 4.2-8, *Long-term Freeway Queues per Lane*, present the queue lengths per lane that drivers would experience in the long term, under the Baseline scenario and the Action Alternatives. Since the AM peak hour does not result in any queuing on the southbound freeway segments, only the PM peak hour queues are shown in the table.

Freeway Segment	Baseline	Six-lane Alternative	Ten-lane Alternative
<i>I-5 Queue per Lane</i>			
A. Camino de la plaza Overpass to the Inspection Booths	0.20	0.20	0
B. I-5/I-805 Merge to the Camino de la Plaza Overpass	0.15	0.15	0
C. I-5 Southbound to the I-5/I-805 Merge	0.47	0.22	0
Total Queue Length on I-5 Southbound to Inspection Booths (Segments A+B+C)	0.82	0.57	0
<i>I-805 Queue per Lane</i>			
D. I-805 Southbound to the I-5/I-805 Merge	1.05	0.48	0
Total Queue Length on I-805 Southbound to Inspection Booths (Segments A+B+D)	1.40	0.83	0

Note: AM Peak Hour would not experience queuing under any scenario.

As shown above, although excess demand is expected to occur under long-term conditions, with the additional capacity proposed by the Six-lane Alternative, a reduction in queue length would occur. The Six-lane Alternative is anticipated to alleviate long-term southbound border wait times and queue lengths with the increase in the number of southbound lanes.

Construction Impacts

While the Six-lane Alternative would generally result in beneficial impacts to traffic and transportation, temporary impacts would occur during Revised Project construction. Throughout Revised Project construction, northbound and southbound vehicular and pedestrian access through the LPOE would be maintained and no road closures are anticipated. Temporary detours within the LPOE may be required, resulting in some diversion of through traffic. Any associated impacts would be minimized through implementation of a TMP, which would provide additional measures to reduce construction related traffic impacts. Given the temporary nature of the detours and diversions, and the implementation of a TMP, adverse traffic impacts during Revised Project construction would not be substantial.

Pedestrian and Bicycle Facilities

The Six-lane Alternative proposes a new bi-directional pedestrian crossing facility that would be located just south of the Virginia Avenue terminus. This facility would improve mobility and circulation within the Revised Project study area by providing additional pedestrian and bicycle access. These facilities would improve pedestrian circulation and transit connectivity (i.e., mobility), compared to the Approved Project. By providing bi-directional pedestrian access on both sides of the LPOE (and both sides of the I-5 freeway), the Six-lane Alternative would substantially enhance connectivity between the two sides of this divided community

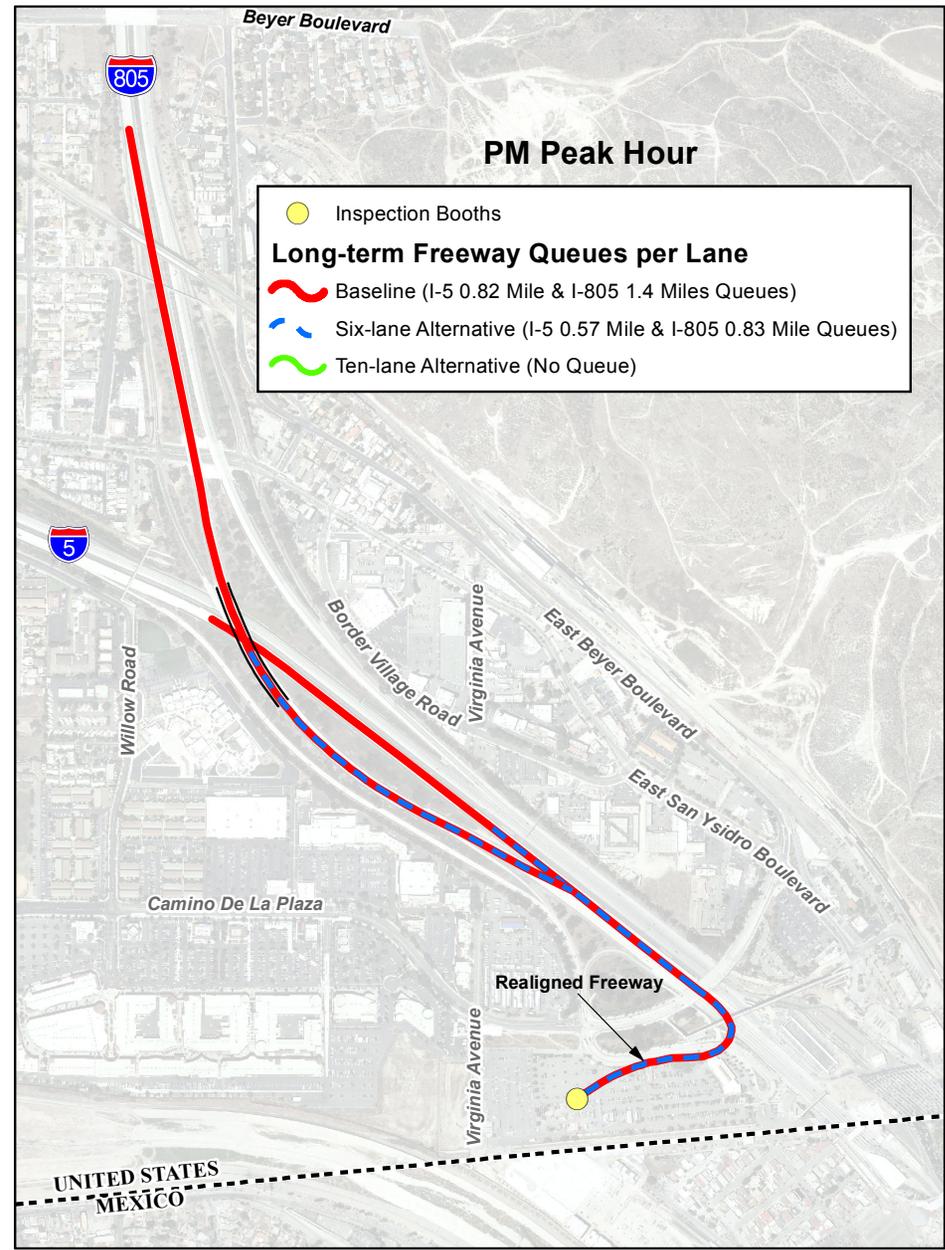
The Six-lane Alternative would not affect other existing bike lanes, sidewalks, or bicycle facilities within the Revised Project vicinity. Bi-directional pedestrian and bicycle access to Mexico would be provided at both the eastern and western (Virginia Avenue) pedestrian processing facilities. No adverse pedestrian or bicycle circulation impacts would result from the Six-lane Alternative.

Transit Facilities

The Six-lane Alternative proposes to modify the development footprint and design of the Virginia Avenue transit facility proposed as part of the Approved Project to better accommodate multi-modal transportation options and mobility at the border. The proposed transit facility would include passenger drop-off and loading areas, bus bays, sidewalks, and a connection to the bi-directional pedestrian crossing facility. Additionally, information kiosks, seating, lighting, and landscaping would be provided. The Six-lane Alternative would not affect other existing transit facilities within the Revised Project vicinity. Northbound bus access into the U.S. would be provided at a dedicated bus-inspection lane under the Action and No Action alternatives. No associated adverse transit impacts would result from the Six-lane Alternative.

Parking

Implementation of the Six-lane Alternative would remove a portion of the existing surface parking lots between Virginia Avenue and I-5. The parking lot fronting the east side of Virginia Avenue is currently used exclusively for LPOE employees. Loss of this employee parking would be offset by the construction of surface parking adjacent to Virginia Avenue during Phase I and an employee parking structure during Phase III of the Six-lane Alternative.



Long-term Freeway Queues per Lane

SAN YSIDRO LPOE IMPROVEMENTS

Figure 4.2-8

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The Six-lane Alternative also would remove a surface parking lot off Camiones Way, between the Virginia Avenue LPOE employee lot and a commercial retail building (UETA Duty Free Shop). This lot currently provides 1,178 parking spaces and is available for public parking at a fee, and is also used as a pick-up/drop-off point for border traffic and UETA Duty Free Shop customers. This displacement was analyzed in the Final EIS for the Approved Project. The Action and No Action alternatives would displace this lot during Phase III. However, there are several other fee-based parking lots in the vicinity of the LPOE that are also available for public use. Loss of this parking would be accommodated at these other parking facilities. Additionally, the Action and No Action alternatives would not preclude private commercial enterprises from taking advantage of the economic opportunity that the LPOE presents, including provision of additional fee-based parking lots in the area, if the demand for such facilities arises. Those wishing to park their cars and cross the border on foot may also park in more distant public lots, including designated park and ride lots and utilize transit or taxi service to reach the border. No associated adverse parking impacts would result from the Six-lane Alternative.

Ten-lane Alternative

Near-term (2016) Conditions – Ten-lane Alternative

Near-term Trip Generation

Near-term Pedestrian Trips. Northbound/southbound peak hour and total daily pedestrian volumes under near-term conditions for the Ten-lane Alternative would be the same as those identified for the Six-lane Alternative. The estimated near-term total daily pedestrian volume would be approximately 67,600 (see Table 4.2-6), while the pedestrian volumes generated by the bi-directional western pedestrian crossing at Virginia Avenue alone would be 4,100 (see Table 4.2-7).

Near-term Pedestrian POV Trips. The number of peak hour and daily vehicular POV trips at Virginia Avenue under near-term conditions for the Ten-lane Alternative would be the same as those identified for the Six-lane Alternative; the estimated total daily pedestrian POV trips would be approximately 2,500 (see Table 4.2-8).

Near-term Employee Trips. As with the Six-lane Alternative, the Ten-lane Alternative would result in an estimated increase of 155 federal employees at the San Ysidro LPOE, which would result in a total employee trip generation of 310 daily trips.

Near-term Southbound Cross-border Vehicle Trips. Trip generation associated with the proposed southbound roadway under the Ten-lane Alternative is identified in Table 4.2-9; these volumes would be approximately 13 percent higher than the Baseline, and approximately 10 percent higher than volumes under the Six-lane Alternative.

Near-term Network Conditions

Near-term network conditions for the Ten-lane Alternative would be the same as those described above for the Six-lane Alternative.

Near-term Traffic Volumes

Near-term traffic volumes with the distribution and addition of the Ten-lane Alternative traffic within the Revised Project study area are illustrated in Figure 4.2-4. As discussed above for the Six-lane Alternative, Ten-lane Alternative traffic volumes were distributed to the local roadway network and added to the near-term base volumes to calculate the near-term volumes.

Near-term Roadway Segment Analysis

Near-term roadway segment conditions would be the same for both the Six-lane and Ten-lane alternatives, and are presented in Table 4.2-10. As shown, the segment of Camino de la Plaza between Virginia Avenue and the I-5 southbound ramps would operate at LOS E under near-term conditions under the Baseline scenario. As in the case of the Six-lane Alternative, traffic volumes on this roadway segment would increase with the Ten-lane Alternative, causing the LOS to degrade from E to F and resulting in an adverse traffic impact. Because the other segments that operate at LOS E or F would experience no or minimal changes with the addition of Ten-lane Alternative traffic, no other adverse impacts would occur.

Near-term Intersection Analysis

The anticipated intersection delays and LOS would be the same for both the Six-lane and Ten-lane alternatives, and are presented in Table 4.2-11. As shown in the table and described above for the Six-lane Alternative, five intersections are calculated to operate at LOS E or F under Baseline near-term conditions. The addition of Ten-lane Alternative traffic would result in minor increases in delay under near-term conditions, but none would be substantial. The Ten-lane Alternative would not result in adverse traffic impacts to analyzed intersections under near-term conditions.

Near-term Southbound Freeway Queuing Analysis

The near-term AM and PM peak hour southbound freeway queuing analysis for the Ten-lane Alternative is summarized in Table 4.2-12. As shown, no queuing would occur during the AM peak hour under Baseline near-term conditions. During the PM peak hour, Baseline southbound freeway queuing would amount to a total of 1.18 miles, with an excess demand of 250 vehicles.

Under Ten-lane Alternative near-term conditions, no queuing would occur during the AM or PM peak hours. As with the Six-lane Alternative, with the additional capacity proposed by the Ten-lane Alternative, near-term queuing would be eliminated. The Ten-lane Alternative is anticipated to alleviate near-term southbound border wait times and queue lengths with the increase in the number of southbound lanes.

Long-term (2035) Conditions – Ten-lane Alternative

Long-term Trip Generation

Long-term Pedestrian Trips. Northbound/southbound peak hour and total daily pedestrian volumes under long-term conditions for the Ten-lane Alternative would be the same as those identified for the Six-lane Alternative. The estimated total daily pedestrian volume would be approximately 101,600 (see Table 4.2-14), while the pedestrian volumes generated by the

bi-directional western pedestrian crossing at Virginia Avenue would be 14,300 (see Table 4.2-15).

Long-term Pedestrian POV Trips. The number of peak hour and daily vehicular POV trips at Virginia Avenue under long-term conditions for the Ten-lane Alternative would be the same as those identified for the Six-lane Alternative; the estimated total daily pedestrian POV trips would be approximately 8,840 (see Table 4.2-16).

Long-term Southbound Cross-border Vehicle Trips. Trip generation associated with the proposed southbound roadway of the Ten-lane Alternative is identified in Table 4.2-17; as under near-term conditions, these volumes would be approximately 13 percent higher than the Baseline, and approximately 10 percent higher than volumes under the Six-lane Alternative.

Long-term Employee Trips. Employee trips for the long-term scenario would be the same as those during near-term conditions for both Action Alternatives, with a total of 155 vehicular trips generated during the AM and PM peak hours, and a total employee trip generation of 310 daily trips.

Long-term Network Conditions

Long-term (2035) network conditions would be the same for the Ten-lane Alternative as discussed above for the Six-lane Alternative.

Long-term Traffic Volumes

Long-term traffic volumes distribution would be the same for the Six-lane and Ten-lane alternatives within the Revised Project study area, as illustrated in Figure 4.2-7. The methodology for calculating the long-term Ten-lane Alternative traffic volumes is discussed above for the Six-lane Alternative.

Long-term Roadway Segment Analysis

Long-term Roadway segment conditions under the Ten-lane Alternative would be the same as the Six-lane Alternative (refer to Table 4.2-18). As shown, the following roadway segments would operate at LOS E or F under near-term No Action Alternative conditions:

- Camino de la Plaza between Virginia Avenue and the I-5 southbound ramps (LOS F)
- Camino de la Plaza between the I-5 southbound ramps and East San Ysidro Boulevard (LOS F)
- Via de San Ysidro between the I-5 southbound and northbound Ramps (LOS F)
- East San Ysidro Boulevard between the I-805 northbound and southbound ramps (LOS E)

Traffic volumes on the segments of Camino de la Plaza, between Virginia Avenue and the I-5 southbound ramps, and between the I-5 southbound ramps and East San Ysidro Boulevard, would increase with the Ten-lane Alternative; higher volumes and reduction in LOS would result in adverse traffic impacts to these two roadway segments of Camino de la Plaza. Because the other segments that operate at LOS E or F would experience no or minimal changes with the addition of Ten-lane Alternative traffic, no other adverse impacts would occur.

Long-term Intersection Analysis

The anticipated intersection delays and LOS under long-term conditions under the Ten-lane Alternative would be the same as the Six-lane Alternative (refer to Table 4.2-19). As shown in the table and described above for the Six-lane Alternative, seven intersections are calculated to operate at LOS E or F under long-term Baseline conditions. With the Ten-lane Alternative, these same intersections would continue to operate at LOS E or F. The addition of Ten-lane Alternative traffic would result in minor increases in delay under long-term conditions, but none would be substantial. Accordingly, no adverse traffic impacts to these seven intersections (refer to Table 4.2-19) would result from the Ten-lane Alternative under long-term conditions.

With the addition of Ten-lane Alternative traffic, delays at the following study area intersections would experience increase considerably, however, resulting in adverse long-term traffic impacts:

- East San Ysidro Boulevard/Camino de la Plaza/Beyer Boulevard (LOS F during the PM peak hour)
- Camino de la Plaza/Virginia Avenue (LOS F during the PM peak hour)

Long-term Southbound Freeway Queuing Analysis

The long-term AM and PM peak hour southbound freeway queuing analysis for the Ten-lane Alternative is summarized in Table 4.2-20. As shown, there would be no excess demand during the AM peak hour under Baseline long-term conditions. During the PM peak hour, freeway queuing would amount to a total of 7.83 miles, with an excess demand of 1,653 vehicles.

Under long-term conditions with the Ten-lane Alternative, although the demand is calculated to increase by 366 vehicles, no queuing would occur during the AM peak hour because of the increased capacity. During the PM peak hour, although an excess demand of 736 vehicles is calculated, due to the increase in capacity under the Ten-lane Alternative, queuing would be eliminated.

Table 4.2-21 presents the queue lengths per freeway lane within the Revised Project study area for the long-term Ten-lane Alternative. Table 4.2-21 demonstrates that, although excess demand is expected to occur under long-term conditions, with the additional capacity proposed by the Ten-lane Alternative, all queuing would be eliminated. While the Six-lane Alternative would reduce queuing to some extent, the Ten-lane Alternative is anticipated to provide the greatest benefit in alleviating southbound border wait times and queue lengths, because it would provide the largest increase in southbound capacity.

Construction Impacts

Construction impacts for the Ten-lane Alternative would be the same as identified for the Six-lane Alternative. No adverse impacts would occur with implementation of a TMP.

Pedestrian and Bicycle Facilities

As with the Six-lane Alternative, the Ten-lane Alternative would provide additional pedestrian and bicycle facilities that would improve mobility within the Revised Project study area, and would not affect other existing bike lanes, sidewalks, or bicycle facilities within the Revised Project vicinity. Pedestrian and bicycle access to and from Mexico would be maintained or

improved. No adverse pedestrian or bicycle circulation impacts would result from the Ten-lane Alternative.

Transit Facilities

As with the Six-lane Alternative, the Ten-lane Alternative would improve transit facilities, and no adverse impacts to transit operations would result.

Parking

As with the Six-lane Alternative, implementation of the Ten-lane Alternative would remove the surface parking lots between Virginia Avenue and I-5, resulting in the loss of 1,178 parking spaces in a fee-based lot. Several other fee-based parking lots are located in the vicinity of the LPOE that are available for public use. The loss of parking under this alternative would be accommodated via the combination of existing parking facilities; new fee-based parking facilities implemented by private commercial enterprises in response to any additional emerging demand for parking, and increased use of alternative modes of transportation such as transit. No adverse impacts to parking would result from the Ten-lane Alternative.

No Action Alternative

The No Action Alternative would result in full implementation of the Approved Project, without the southbound roadway and Virginia Avenue modifications proposed under the Six-lane and Ten-lane Revised Project alternatives. For the traffic analysis, the 2013 TIS Baseline scenario provides an updated version of anticipated Approved Project traffic on local roadway segments and at intersections, because future projections based on the 2009 Final EIS data were out of date.

As represented by the Baseline scenario in the 2013 TIS, the No Action Alternative would be expected to result in the same pedestrian crossing volumes and employee trips as the Action Alternatives. Since the Approved Project would provide only southbound pedestrian access at Virginia Avenue, however, all northbound pedestrian volumes identified in Table 4.2-7 would travel through the eastern pedestrian processing facility instead.

Network conditions under the No Action Alternative would be the same as the Action Alternatives for the near-term and long-term scenarios. Traffic volumes under near-term and long-term conditions for the No Action Alternative are presented in Figures 4.2-3 and 4.2-6.

Although southbound freeway queuing was not analyzed in the Final EIS, Six-lane Alternative freeway queuing would be comparable to queuing under the Approved Project, in that the number of southbound queuing lanes would be similar. Under the Six-lane Alternative configuration, the I-5 freeway would have six queuing lanes, whereas the Approved Project included six lanes plus a bus lane. While not identical, these two configurations would be more similar to each other than to the Baseline configuration (five lanes, which would be comparable to the Final EIS No Build Alternative, with no renovation of the San Ysidro LPOE) or the Ten-lane Alternative configuration (10 lanes). Therefore, the Six-lane Alternative freeway queuing analysis in the 2013 TIS is used as a proxy for the No Action Alternative queuing analysis.

Near-term (2016) Conditions

Near-term Roadway Segment Analysis

As analyzed in the Final EIS,² the No Action Alternative (Approved Project) would adversely affect only the segment of Camino de la Plaza between Virginia Avenue and the I-5 southbound ramps. No other analyzed roadway segment would be adversely impacted by the No Action Alternative.

Near-term Intersection Analysis

As analyzed in the Final EIS, the No Action Alternative would result in adverse impacts to the intersection of Camino de la Plaza/Virginia Avenue under near-term conditions. The Final EIS states that all other study area intersections analyzed in the Final EIS would operate at acceptable LOS under the Approved Project.

Near-term Southbound Freeway Queuing Analysis

As previously noted, the Six-lane Alternative freeway queuing analysis in the 2013 TIS serves as a proxy for the No Action Alternative queuing analysis.

Near-term southbound freeway queuing operations are identified for the Six-lane Alternative configuration in Tables 4.2-12 and 4.2-13 and Figure 4.2-3; these would be comparable to the No Action Alternative. As shown, no queuing would occur during the AM or PM peak hour under near-term conditions for the No Action Alternative. The No Action Alternative or the Action Alternatives would eliminate southbound queuing, compared to the Baseline scenario, which would not include implementation of Phase III of the Approved Project.

Long-term (2035) Conditions

Long-term Roadway Segment Analysis

As analyzed in the Final EIS,³ the No Action Alternative (Approved Project) would result in adverse impacts to the following roadway segment under long-term conditions:

- Camino de la Plaza between Virginia Avenue and the I-5 southbound ramps

In addition, the Final EIS acknowledged that traffic volumes would increase on the following roadway segments:

- Via de San Ysidro between East San Ysidro Boulevard and the I-5 northbound ramps
- East San Ysidro Boulevard between the I-805 northbound ramps and Border Village Road.

However, the Final EIS stated that, assuming these roadways would be improved to their ultimate recommended street classifications (as identified in the SYCP) by the horizon year

² Note that the Final EIS analyzed near-term conditions in 2014, in contrast to the current analysis, which defined near-term conditions as 2016.

³ Note that the Final EIS analyzed long-term conditions in 2030, in contrast to the current analysis, which defined long-term conditions as 2035.

(which is by definition, buildout of the Project area, including roadways), the additional volumes resulting from the Approved Project would not further degrade traffic conditions on these roadways. Therefore, the No Action Alternative (Approved Project) would only result in adverse impacts to the Camino de la Plaza segment between Virginia Avenue and the I-5 southbound segment under long-term conditions.

Long-term Intersection Analysis

As analyzed in the Final EIS, under long-term conditions the No Action Alternative (Approved Project) would result in adverse impacts to the intersections of Camino de la Plaza/Virginia Avenue and Camino de la Plaza/I-5 southbound ramps.

Long-term Southbound Freeway Queuing Analysis

As previously noted, for purposes of the southbound queuing analysis, the 2013 TIS Six-lane Alternative would be comparable to the No Action Alternative. No Action Alternative long-term southbound freeway queuing operations are identified as the Six-lane Alternative scenario in Table 4.2-20. As shown, no queuing would occur during the AM peak hour under long-term conditions for the No Action Alternative, but during the PM peak hour, freeway queuing would amount to a total of 4.73 miles, with an excess demand of 999 vehicles. Freeway queue lengths per lane presented in Table 4.2-21 and Figure 4.2-6 show the distribution of freeway queuing across each of the freeway segments within the Revised Project study area. As shown, queue lengths for each freeway segment would be shorter than under the Baseline scenario in which no Phase II Approved Project improvements were to occur, but longer than under the Ten-lane Alternative, because the No Action Alternative proposes six southbound lanes, compared to five lanes under the Baseline scenario, and ten lanes under the Ten-lane Alternative.

Construction Impacts

Construction impacts under the No Action Alternative would be the comparable to those identified above for the Action Alternatives. No adverse impacts would occur with implementation of a TMP.

Pedestrian and Bicycle Facilities

The No Action Alternative would include a new southbound-only pedestrian crossing and southbound pedestrian processing building on the west side of the LPOE at Virginia Avenue, which would connect to Mexico's El Chaparral LPOE and would be constructed as part of Approved Project Phase III improvements. As with the Action Alternatives, these additional facilities would improve both pedestrian and bicycle mobility in the Revised Project Footprint (bicyclists would be able to walk their bikes through the pedestrian crossing); however, none of the design revisions proposed with the Action Alternatives to enhance overall cross-border mobility would be constructed, including the incorporation of northbound pedestrian inspection capabilities at the pedestrian crossing facility at Virginia Avenue. Pedestrian and bicycle access to and from Mexico would be maintained or improved, and no other existing bike lanes, sidewalks, or bicycle facilities within the Revised Project vicinity would be affected. Although the No Action Alternative would not improve pedestrian and bicycle mobility to the same extent as the Action Alternatives, adverse pedestrian or bicycle circulation impacts would not result from the No Action Alternative.

Transit Facilities

The No Action Alternative would construct a transit facility at the terminus of Virginia Avenue to accommodate buses, taxis, jitneys, and POV as part of Phase III improvements for the Approved Project. The transit facility, as analyzed in the Final EIS, would consist of a loop turn-around at the end of Virginia Avenue within the western portion of the existing LPOE. Under this alternative, modifications to the development footprint and design of the transit facility proposed for the Action Alternatives and the anticipated benefits of better accommodating multi-modal transportation options and mobility at the border would not occur. Nonetheless, the No Action Alternative would result in no adverse impacts to transit operations.

Parking

As with the Action Alternatives, implementation of the No Action Alternative would remove the surface parking lots between Virginia Avenue and I-5, resulting in the loss of 1,178 parking spaces in a fee-based lot. The loss of parking under this alternative would be accommodated via the combination of existing parking facilities, new fee-based parking facilities implemented by private commercial enterprises in response to any additional emerging demand for parking, and increased use of alternative modes of transportation such as transit. No adverse impacts to parking would result from the No Action Alternative.

4.2.4 Avoidance, Minimization, and/or Mitigation Measures

Action Alternatives

As described in Chapter 2.0, a primary goal in support of the Revised Project purpose is to increase the processing capacity and efficiency of the LPOE in response to the need that is created by the current and projected demand for vehicles and persons to cross the border. Thus, the Action Alternatives would not directly generate a substantial volume of traffic, but would accommodate existing and projected border crossing demand. They would also modify the patterns of traffic flow in the Revised Project area. The purpose and need for the Revised Project does not include local roadway improvements; however, the SEIS considers all traffic impacts and identifies measures that would help avoid, minimize, or mitigate such impacts, as outlined below.

NEPA requires the decision-maker to consider the impacts of the proposed action, but does not require the agency to adopt such measures. GSA will consider adopting and implementing measures that are determined to be feasible and consistent with existing laws, regulations and authorities applicable to GSA, particularly with regard to the availability of, and authority to expend, funds. Authorized funds may not be available to implement all of the proposed mitigation measures. Any mitigation measures adopted by the agency will be identified in the Revised Project Record of Decision.

Measures Addressing Near-term Impacts

Implementation of the following measure would avoid or reduce traffic impacts to roadway segments and intersections resulting from the Action Alternatives for near-term (2016) conditions:

- Widening the segment of Camino de la Plaza, between Virginia Avenue and the I-5 southbound ramps to Four-lane Collector standards.

Widening this segment of Camino de la Plaza would increase the roadway capacity and improve the LOS from F to D in near-term conditions. The approved Outlets at the Border project is conditioned to improve the roadway segment of Camino de la Plaza between Virginia Avenue and the I-5 southbound ramps to its ultimate classification as a Four-lane Collector by adding an additional westbound lane along this portion of the roadway, if not assured by others. If the approved Outlets at the Border project proceeds with implementation of these roadway improvements prior to implementation of either Action Alternative, this would mitigate any potential Revised Project near-term impacts along this segment. If the timing of these improvements is delayed prior to the approval of the Revised Project, the impact would remain adverse.

Measures Addressing Long-term Impacts

In addition to the measure listed above under near-term conditions, implementation of the following measures would avoid or reduce traffic impacts to roadway segments and intersections resulting from the Action Alternatives for long-term conditions:

- Widening the segment of Camino de la Plaza, between the I-5 southbound ramps and East San Ysidro Boulevard, to Four-lane Major standards.
- Widening of Camino de la Plaza to provide an additional dedicated right-turn lane onto East San Ysidro Boulevard.
- Installation of a traffic signal at the Camino de la Plaza/Virginia Avenue intersection.
- Re-stripping of the northbound approach of Camino de la Plaza to provide one shared left-turn/through lane and a dedicated right-turn lane with an overlap phase, and widening the southbound approach to provide one exclusive left-turn lane and a shared through/right-turn lane.

Widening the segment of Camino de la Plaza between Virginia Avenue and the I-5 southbound ramps to Four-lane Collector standards would reduce this cumulative impact under long-term conditions. Improvements to the segment of Camino de la Plaza between the I-5 southbound ramps and East San Ysidro Boulevard to meet its classification of a Four-lane Major roadway would require the provision of a raised median along that portion of the roadway. While these segments would continue to operate at LOS F upon implementation of improvements, impacts from the Action Alternatives would be mitigated, as roadway operations would be better than No Action Alternative conditions. If the timing of these improvements is delayed prior to the approval of the Revised Project, impacts would remain adverse on a cumulative level.

Widening of Camino de la Plaza to provide an additional dedicated right-turn lane onto East San Ysidro Boulevard would improve the LOS of the East San Ysidro Boulevard/Camino de la Plaza/Beyer Boulevard intersection from F to D in long-term conditions. Installation of a traffic signal at the Camino de la Plaza/Virginia Avenue intersection would improve the LOS from F to D in long-term conditions. The approved Outlets at the Border project is conditioned to signalize this intersection. If the timing of the improvement is delayed prior to the approval of the Revised Project, a traffic signal would be installed as part of the Revised Project. Under long-term conditions, additional improvements would be necessary as identified above regarding re-stripping and widening of Camino de la Plaza. If these improvements are not implemented, the impact would remain adverse on a cumulative level.

No Action Alternative

Measures Addressing Near-term Impacts

The Final EIS determined that implementation of the following avoidance, minimization, and mitigation measures would avoid or reduce traffic impacts to roadway segments and intersections resulting from the No Action Alternative (Approved Project) for near-term conditions:

- Widening the segment of Camino de la Plaza, between Virginia Avenue and the I-5 southbound ramps, to Four-lane Major standards.
- Installation of a traffic signal at the Camino de la Plaza/Virginia Avenue intersection.

Widening this roadway segment of Camino de la Plaza would increase the roadway capacity and improve the LOS to D in near-term conditions. Installation of a traffic signal at the Camino de la Plaza/Virginia Avenue intersection would improve the LOS to B in near-term conditions.

Measures Addressing Long-term Impacts

In addition to the measures listed above under near-term conditions, the Final EIS determined that implementation of the following avoidance, minimization, and mitigation measure would avoid or reduce traffic impacts to roadway segments and intersections resulting from the No Action Alternative (Approved Project) for long-term conditions:

- Re-striping of the I-5 southbound ramps at Camino de la Plaza to one southbound left-turn lane, one southbound right-turn lane, one southbound shared through/right-turn lane, and one westbound through lane.

Per the Final EIS, widening the roadway segment of Camino de la Plaza would increase the roadway capacity and improve the LOS to C in horizon year conditions. Installation of the traffic signal at the Camino de la Plaza/Virginia Avenue intersection would improve the LOS to C in horizon year conditions. Re-striping the I-5 southbound ramps at Camino de la Plaza would improve the LOS to D in horizon year conditions.

As discussed in the Final EIS, the No Action Alternative would result in adverse traffic impacts to three northbound freeway segments under long-term conditions. No avoidance, minimization, or mitigation measures were identified to lessen these impacts; however, the benefits of reducing congestion (wait times and vehicle queues) for northbound vehicles crossing the border would offset these impacts.

As mentioned for the Action Alternatives, The Outlets at the Border project is currently conditioned to signalize the Camino de la Plaza/Virginia Avenue intersection. If the timing of the improvement is delayed, a traffic signal would be installed as part of the Approved Project. Under long-term conditions, additional improvements would be necessary as identified above regarding restriping and widening of Camino de la Plaza. If these improvements are not implemented, the impact would remain adverse on a cumulative level.

4.3 VISUAL/AESTHETICS

This subchapter evaluates potential visual effects as a result of the Revised Project. The conclusions are based on the analysis contained in the Final EIS that addressed the Approved Project, as well as additional analysis to evaluate the proposed modifications that comprise the Revised Project.

4.3.1 Regulatory Setting

NEPA requires that the U.S. Government use all practicable means to ensure that all Americans have safe, healthful, productive, *aesthetically* (emphasis added) and culturally pleasing surroundings (42 U.S.C. 4331(b)(2)).

4.3.2 Affected Environment

Visual Environment

The Revised Project is located at the southern terminus/beginning of I-5 at the U.S.-Mexico border in the San Ysidro community of San Diego. The San Ysidro community is visually diverse with a mixture of land uses, architectural styles, and colors. The community is also characterized by linear transportation facilities, including I-5, I-805, and the trolley line that physically divide the community into an eastern and western area. The developed areas in the vicinity generally are aligned along the I-5 and I-805 corridors, and are confined between undeveloped hillsides to the east, the international border to the south, and the Tijuana River channel to the southwest. Agricultural land is located approximately one mile west of the Revised Project Footprint. The agricultural areas and the undeveloped Tijuana River estuary extend westward toward the Pacific Ocean, approximately five miles west of the Revised Project Footprint.

The Revised Project Footprint is located in a developed area that currently contains transportation uses (i.e., roadways and freeways) and border facilities, with the exception of the proposed permanent easement at Virginia Avenue, which is currently part of a paved commercial parcel. The Revised Project Footprint is bordered on the west and north by commercial development, on the east by a railroad corridor and undeveloped hillsides, and on the south by the international border. Some residential development is located within 0.3 mile of the Revised Project Footprint, mainly northwest of the LPOE.

Since adoption of the Final EIS and ROD in 2009, changes to the visual environment of the San Ysidro LPOE have occurred due to the construction of some of Phase I improvements of the Approved Project and other changed circumstances. As discussed in Section 1.1.1 of this Draft SEIS, some Phase I improvements of the Approved Project have been, or are currently being, constructed. The east-west pedestrian bridge over I-5 and the LPOE that connects the SYITC to Camino de la Plaza and Camiones Way was completed in April 2011. The new southbound pedestrian crossing facility on the east side of the LPOE was completed in August 2012. The northbound secondary inspection area, consisting of inspection spaces, inspection booths, and an overhead canopy, was completed in August 2012. Improvements currently under construction include the northbound primary inspection area (consisting of vehicular lanes, stacked inspection booths, and an overhead canopy) and the northbound operations center (consisting of a new head house and automobile breakdown facility). The new vehicular lanes and inspection booths associated with the northbound primary inspection area are anticipated to be complete in September 2013, with an overhead canopy installed by September 2014.

Construction of the new northbound operations center is anticipated to be complete in March 2014.

In addition to these Phase I improvements of the Approved Project, a temporary southbound roadway was constructed in November 2012 that connects the terminus of I-5 (at the Camino de la Plaza overcrossing) to Mexico's El Chaparral LPOE. At the time of preparation of the Final EIS, it was not known when Mexico planned to construct their El Chaparral facility. Following adoption of the Final EIS and ROD in 2009, Mexico moved forward with their LPOE project and coordinated with American government agencies to develop a plan for a temporary connection between I-5 and the new El Chaparral LPOE, since the Mexican LPOE would be constructed and operational prior to construction of the southbound roadway on the U.S. side proposed as part of Phase III of the Approved Project. The temporary roadway transitions from six freeway lanes to five lanes (four POV lanes plus a dedicated lane for buses and other large vehicles) and then curves westward immediately south of the U.S.–Mexico border on Avenida Internacional in Tijuana, Mexico. The number of lanes increases from 5 to 22 as the temporary roadway approaches the El Chaparral LPOE. This roadway is a temporary condition until the proposed southbound roadway is funded and constructed as part of Phase III of the Revised Project.

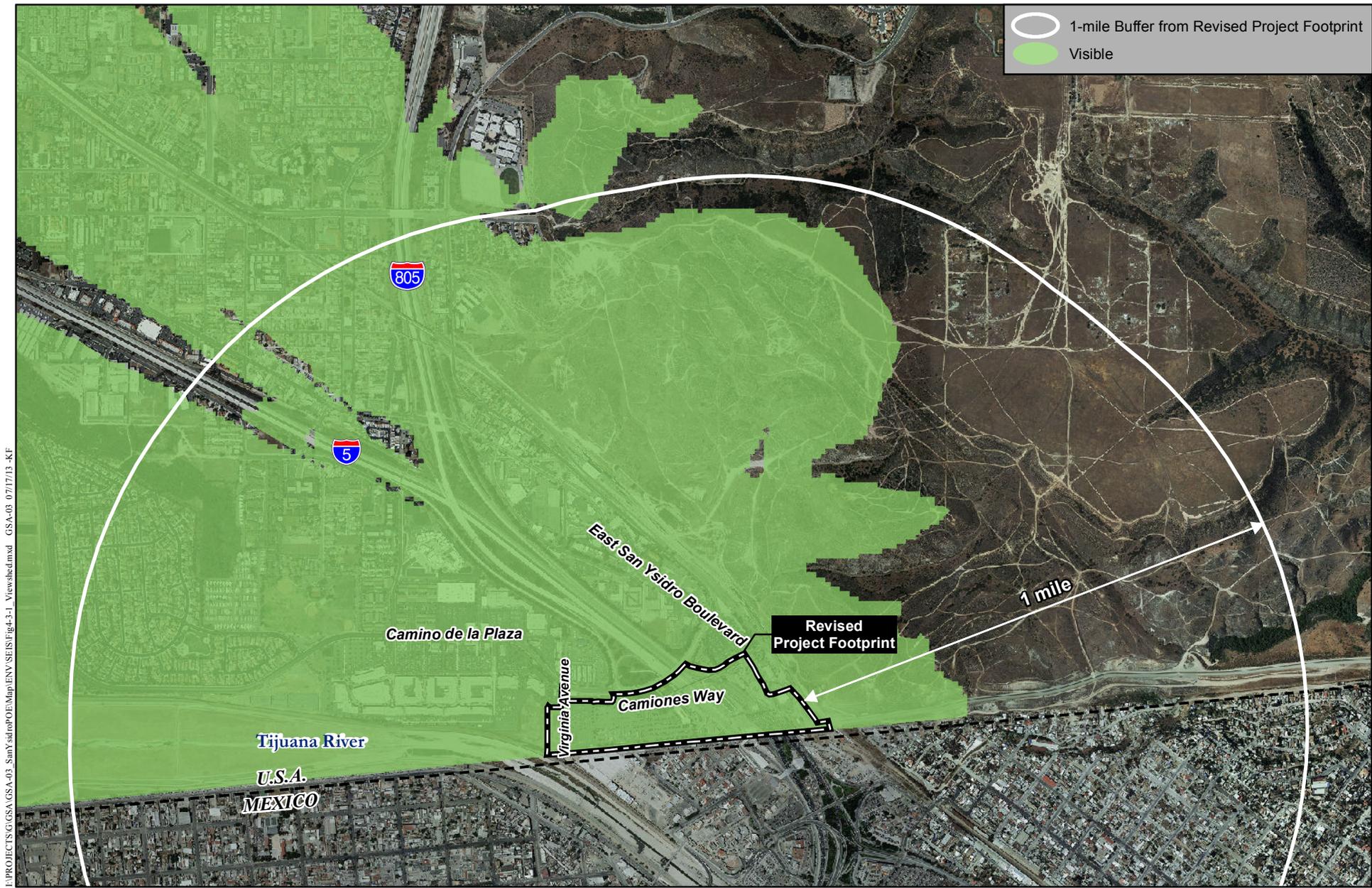
Landscape Unit

A landscape unit is a portion of the regional landscape and can be thought of as an outdoor room that exhibits a distinct visual character. The Revised Project lies within one landscape unit—the same one as the Approved Project that was described in the Final EIS. This landscape unit is comprised of the communities in southern San Diego and is bounded on the south by the international border, which is defined in this area by tall, linear fences and physical barriers, as well as the hillsides of Tijuana, Mexico. The mesas and hillsides east of the Revised Project Footprint and I-805 define the eastern edge of the landscape unit, and the Pacific Ocean defines the western edge. The landscape unit extends to the north, encompassing the developed, urban communities between San Ysidro and downtown San Diego.

Project Viewshed

A viewshed is a subset of a landscape unit and is comprised of all the surface areas visible from an observer's viewpoint. The limits of a viewshed are defined as the visual limits of the views from the project site. A viewshed also includes the locations of viewers likely to be affected by visual changes brought about by project features.

Although the Revised Project Footprint differs from the Project Study Area identified in the Final EIS (the geographical area that was evaluated in the Final EIS for the Approved Project), most of the Revised Project Footprint is located within the Project Study Area. The only area of the Revised Project Footprint that extends outside of the Project Study Area is a 2.3-acre area west of Virginia Avenue that would accommodate the proposed Virginia Avenue Transit Facility. This additional area is located immediately adjacent to the western edge of the Project Study Area (i.e., Virginia Avenue) and is topographically level at a similar elevation as the abutting Virginia Avenue roadway and the existing LPOE property to the east. Therefore, the Revised Project viewshed is the same as the Approved Project identified in the Final EIS and is illustrated in Figure 4.3-1, *Revised Project Viewshed*.



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Revised Project Viewshed Map

SAN YSIDRO LPOE IMPROVEMENTS

Figure 4.3-1

This computer-generated viewshed was created based on topographic data and encompasses a large portion of the developed areas north and west of the Revised Project Footprint, as well as the west-facing hillsides to the east. Although the computer-generated viewshed extends beyond the indicated one-mile radius, in reality, the Revised Project elements would not be highly visible beyond the areas immediately bordering the Revised Project Footprint due to intervening structures and landscape elements in most areas.

Existing Visual Resources

Visual resources are characterized in terms of visual character and visual quality. Visual character is descriptive and non-evaluative, which means it is based on visual attributes, including pattern elements (i.e., form, line, color, texture) and pattern character (i.e., dominance, scale, diversity, continuity). Visual quality is evaluated by identifying the vividness, intactness, and unity present in the viewshed. These terms are briefly defined below:

- Vividness is the visual power or memorability of landscape components, as they combine in distinctive visual patterns.
- Intactness is the visual integrity of the natural and constructed landscape and its freedom from encroaching elements. It can be present in well-kept urban and rural landscapes, as well as natural settings.
- Unity is the visual coherence and compositional harmony of the landscape considered as a whole.

The Final EIS discusses in detail the existing visual character and quality of the Project Study Area and roadways within the viewshed that would be affected by the Approved Project, including I-5, I-805, Camino de la Plaza, East San Ysidro Boulevard, Camiones Way, and Virginia Avenue. This comprehensive analysis remains applicable to the Revised Project because (1) the viewshed is the same for the Revised Project and Approved Project and therefore the same existing visual elements would be visible with the same viewer experience, and (2) the visual conditions have largely remained the same from the described locales in the Final EIS. Although changes to the existing visual environment have occurred since the Final EIS and ROD in 2009 (as discussed above under Visual Environment), they have not substantially altered the visual character and quality of the area. This is because the improvements consist of border crossing facilities that have replaced existing border facilities with new/interim border facilities.

Viewer Response

Viewer response is composed of two elements: viewer exposure and viewer sensitivity. These elements combine to form a method of predicting how the public might react to visual changes brought about by a project. Viewer exposure is typically assessed by measuring the number of viewers exposed to the resource change, type of viewer activity, duration of their view, speed at which the viewer moves, and position of the viewer. Viewer sensitivity is defined both as the viewers' concern for scenic quality and the viewers' response to change in the visual resources that comprise the view.

Existing viewers in the Revised Project area are the same as those identified for the Approved Project in the Final EIS and can be categorized into one or more of the following viewer groups: (1) motorists on I-5 and I-805 (southbound and northbound), (2) motorists on local streets, (3) bicyclists and pedestrians, and (4) employees of the LPOE facilities. The Final EIS

describes in detail the exposure and sensitivity of each of these viewer groups. This discussion remains applicable to the Revised Project for the same reasons discussed above under Existing Visual Resources: (1) the viewshed is the same for the Revised Project and Approved Project and therefore, the same existing visual elements would be visible with the same viewer experience, and (2) the visual conditions have largely remained the same as the described locales in the Final EIS.

4.3.3 Environmental Consequences

The evaluation of potential visual impacts resulting from the Revised Project is based on the principles in the most widely used and accepted visual resource assessment methodologies, including the DOT, *FHWA Visual Impact Assessment for Highway Projects*; the U.S. Department of Agriculture (USDA) Forest Service Visual Management System; and the U.S. Department of Interior Bureau of Land Management (BLM) modified Visual Management System. The concepts contained in these assessment approaches are accepted practices for evaluating visual resources both objectively (visual character) and subjectively (visual quality). This is accomplished by comparing the existing visual environment to the construction and post-construction visual environment, and subsequently determining whether the Revised Project would result in physical changes that are deemed to be incompatible with visual character or degrade visual quality.

Key Views

Because it is not feasible to analyze all the views from which the Revised Project would be seen, it is necessary to select a few key viewpoints that illustrate typical views of the Revised Project and surrounding area from locations accessible to the public. These views also represent the views available to the primary viewer groups that would potentially be affected by the Revised Project. Generally, views of the Revised Project would be publically available from the freeway and local streets, and from existing and proposed pedestrian facilities in and around the Revised Project Footprint. Key views evaluated for the Revised Project are the same as those evaluated for the Approved Project and include those from I-5, Camino de la Plaza, East San Ysidro Boulevard, and Virginia Avenue. Views from I-805 are not analyzed because Revised Project features would be less visible from I-805 than I-5 due to its distance from the Revised Project Footprint. Although views from the I-805 would be somewhat comparable to those from I-5, they would be from a greater distance, making visual changes less noticeable. Camiones Way also is not analyzed because this roadway would be removed upon implementation of the Revised Project.

Action Alternatives

The Six-lane and Ten-lane Alternatives would occur in the same locations with similar footprints. The viewshed is the same under both action alternatives. While the Ten-lane Alternative would include a wider southbound roadway than the Six-lane Alternative, the overall visual characteristics and resulting visual impacts would be similar since both consist of a roadway within a border crossing facility. Therefore, potential impacts to visual resources under both action alternatives would be the same.

Analysis of Key Views

Southbound Interstate 5

Revised Project Features Visible from Southbound I-5. The east-west pedestrian overcrossing structure that was constructed as part of Phase I and proposed southbound roadway would be the most visible elements of the Revised Project from southbound I-5. The pedestrian overcrossing structure currently spans over I-5 and is narrower than the Camino de la Plaza overcrossing. Upon implementation of the Revised Project, the pedestrian overcrossing would cross over the southbound roadway just south of the Camino de la Plaza overcrossing. The pedestrian bridge would be visible over the new southbound roadway, and a new parking structure would be visible to the south of the new southbound roadway. Additionally, four 100-foot-tall iconic masts atop an overhead canopy covering the northbound primary inspection area would be visible for motorists along southbound I-5. These masts would serve as a gateway design element of the LPOE and also would contain security, lighting, and ventilation equipment.

The southbound roadway's direction would shift motorists' background views toward the west, bringing into the field of vision different buildings in Mexico and some distant hillsides southwest of the Revised Project Footprint. Inspection booths and an overhead canopy structure would come into foreground views as motorists navigate through the curve in the southbound roadway. Peripheral views from the southbound roadway would be similar to existing peripheral views, with fences and barriers that would continue to screen views to the east and west.

Change to Visual Character/Quality. The Action Alternatives would cause a low level of change to the existing visual character and quality of southbound I-5. The existing visual character of the southbound freeway would not be substantially changed by the Action Alternatives. The large expanse of gray-toned concrete pavement would continue to dominate views toward and from the freeway. Smaller, diverse elements such as concrete barriers, closely woven chain link fencing on both sides, and freeway fixtures such as lights, signals, striping, etc. would contribute diversity and complexity within the Revised Project Footprint; however, they would not visually reduce the visual large scale of the freeway and connecting southbound roadway, which would be six or ten lanes. The smaller-scale elements and fixtures also would not change the overall dominance of the rigid lines and smooth textures that comprise the majority of the southbound I-5's overall visual environment.

The recently constructed pedestrian bridge, a new parking structure, and the masts on the canopy of the northbound primary inspection area would be visible above the perimeter fences for a brief period of time for southbound motorists. Similar to the existing buildings visible from the freeway, the new parking structure would not be a dominant element, particularly as the border crossing and the need to navigate traffic and the new southbound roadway would focus drivers' and passengers' attention on the roadway itself. There would be little vegetation along the new southbound roadway to soften the rigid lines and smooth textures, or to provide green or earth-toned visual relief to the grays and monotonous.

Although views of the four tall masts on the northbound primary inspection canopy would be in the background, southbound horizon views would be changed due their height. However, there are other tall vertical elements in the southbound viewshed, such as light standards, freeway gantries, and communication towers, such that the introduction of four additional vertical elements with similar visual characteristics (i.e., tall and low-profile) would not create a substantial change in the existing visual environment of motorists along southbound I-5.

The proposed installation of southbound inspection booths and overhead canopy structures would represent a new visual element. The canopy would cover the width of the southbound roadway (whether six lanes or ten lanes) over the inspection booths, but would be a small scale, low-profile structure with a translucent covering. Therefore, the canopy would not be visually prominent. Also, views of this structure from southbound I-5 would be screened by overcrossing structures in the foreground (Camino de la Plaza and the east-west pedestrian bridge) and the alignment of the southbound roadway.

Overall, the visual environment of the freeway would continue to have moderate visual quality, and the new Revised Project features of the Action Alternatives would not create unique visual patterns or adversely change the visual environment experienced by motorists on southbound I-5 near the LPOE.

Viewer Response. Motorists who would view the Action Alternatives' elements from southbound I-5 have a relatively long exposure to changes in the visual environment due to the high volume of traffic and the relatively slow speeds of travel while approaching the LPOE. Motorists on I-5 also have a moderate sensitivity to changes in the visual environment due to their focus on navigating traffic and their moderate expectations regarding the visual environment. Overall, motorists on southbound I-5 have a moderately high visual response to changes in the visual environment.

Change to Visual Environment. Although the Action Alternatives would cause a change to the direction of the southbound travel (due to the new southbound roadway) and the elements visible in the foreground and background from this roadway, the visual environment surrounding the new southbound roadway would be similar to the existing visual environment. Therefore, the change caused by the Action Alternatives would be low.

Resulting Visual Impact. Based on the anticipated moderately high viewer response combined with the low level of change to the visual environment caused by the Action Alternatives, no adverse visual impacts to the visual environment of southbound I-5 would occur.

Northbound Interstate 5

Revised Project Features Visible from Northbound I-5. The removal of the current building that spans the northbound inspection lanes would be a noticeable visual change caused by the Revised Project for northbound motorists approaching the Revised Project Footprint (i.e. entering the U.S.). The existing buildings in the northbound facilities would be replaced by new buildings that would be aligned parallel to the traffic lanes and would be peripherally visible. The new buildings would not span the width of the freeway, and would be less prominent in appearance than the existing "floating" facility that spans the northbound lanes, and therefore would be less visually dominant. The removal of the elevated building would create a more open visual environment than currently exists. An overhead canopy would cover the inspection booths at the northbound primary inspection area. Another overhead canopy currently covers the northbound secondary inspection area that was recently constructed. This canopy is a low-profile structure with a translucent covering that creates an open and naturally lit visual environment. This same design would also be incorporated into the canopy for the northbound primary inspection area. On top of the northbound primary inspection canopy, four 100-foot-tall masts would be visually prominent in the immediate foreground by motorists approaching the Revised Project Footprint. In the background, the east-west pedestrian bridge that spans the northern portion of the LPOE is visible.

The addition of new traffic/vehicle inspection lanes would expand the scale of the LPOE at the southern edge; however, the new lanes and wider expanse would not be a visually dominant feature, since the addition of nine inspection lanes to an already 24-lane-wide area would not be highly noticeable to motorists within the northbound primary inspection area.

Once through the primary inspection lanes, the buildings and facilities visible to northbound motorists would be aligned parallel to the lanes, as are many of the existing buildings. The architectural façades would be different than the existing buildings, and some portions of the buildings would be three stories rather than two. The visual scale as seen from the traffic lanes and the orientation of the buildings would not be considerably different from the existing buildings. North of the buildings, the visual environment of the northbound freeway would remain mostly unchanged, although some small landscaped areas within the LPOE would be removed at the northern end of the LPOE, and the east-west pedestrian bridge now spans this area. Views of the hillside visible to the east and the Camino de la Plaza overcrossing would remain unchanged.

Change to Visual Character/Quality. The removal of the building that currently spans the northbound primary inspection lanes would create a more open visual environment. While there would be a canopy structure that spans the northbound lanes, this structure would be low-profile and translucent that would also contribute to an open visual environment. This change would potentially allow for more views of features in the viewshed, slightly changing the visual character of the area and exposing a different vivid element. The large expanses of concrete along with multiple diverse visual elements that comprise the visual character of the area would continue to dominate the visual environment of northbound I-5 at the LPOE. The other new buildings would be oriented similarly to the existing buildings, and the addition of one story would not be highly noticeable. The northbound primary inspection canopy would be smaller in scale with a lower profile and less visually dominant than the existing structure that crosses over the northbound facilities. The four tall masts, although taller structures, would not be at a bulk or scale to create a new dominant visual feature. Other such tall vertical elements are located in the Revised Project vicinity, including within the existing LPOE.

Viewer Response. Viewers on northbound I-5 mainly would be motorists, although the employees of the LPOE also would view the changes to the northbound inspection area. Motorists would have moderately high response to changes in the visual environment due to their high exposure and moderate sensitivity. Employees would have a moderately high response to changes in the visual environment, as their exposure is moderate and their sensitivity is moderately high.

Change to Visual Environment. Overall, the Revised Project features of the Action Alternatives would create a low level of change to the visual character of the area, and would cause a moderately low change to the visual quality of the area.

Resulting Visual Impact. Based on the combination of a moderately high viewer response and the low and moderately low levels of change, no adverse visual impacts to the visual environment of northbound I-5 within and near the LPOE would occur.

Camino de la Plaza

Revised Project Features Visible from Camino de la Plaza. Revised Project features that would be visible from Camino de la Plaza would include the new southbound roadway, the Virginia Avenue Transit Facility, the employee parking structure, other new LPOE buildings, and the four

masts atop the northbound primary inspection canopy. The east-west pedestrian bridge that was constructed as part of Phase I of the Approved Project is also visible as a foreground element in southbound views from Camino de la Plaza. The proposed buildings would be slightly taller than the existing building visible in the middle-ground of southbound views from this roadway.

Change to Visual Character/Quality. The east-west pedestrian bridge is the most visible element of the Revised Project; it is in the foreground and a new visually dominant feature in southward views from the Camino de la Plaza overcrossing. While it may be a new slightly more vivid element in southward views from Camino de la Plaza, it would not cause a large change to the visual quality of the area, as it would be visually consistent with the existing visual elements due to its gray-concrete color, chain-link fencing, and geometric linear configuration. Additionally, the new buildings that would replace the existing buildings would be visually similar to existing buildings in views from this point. The new southbound roadway would provide more curvilinear lines within the view, but also would be visually consistent with the existing visual environment due to their materials, colors, and accompanying fixtures.

As noted in the Final EIS, the new east-west pedestrian bridge provides new viewing points for pedestrians and bicyclists, who would have more extensive views of the LPOE and surrounding area from the new bridge. Views from this bridge would be similar to views available from Camino de la Plaza, although southward views would not include a foreground overcrossing structure; the new buildings would be visible in the middle ground. The undeveloped hillsides to the east and buildings and developed hillsides in Mexico to the south would be visible in the background; lesser-developed hillsides to the southwest also would be visible in the background. The background elements and expansive view provide more vividness than is available from other pedestrian areas.

Views of the undeveloped hills to the east would remain undisturbed. Although the four tall masts on the northbound primary inspection canopy would be visible in horizon views toward Mexico, southward views of buildings in Mexico and other background elements also would not be substantially affected by the Action Alternatives.

Viewer Response. The motorists on Camino de la Plaza have moderately high sensitivity and exposure to changes in the visual environment, and would have a moderately high response to changes in the visual environment. Bicyclists and pedestrians on this road also would have moderately high sensitivity, and high exposure, and also would have a moderately high response to changes in the visual environment.

Change to Visual Environment. The Action Alternatives would cause a moderately low level of change in the visual environment of Camino de la Plaza. The new pedestrian bridge is a new vivid element visible from this point, but does not affect the unity and intactness of the area, or change the visual character, nor would the other Revised Project features visible from this roadway as they would replace existing border facilities with new border facilities.

Resulting Visual Impact. Based on the moderately low levels of change to the visual environment of Camino de la Plaza combined with the high and moderately high viewer response, no adverse visual impacts to the visual environment of Camino de la Plaza would occur.

East San Ysidro Boulevard

Revised Project Features Visible from East San Ysidro Boulevard. The Action Alternatives would not affect the visual environment of East San Ysidro Boulevard, north of Camino de la Plaza. Most changes that would be visible from East San Ysidro Boulevard would be near the bus turn-around area at the SYITC. Revised Project elements that would be visible in this area include the new Administration and Pedestrian building and the four masts on the northbound primary inspection canopy. The east-west pedestrian bridge is also visible from this roadway.

A new Administration and Pedestrian building would be constructed south of the SYITC bus turn-around and on the east side of the northbound lanes. The building would be two- to three-stories tall and the upper stories would be visible from the roadway. The northbound lanes would be located on the west side of the building, and would not be visible from the roadway.

The four masts on top of the northbound primary inspection canopy would be visible in the background from southbound views along East San Ysidro Boulevard. The perceived scale of these towers would vary depending on the viewer's location along the roadway. From vantage points north of Camino de la Plaza, these masts, although vivid, would not be visually dominant elements in the overall viewshed. South of Camino de la Plaza, however, the masts would be more visually prominent and would encompass a greater breadth in the viewshed.

The upper portion of the proposed communications tower would also be visible from East San Ysidro Boulevard. Foreground and middle ground elements would obstruct most of the tower, but the upper extent would be visible in background views.

Change to Visual Character/Quality. The Action Alternatives would replace existing visual elements with similar features. The east-west pedestrian bridge is similar, albeit at a smaller scale, to the adjacent Camino de la Plaza overcrossing, and includes similar fencing and linear, concrete elements that currently exist in the immediate visual environment.

The new Administration and Pedestrian building would introduce a new, taller structure that would be closer to East San Ysidro Boulevard and therefore more visible. The building would be a new dominant element west of the bus turn-around area, and would change the visual environment to include more vertical elements where currently pavement is a dominant feature.

The masts atop the northbound primary inspection canopy would be iconic gateway landmarks to identify the border crossing, and would represent a change in the visual environment from this roadway. This feature would introduce additional vertical elements in the visual environment; however, they are not unique features to the area. Other tall, low-profile vertical elements currently exist in the viewshed, including light standards, freeway gantries, and communications towers, some of which are arranged in a similar linear visual pattern (i.e., light standards spaced along roadways).

Views of the undeveloped hills to the east would remain undisturbed, and none of the Revised Project elements would block views toward the hills from this roadway.

Viewer Response. Because the bus turn-around south of Camino de la Plaza is not a street accessible to automobiles driven by the general public, the main viewers in this area are pedestrians and bicyclists, many of whom use public transit such as the buses or the trolley at

the adjacent SYITC. Pedestrians in this area have moderately high exposure and high sensitivity to changes in the visual environment of the Revised Project Footprint.

Change to Visual Environment. The new Administration and Pedestrian building and masts on top of the northbound primary inspection canopy would introduce new dominant elements into the visual environment of East San Ysidro Boulevard. The new Administration and Pedestrian building would be taller and closer to viewers, but would not reduce the unity or intactness of the area, which currently are low. The new building would be a geometric, rectilinear element that would not highly contrast with the existing visual environment. The four masts would be visually prominent elements at the southern extent of the roadway and within the SYITC, but would not substantially change the existing visual environment because other similar vertical elements currently occur in the viewshed. The Action Alternatives, therefore, would cause a moderately low change to the visual environment of East San Ysidro Boulevard.

Resulting Visual Impact. The moderately low change in combination with the moderately high anticipated viewer response would not result in adverse visual impacts to the visual environment of East San Ysidro Boulevard.

Virginia Avenue

Revised Project Features Visible from Virginia Avenue. The most visible Revised Project element of the Action Alternatives from Virginia Avenue would be the Virginia Avenue Transit Facility. This facility would be constructed within the existing road right-of-way and a portion of the adjacent parcel to the west. Viewers along this roadway would have unobstructed southbound views of transit facilities and landscape and hardscape features within the transit center, as well as portions of the new pedestrian building and bi-directional pedestrian crossing facility. Other Revised Project features visible from Virginia Avenue include the southbound roadway, an overhead canopy covering the southbound inspection booths along the southbound roadway, and the employee parking structure.

Change to Visual Character/Quality. Virginia Avenue would experience the most change to its visual environment. Revised Project elements that would be visible from this roadway would change the character of the existing visual environment. Whereas south of Camino de la Plaza, Virginia Avenue currently transitions to an unpaved roadway that terminates at the border fence, it would be developed with a transit facility and would serve as a major pedestrian thoroughfare for cross-border pedestrian and bicycle traffic, and would also carry larger volumes of vehicular traffic and transit vehicles.

The pedestrian building would be constructed fronting the east end of the Virginia Avenue Transit Facility, and would constitute a new visual element. The bulk and scale of this building, however, would not create a dominant visual element and would partially obstruct views of other new elements within this portion of the improved LPOE from Virginia Avenue. None of the other Revised Project elements would be visually dominant or highly vivid. The southbound roadway (whether six or ten lanes) would be similar to the existing visual environment in that views would continue to encompass gray pavement within a developed area with similar curvilinear elements. The overhead canopy would be located approximately 500 feet to the east and would consist of a low-profile structure with a translucent surface, so it would not be highly visible from Virginia Avenue. The parking structure would also not be highly visible from Virginia Avenue due a distance of approximately 0.25 mile and intervening development.

Viewer Response. There are currently few viewers accessing this roadway. Pedestrians would be the major viewer group in the area following construction of the either Action Alternative, because of the new bi-directional pedestrian crossing and transit facility. Motorists also would be a major viewer group, as they would access the transit center for loading and unloading of pedestrians. Because motorists would stop to pick up/drop off pedestrians, their views would be static rather than moving, which would have longer durations with a higher sensitivity. Pedestrians and motorists, therefore, would have moderately high exposure and high sensitivity to changes in the visual environment.

Change to Visual Environment. As discussed above, Virginia Avenue would experience the most change to its visual environment. While the Action Alternatives would introduce new visual elements into the visual environment, such features are not unique to the immediate area and would not substantially contrast with the surrounding built environment. Transit operations currently exist in the immediate area, including transit centers (such as the SYITC on the east side of the LPOE) and taxi/jitney/shuttle loading areas along Camino de la Plaza and other local roadways. Additionally, border crossing facilities exist in the immediate viewshed. Thus, the introduction of the new visual features near Virginia Avenue would cause a moderate level of change to the visual environment of Virginia Avenue.

Resulting Visual Impact. Based on the moderate level of change combined with the moderately high viewer response caused by the Action Alternatives, no adverse visual impacts to the visual environment of Virginia Avenue would occur.

Construction-related Impacts

The Action Alternatives would result in temporary visual impacts during the construction period. As with the Approved Project, the Revised Project also would be built in three phases, as funding is procured. Visible indications of construction on the roadways would contrast with existing conditions, and may include exposed soil; stockpiled dirt, rocks, and debris from demolished structures; signs; construction fencing; partially constructed structures; scaffolding and concrete molds; and truck and equipment. Other visual disruptions may include detours and road closures, with signs, equipment, and similar visual indicators. Additional erosion control and storm water management practices also may introduce visual elements, such as gravel bags and fiber rolls, and silt fences. The required equipment staging areas also may be visible. Construction staging for the Action Alternatives would occur within the LPOE.

The visual construction elements and staging area would contrast with the existing visual environment surrounding the Revised Project Footprint, which would introduce complex forms, geometric lines, monotonous colors, and a variety of textures. The elements would be large in scale and high in diversity, but not continuous or harmonious. They also would temporarily reduce the visual quality of the area, creating low vividness, intactness, and unity. While they would result in changes to visual environment, the visual impacts caused by construction would be temporary in nature. Visual disruptions would be removed upon completion of the construction period for each phase. No associated adverse visual impacts would occur during construction of the Action Alternatives.

No Action Alternative

Under the No Action Alternative, GSA would continue to implement the Approved Project that was analyzed as the Preferred Alternative in the Final EIS. As indicated in the Final EIS, the Approved Project would not result in adverse visual impacts. The Final EIS contains detailed

visual analysis of the Approved Project's potential impacts from the key views evaluated above for the Revised Project and concludes that the Approved Project (which is the No Action Alternative in this SEIS) would not result in adverse visual impacts from any of the evaluated key views.

Construction impacts under the No Action Alternative would be the comparable to those identified above for the Action Alternatives. No adverse visual impacts would occur during construction of the No Action Alternative.

4.3.4 Avoidance, Minimization, and/or Mitigation Measures

Action Alternatives

Although no adverse visual impacts would result from the Action Alternatives, implementation of the following minimization measures (that were also recommended for the Approved Project in the Final EIS) would provide increased visual quality within the Revised Project Footprint:

- A comprehensive landscape concept plan should be developed and implemented, including landscape features such as:
 - Drought tolerant and sustainable plant palettes.
 - Vine planting at fences and walls to reduce the visual scale and to act as a graffiti deterrent.
- Street trees and landscaping should be retained to the highest extent possible during construction.
- Architectural treatments should be consistent throughout the proposed LPOE buildings.
- Metal fencing and safety railing should be consistent throughout the proposed pedestrian walkways.
- Where possible, integrate new public art consistent with the international border setting.

These measures would help integrate the Revised Project features and to create more visual unity and intactness within the Revised Project Footprint.

No Action Alternative

The No Action Alternative would continue to implement the Approved Project that was evaluated as the Preferred Alternative in the Final EIS. The minimization measures identified above for the Action Alternatives were also recommended for the Approved Project in the Final EIS even though the Final EIS concluded that the Approved Project would not result in adverse visual impacts. As stated above, these measures would provide increased visual quality within the Project Study Area (the geographic area analyzed in the Final EIS for the Approved Project).

4.4 CULTURAL RESOURCES

This subchapter evaluates potential environmental effects to cultural resources as a result of the Revised Project. The conclusions are based on the analysis contained in the Final EIS that addressed the Approved Project, as well as additional analysis and environmental studies that were conducted to evaluate the proposed modifications that comprise the Revised Project.

4.4.1 Regulatory Setting

“Cultural resources” as used in this document refers to all “built environment” resources (structures, bridges, railroads, water conveyance systems, etc.), culturally important resources, and archaeological resources (both prehistoric and historic), regardless of significance.

National Historic Preservation Act of 1966

The National Historic Preservation Act of 1966 (NHPA), as amended, sets forth national policy and procedures regarding historic properties, defined as districts, sites, buildings, structures, and objects included in or eligible for the National Register of Historic Places (NRHP). Section 106 of the NHPA requires federal agencies to take into account the effects of their undertakings on such properties and to consult with SHPO and possibly the Advisory Council on Historic Preservation to determine if the historic properties are eligible for the NRHP.

Archaeological and Historic Preservation Act

The purpose of the federal Archaeological and Historic Preservation Act (16 U.S.C. 470aa-mm) is to preserve significant historical and archeological data which might otherwise be irreparably lost or destroyed as a result of a number of incidents or developments, including federal construction projects. These data may include sites, buildings, objects, and antiquities of national significance. Protection of these resources may include surveys and recovery efforts when deemed appropriate.

Native American Graves Protection and Repatriation Act

The federal Native American Graves Protection and Repatriation Act (25 U.S.C. 3001 et seq.) provides for ownership and control of Native American cultural items which are excavated or discovered on Federal or tribal lands after November 16, 1990. The Act prioritizes recipients of such items and defines conditions under which such items may be discovered, studied, or removed.

Executive Order 11593

Executive Order 11593 was signed in 1971 to commit the Federal government to “preserving, restoring and maintaining the historic and cultural environment of the Nation.” It directs federal agencies to preserve and protect cultural resources as trustees and in such a way as to benefit current and future populations, to contribute to the preservation and protection of non-federally owned cultural resources and to nominate all eligible government properties to the NRHP.

California Register of Historical Resources

Historical resources are also considered under the California Public Resources Code (PRC) Section 5024.1, which established the California Register of Historical Resources (CRHR). The

CRHR includes resources listed in, or formally determined eligible for listing in, the NRHP, as well as some California State Landmarks and Points of Historical Interest.

City of San Diego Historical Resources Register

Because the Revised Project is located in San Ysidro, which is within the City of San Diego, historical resources were evaluated for eligibility for the City of San Diego Historical Resources Register (City Register). Any improvement, building, sign, interior element and fixture, feature, site, place, district, area, or object may be designated as historic by the City of San Diego Historical Resources Board (HRB) if it meets eligibility criteria.

4.4.2 Affected Environment

The analysis and conclusions presented in this subchapter are based on the supplemental cultural resources study prepared for the Virginia Avenue Transit Facility (*Cultural Resources Supplemental Study for the San Ysidro Land Port of Entry Project*, June 2013), and the cultural resources report (*San Ysidro Land Port of Entry Cultural and Historical Resource Inventory and Evaluation Report*, July 2009) that was prepared for the Approved Project. The supplemental study evaluated cultural resources impacts not evaluated in the Final EIS, specifically related to Phase III of the Revised Project, including modifications to the development footprint and design of the proposed Virginia Avenue Transit Facility. The results of this analysis, which are contained in Appendix F of this SEIS, are summarized in this subchapter. The 2009 cultural resources study evaluated cultural and historical resources and potential impacts to such resources resulting from the Approved Project. Some of the analysis and conclusions of the 2009 cultural resources study remain applicable to the Revised Project because in addition to the proposed changes to the Approved Project, the Revised Project also includes the other components of the Approved Project that have not changed. Applicable information from the 2009 cultural resources study as it relates to the Revised Project is summarized in this subchapter.

A records search and literature review, archival research, a field survey, and documentation and evaluation of historical resources were conducted within the Approved Project Area of Potential Effect (APE) as part of the environmental studies completed for the EIS.

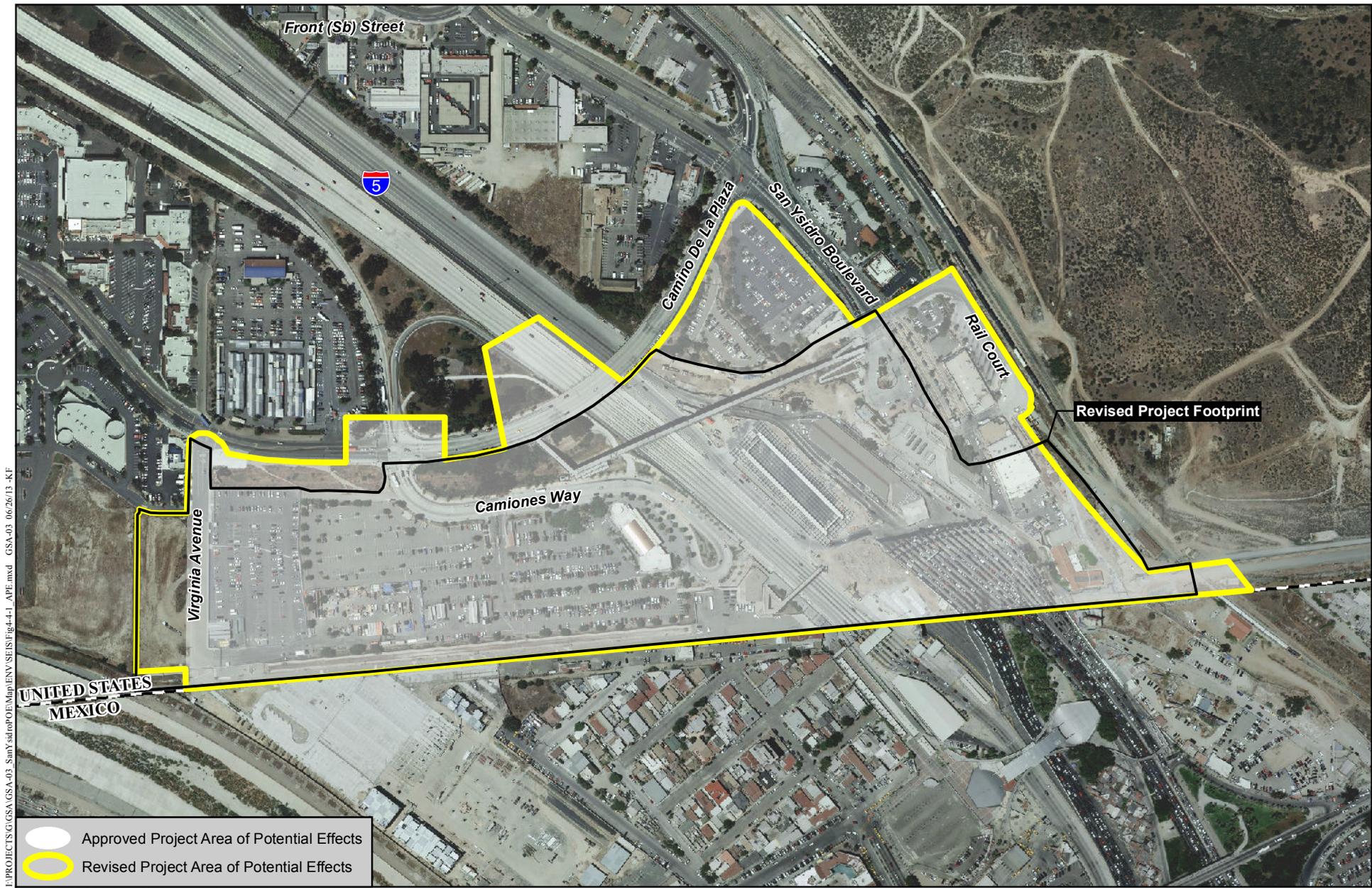
Area of Potential Effect

The APE represents the anticipated maximum extent of proposed disturbance, including roadway improvements, staging areas, and temporary impacts resulting from construction. The APE for the Revised Project encompasses the APE for the Approved Project that was identified in the Final EIS plus an additional 2.3-acre area west of Virginia Avenue to accommodate the proposed Virginia Avenue Transit Facility. The 2.3-acre area of the Revised Project APE consists of a paved lot and a concrete storm drain channel that is separated from the paved lot by a chain link fence. The Revised Project APE is pictured in Figure 4.4-1, *Area of Potential Effect*.

Cultural Background

Prehistory

The San Diego region's prehistory generally can be divided into three periods: Paleo-Indian, Archaic, and Late Prehistoric, which are briefly described below.



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- Approved Project Area of Potential Effects
- Revised Project Area of Potential Effects

Area of Potential Effects

SAN YSIDRO LPOE IMPROVEMENTS

Figure 4.4-1

Paleo-Indian Period

The earliest recognized period of southern California prehistory is termed Paleo-Indian, which is considered to date from 10,000 Before Present¹ (B.P.) until 7,200 B.P., and is represented by the San Dieguito complex. San Dieguito artifact assemblages are composed mostly of flaked stone tools, including scrapers, choppers, and large projectile points. The San Dieguito complex is thought to have lived within a generalized hunter-gatherer society with band-level organization.

Archaic Period

The Archaic period extends back at least 7,200 years, possibly as early as 9,000 B.P. Archaic subsistence is generally considered to have differed from Paleo-Indian subsistence in two major ways: (1) gathering activities were emphasized over hunting, with shellfish and seed collecting of particular importance; and (2) milling technology, frequently employing portable ground stone slabs, was developed. In San Diego County, Archaic Period inhabitants are represented by the La Jolla complex. Early Archaic occupations in San Diego County are most apparent along the coast and major drainage systems that extend inland from the coastal plains. Archaic sites are characterized by cobble tools, basin metates, manos, disk-shaped grinding stones, dart points, and flexed burials.

Late Prehistoric Period

Around 2,000 B.P., Yuman-speaking people from the Colorado River region began migrating into southern California, although some evidence exists that the movement may have been northward from Baja California. Assemblages derived from the Late Prehistoric sites in San Diego County differ in many ways from those in the Archaic tradition, including (1) the occurrence of small, pressure-flaked projectile points; (2) the replacement of flexed inhumations with cremations; (3) the introduction of ceramics; and (4) an emphasis on inland plant food collection, processing, and storage (especially acorns). The centralized and seasonally permanent residential patterns that had begun to emerge during the Archaic period became well established in most areas. This period is represented in the northern part of the county by the San Luis Rey complex and in the south by the Cuyamaca complex. The San Luis Rey complex is the archaeological manifestation of the Shoshonean predecessors of the Luiseño. The Cuyamaca complex reflects the material culture of the Yuman ancestors of the Kumeyaay (also known as the Diegueño).

Ethnohistory

Two main cultural groups occupied coastal San Diego County, including the Luiseño and Kumeyaay. The Luiseño occupied the northern portion of the county, with their territory encompassing the area from roughly Agua Hedionda Lagoon on the south, Lake Henshaw on the east, Riverside County to the north, and the Pacific Ocean to the west. Kumeyaay territory was much larger and extended generally from Agua Hedionda Lagoon eastward into the Imperial Valley and southward into Baja California.

¹ Before Present years is a time scale used in archaeology and other disciplines to specify when events in the past occurred, with the year 1950 as the arbitrary origin of the age scale.

Post-contact History

The post-contact period began in 1769 with the Spanish establishment of Mission San Diego de Alcalá and the overlook trek of an exploring party moving northward along the San Diego coast. Prior to missionization, local inhabitants may have been affected by the transmission of Old World diseases. Missionization, along with the introduction of European diseases, greatly reduced the Native American population of southern California by the early nineteenth century. California was conquered and annexed to the U.S. after 1846. The American period (1846 to present) witnessed extensive changes in San Diego County. This period encompassed the rapid rise to dominance by Anglo-Victorian (Yankee) culture and the growth of urban centers, rural communities, and transportation networks.

Historical Background

Since the Treaty of Guadalupe-Hidalgo in 1848, an international border has existed between the U.S. and Mexico at present-day San Ysidro. Santiago Argüello's Rancho Tia Juana land grant (1829) spanned Alta and Baja California, but after 1848 small settlements named Tia Juana (in the U.S.) and Tijuana (in Mexico) existed on either side of the border. An experimental agrarian community began in 1909 north of the border and Tia Juana that first known as the Little Landers colony, and subsequently San Ysidro. Over time, the close economic ties between San Ysidro and Tijuana facilitated the development of the community into a town that eventually reached the border.

Agriculture and mining in the greater Tijuana area increased border crossings, prompting the appointment of border officers in 1871. Early San Ysidro residents continued to freely cross the border to Tijuana until 1917 when the border was closed to protect Americans from vices (e.g., gambling, bullfighting, and boxing) and as a precaution during World War I. The 1920s marked a shift in San Ysidro from an agrarian community to one that was increasingly tied to the tourism economy of Tijuana after the reopening of the border in 1920. The existing LPOE was completed in 1973, and by 1988, San Ysidro had become the busiest LPOE in North America, providing a port of entry and a temporary place of residence for Mexican immigrants.

Cultural Resources

A records search was obtained from the South Coastal Information Center (SCIC) at San Diego State University for the Approved Project. As detailed in the Final EIS, two prehistoric archaeological sites and five historic resources were identified within a 0.5-mile radius of the Revised Project APE, but only one, the U.S. Customs House (Old Customs House), which is listed on the NRHP, is located within the Revised Project APE.

A records search was completed at the SCIC on February 20, 2013 to identify previously recorded sites within and adjacent to the 2.3-acre area of the Revised Project APE. The records search indicated that no known cultural resources are located within the 2.3-acre area of the Revised Project APE. Thirteen cultural resources have been previously recorded within a one-mile radius of the 2.3-acre area of the Revised Project APE, including seven prehistoric archaeological sites and six historic resources. These resources are summarized in Table 4.4-1, *Recorded Cultural and Historical Resources Within One Mile of the 2.3-Acre Area of the Revised Project APE*.

Table 4.4-1 RECORDED CULTURAL AND HISTORICAL RESOURCES WITHIN ONE MILE OF THE 2.3-ACRE AREA OF THE REVISED PROJECT APE	
Resource Number/Address	Resource Description
Cultural Resources	
P-37-014989	Core isolate
P-37-014990	Core isolate
P-37-014991	Ceramic scatter (Fiesta ware-type)
P-37-014992	Lithic isolate (utilized flake)
P-37-025680	San Diego and Arizona Railway
SDI-4934	Prehistoric lithic scatter
SDI-5555	Prehistoric lithic quarry, trash scatter
SDI-10206	Prehistoric lithic scatter
SDI-10512	Prehistoric lithic scatter
SDI-10513	Prehistoric lithic scatter
SDI-10613	Prehistoric lithic scatter
SDI-10614	Prehistoric lithic quarry
SDI-19751	Foundations/structure pads, walls/fences
Historic Resources	
101-105 San Ysidro Boulevard	San Ysidro Free Public Library
119 Hall Avenue	Casa Familiar Building
631 E. San Ysidro Boulevard	El Toreador Motel
751-755 San Ysidro Blvd	San Ysidro Boulevard Mass Transit Station
0 E. San Ysidro Boulevard	Boundary Marker – U.S. to Mexico Border
0 Virginia Avenue	U.S. Customs House

Source: Cultural Resources Supplemental Study for the San Ysidro Land Port of Entry Project, June 2013.

The NAHC was contacted on May 15, 2013 for a records search of their sacred lands files to determine if any traditional cultural properties are located within or adjacent to the Revised Project APE. The results of the search indicated that no sacred lands or traditional cultural properties are located within the Revised Project APE. Consultation with local Native American tribes was recommended, and a list of Native American contacts was provided. Letters describing the Revised Project were mailed to local Native American representatives on May 20, 2013 for the Revised Project. No responses have been received to date. The NAHC was also contacted during preparation of the 2009 cultural resources study and as discussed in the Final EIS, no sacred lands or traditional cultural properties were identified within the APE evaluated for the Approved Project, and no responses from Native American representatives were received.

A field survey of the undeveloped portions of the Approved Project APE was conducted as part of the environmental studies completed for the Final EIS. A field survey of the 2.3-acre area of the Revised Project APE was conducted on May 21, 2013. Cultural resource monitoring was also conducted within the 2.3-acre area of the APE during February and March 2013 in conjunction with a separate private development project, the Outlets at the Border. No cultural resources were identified during the field survey or monitoring. The 2.3-acre area of the Revised Project APE was also previously surveyed for cultural resources as part of the Outlets at the Border project. No cultural resources were identified during any of these surveys.

Historical and archival research was performed to identify possible cultural resources within the 2.3-acre area of the Revised Project APE. A review of historic aerial photographs from 1928 to 2003 determined that no permanent buildings have been located within the 2.3-acre area of the Revised Project APE. Virginia Avenue appears within its current alignment on the 1953, 1964, and 1968 aerial photographs as a dirt road, and as a paved road leading to a border gate on the 1971 aerial photograph. Within the Revised Project APE, Virginia Avenue is currently a paved asphalt roadway surrounded by modern landscaping, development, fencing, and other features. The concrete storm drain channel along the western edge of the Revised Project APE was constructed after 1971.

An evaluation of buildings and structures was conducted as part of the environmental studies that were completed for the Approved Project. The Final EIS evaluated 14 buildings and structures, 13 of which are located within the Revised Project APE and one is adjacent to the Revised Project APE. The Old Customs House is listed on the NRHP; the San Diego and Arizona Eastern Railway Tracks and Depot (located outside of the Revised Project APE) was recommended eligible for the City Register; and the International Building is recommended eligible for the NRHP, CRHP, and City Register. No other evaluated buildings met the applicable eligibility criteria for the NRHP, CRHP, or City Register.

4.4.3 Environmental Consequences

Action Alternatives

The Six-lane and Ten-lane Alternatives would occur in the same locations with the similar footprints. The Revised Project APE is the same under both action alternatives. Although the Ten-lane Alternative would have a larger impact footprint than the Six-lane Alternative, the additional impact area does not contain any recorded cultural resources. Therefore, potential impacts to cultural resources under both action alternatives would be the same.

Archaeological Resources

No prehistoric cultural resources were identified within the Revised Project APE during the previous and recent records search and field surveys. Additionally, the Action Alternatives would not impact recorded archaeological sites in the vicinity. Therefore, impacts to archaeological resources are not expected to occur. The measure described in Section 4.4.4, however, would be implemented during construction to ensure that adverse impacts to unknown subsurface resources would be avoided.

Historical Resources

The Final EIS identified potential impacts to the NRHP-listed Old Customs House during Phase I improvements due to the southbound pedestrian crossing on the east side of the LPOE and during Phase II due to the potential to temporarily transfer pedestrian processing operations to this building until the proposed Pedestrian and Administration building is constructed. As discussed in Chapter 1, some Phase I improvements of the Approved Project have been constructed, including the new southbound pedestrian crossing facility on the east side of the LPOE, which was completed in August 2012. Adverse impacts to the Old Customs House identified in the Final EIS have been avoided during construction of the Phase I improvements of the Approved Project that has already occurred. However, during Phase II of the Action Alternatives, a portion of the Old Customs House would be renovated to accommodate southbound pedestrian customs operations and the connection to the pedestrian plaza to the

north. These renovations to the Old Customs House would result in an adverse direct impact to the NRHP-listed historical property.

The Final EIS also identified potential indirect impacts to the International Building due to construction of the proposed Central Plant building in Phase I, which would be adjacent to it. Under the Revised Project, the Central Plant is no longer proposed as a stand-alone building in this area. The Revised Project proposes to incorporate the central plant into the northbound headhouse as part of the Phase I improvements. Therefore, the Revised Project would not result in indirect impacts to this historic building.

No historic properties have been previously recorded within the 2.3-acre area of the Revised Project APE, and none were identified during the surveys conducted for this portion of the Revised Project APE. The concrete storm drain was constructed after 1971 and does not meet the 50-year age threshold for eligibility to the NRHP or the City Register. Although the alignment of Virginia Avenue within the Revised Project APE meets the age threshold for eligibility, it is not recommended eligible for listing on the NRHP or the City Register because it does not meet other criteria necessary for listing. It is not associated with persons, events or trends important in the history of San Ysidro or the region. The materials and construction of the roadway are not uniquely characteristic of its time of construction. As a recently paved road it is lacking in architectural distinction and therefore it does not exemplify special elements of the City's aesthetic or architectural development, nor does it embody distinctive characteristics of a style, type, period, or method of construction. It has also been significantly modified from its origin as a dirt road and therefore lacks historical integrity.

No Action Alternative

Under the No Action Alternative, GSA would continue to implement the Approved Project that was analyzed as the Preferred Alternative in the Final EIS. As indicated in the Final EIS, the Approved Project would not result in impacts to known archaeological resources. Impacts to the Old Customs House resulting from the No Action Alternative would be the same as those identified above for the Action Alternatives, as the No Action Alternative also would require renovation of a portion of the Old Customs House in Phase II. The No Action Alternative would result in an adverse direct impact to this NRHP-listed historical property. Indirect impacts to the International Building would also occur due to the proximity of the proposed Central Plant that would be constructed as part of Phase I improvements.

4.4.4 Avoidance, Minimization, and/or Mitigation Measures

Action Alternatives

Archaeological Resources

Implementation of the following avoidance, minimization, and mitigation measure would avoid adverse impacts to unknown subsurface archaeological resources:

- If cultural materials are discovered during construction, all earth-moving activity within and around the immediate discovery area should be avoided until a qualified archaeologist can assess the nature and significance of the find.

Historical Resources

The following measures would avoid, minimize, or mitigate direct adverse impacts to historical resources during renovation of the Old Customs House:

- All renovation of the Old Customs House should conform to *The Secretary of the Interior's Standards for the Treatment of Historic Properties*.
- Prior to alteration or removal of building features, detailed documentation of the Old Customs House should be completed as agreed to in the Section 106 consultation process.

If all adverse effects cannot be avoided, then other mitigation measures as determined through Section 106 consultation would be implemented.

No Action Alternative

Archaeological Resources

Implementation of the avoidance, minimization, and mitigation measure identified above for the Action Alternatives would avoid adverse impacts to unknown subsurface archaeological resources resulting from the No Action Alternative.

Historical Resources

Implementation of the measures identified above for the Action Alternatives would avoid, minimize, or mitigate direct adverse impacts to historical resources during renovation of the Old Customs House resulting from the No Action Alternative.

The following measure would avoid indirect impacts to the International Building resulting from the No Action Alternative:

- Measures consistent with *The Secretary of the Interior's Standards for the Treatment of Historic Properties* should be implemented as agreed to in the Section 106 consultation process.

4.5 HAZARDOUS WASTE/MATERIALS

This subchapter evaluates potential environmental effects related to hazardous waste/materials as a result of the Revised Project. The conclusions are based on the analysis contained in the Final EIS that addressed the Approved Project, as well as additional analysis and environmental studies that were conducted to evaluate the proposed modifications that comprise the Revised Project.

4.5.1 Regulatory Setting

Hazardous materials including hazardous substances and wastes are regulated by many federal laws. Statutes govern the generation, treatment, storage and disposal of hazardous materials, substances, and waste, and the investigation and mitigation of waste releases, air and water quality, human health and land use.

The primary federal laws regulating hazardous waste/materials are the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA) and the Resource Conservation and Recovery Act of 1976 (RCRA). The purpose of CERCLA, often referred to as “Superfund,” is to identify and clean up contaminated sites so that public health and welfare are not compromised. RCRA provides for “cradle to grave” regulation of hazardous waste generated by operating entities. Other federal laws include:

- Community Environmental Response Facilitation Act (CERFA) of 1992
- Clean Water Act
- Clean Air Act
- Safe Drinking Water Act
- Occupational Safety & Health Act (OSHA)
- Atomic Energy Act
- Toxic Substances Control Act (TSCA)
- Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA)

In addition to the acts listed above, EO 12088, Federal Compliance with Pollution Control Standards, mandates that necessary actions be taken to prevent and control environmental pollution when federal activities or federal facilities are involved.

Worker and public health and safety are key issues when addressing hazardous materials that may affect human health and the environment. Proper management and disposal of hazardous material is vital if it is encountered, disturbed, or generated during project construction.

4.5.2 Affected Environment

The analysis and conclusions presented in this subchapter are based on the Phase I Environmental Site Assessment (Phase I ESA) prepared for the Virginia Avenue Transit Facility (*Phase I Environmental Site Assessment, Virginia Avenue at San Ysidro Land Port Entry, January 2013*), and the initial site assessment (ISA; *Initial Site Assessment – San Ysidro Border Station Expansion/Reconfiguration – San Diego, California, September 2008*) that was prepared for the Approved Project. Both reports included a review of topographic, geologic, and historic documents and maps; site reconnaissance; and review of regulatory agency databases/files to determine hazardous waste/materials concerns within the project study area. The reports were prepared in accordance with the USEPA’s Standards and Practice for All Appropriate Inquiries (40 CFR, Part 312) and the ASTM Standard Practice for Environmental Site Assessments

(Designation E1527-05). The Phase I ESA was conducted to evaluate hazardous waste/materials impacts not evaluated in the Final EIS, specifically related to Phase III of the Revised Project, including modifications to the development footprint and design of the proposed Virginia Avenue Transit Facility. The results of this analysis are summarized in this subchapter. The 2008 ISA evaluated potential hazardous waste/materials concerns for the Approved Project. Much of the analysis and conclusions of the 2008 ISA remain applicable to the Revised Project because in addition to the proposed changes to the Approved Project, the Revised Project also includes the other components of the Approved Project that have not changed. Applicable information from the ISA as it relates to the Revised Project is summarized in this subchapter.

Study Area History

Historic land uses within the vicinity of the Revised Project Footprint were identified through review of available historical aerial photographs and topographic maps on file with the County of San Diego Department of Public Works, GSA historical blueprints, and City of San Diego directories. The earliest available map dated back to 1928 and showed commercial development along a north-south trending road in the vicinity of what is presently I-5. The existing railroad corridor to the east was also present at that time. The Old Customs House was constructed between 1928 and 1949. By 1966, a border crossing with multiple lanes of traffic was developed, and the commercial buildings on the west side of the road were replaced with parking lots. By 1973, the crossing had developed generally into its current configuration, along with I-5, Camiones Way, and Camino de la Plaza.

Retail and commercial buildings, a former taxi maintenance facility that has since been removed (Red Cab Company facility), and the Greyhound building on the eastern portion of the Revised Project Footprint were constructed between 1953 and 1966. Between 1928 and 1973, the western portion of the Revised Project Footprint was used for agriculture and livestock before parking lots and the former commercial cargo vehicle inspection station were constructed. A gas station was located in the northeastern portion of the Revised Project Footprint between 1962 and 1972, but has since been redeveloped with a commercial retail building (occupied by McDonalds and other retail stores) adjacent to the San Ysidro Intermodal Transportation Center.

The property to the west of Virginia Avenue analyzed in the Phase I ESA has historically been undeveloped. A dirt road that bisects the property was created between 1953 and 1963, and by 1974 the property had been graded and occupied by large vehicles. This use continued through 1994, with the introduction of a fence along the western boundary of the property and similar vehicle storage and storage structures within the parcel immediately west. By 1994, there was increased development in the vicinity so that no remaining agricultural uses were present. Additionally, between 1974 and 1980 a small river that passes immediately south of the Virginia Avenue property in a southeasterly direction had been channelized and commercial developments had been constructed several parcels north.

Site Reconnaissance

Several site visits were conducted between April and June 2008 as part of the environmental studies completed for the Final EIS. A field survey of the 2.3-acre portion of the Revised Project Footprint west of Virginia Avenue was conducted on November 28, 2012. Site visits were conducted to access and observe portions of the study area that were considered likely to contain potential environmental concerns. Site observations from the 2008 ISA pertaining to

potential hazardous conditions that would apply to the Revised Project are presented below in Table 4.5-1, *Hazardous Material Observations During 2008 Site Reconnaissance*.

Table 4.5-1 HAZARDOUS MATERIAL OBSERVATIONS DURING 2008 SITE RECONNAISSANCE	
Location	Observations
East Mechanical Room (east side) on eastern portion of LPOE	5,000-gallon aboveground storage tank (AST). No evidence of releases or staining was observed.
East Mechanical Room (roof) on eastern portion of LPOE	75 gallons of cooling tower chemicals (e.g., bleach, bromide solution). No staining was observed.
Old Customs House (paint storage room)	5-gallon containers of gasoline and diesel fuel. No evidence of releases was observed.
Old Customs House (northwest side)	Biohazardous waste storage in a portable shed and an incinerator. No evidence of releases was observed.
Location of former Red Cab facility	Staining was observed on asphalt and concrete pavement.
Vehicle Breakdown Area at LPOE	Storage of petroleum products (e.g., gasoline, diesel); hydraulic lift with above ground reservoir. No significant staining observed on concrete.
Duty-Free Shopping Plaza (south side of ancillary buildings)	Emergency generator with approximately 100 gallons of diesel fuel. No evidence of releases was observed.
Near former CBP Building on western portion of LPOE	Propane AST. Not considered a potential environmental concern.
Parking Lot on eastern portion of LPOE	Propane AST. Not considered a potential environmental concern.

Source: ISA, September 2008.

In addition to these facilities, several transformers and utility vaults are located within the Revised Project Footprint. Some of these transformers may contain polychlorinated biphenyls (PCBs) in dielectric fluids, which constitutes a hazardous material. Surficial staining typical of leaking vehicle undercarriages was observed on asphalt and concrete pavement in areas throughout the Revised Project Footprint. Additionally, retail quantities of paints and/or cleaning or maintenance products and scattered debris were observed in several locations within the Revised Project Footprint.

When the field survey in 2012 was conducted for the 2.3-acre area of the Revised Project Footprint, this area consisted of an undeveloped lot. It has since been graded, paved, and striped as a private parking lot. At the time of the survey, this area was largely vacant, and two large construction vehicles and piles of rubble consisting of painted concrete, rocks, metal, wood poles, and wire were observed. A power pole with a meter affixed to it, power lines, and one pad-mounted and three pole-mounted electrical transformers were also observed. There were no hazardous materials, aboveground storage tanks (ASTs), or underground storage tanks (USTs) observed at the property. No soil staining, evidence of hazardous materials dumping, or obvious odors that could indicate the presence of hazardous materials were detected.

Regulatory Agency File Review

Regulatory agency databases were reviewed to identify facilities of potential environmental concern located on or in the vicinity of the Revised Project Footprint. Listed facilities are

summarized below and their locations relative to the Revised Project Footprint are illustrated in Figure 4.5-1, *Listed Facilities of Potential Environmental Concern*.

San Ysidro LPOE

According to the County of San Diego Department of Environmental Health (DEH) records, a 10,000-gallon, single-walled diesel UST near the East Mechanical Room was removed in May 1996. The DEH UST closure report indicates that tank closure was complete and no further action was required. The UST was replaced with a 1,500-gallon AST containing amber fuel. The LPOE is currently permitted for disposal of universal waste and storage/use of diesel and paint. No violations related to unauthorized releases of hazardous materials or wastes have been recorded.

Two open cases were listed in the California Regional Water Quality Control Board (RWQCB)'s Spills, Leaks, Investigations, and Cleanups (SLIC) database. A case opened February 15, 2011, indicated that large-scale excavations were proposed to occur (associated with the Approved Project) that would excavate soil known to be contaminated from historical activities. A second case opened June 13, 2012, indicated that residual hydrocarbons and lead-impacted soil from a previous spill were encountered during excavation activities associated with the Approved Project.

Former Red Cab Facility

The site of the former Red Cab facility is located in the eastern portion of the Revised Project Footprint, north of the Old Customs House. According to DEH files, the Red Cab Taxi Company leased this property from the Metropolitan Transit District as a maintenance and filling station from 1940 until 1994. It previously contained a single-story building, a 6,000-gallon gasoline UST with dispenser, and a waste oil storage area. Soils and groundwater investigations conducted at the site revealed that contamination from the former UST and waste oil storage had not impacted groundwater beneath the site. The site received case closure on December 15, 2011.

San Diego Police Southern Facility

This listed facility is located approximately 0.11 mile north of the Revised Project Footprint at 663 East San Ysidro Boulevard. Records indicated that two unauthorized release cases were associated with this facility due to failed UST integrity tests. Two USTs were removed from this facility in November 1993. Soil samples collected from the tank excavation did not contain detectable concentrations of total petroleum hydrocarbons (TPH). In December 1993, the DEH indicated that no further action was required with respect to the tank closure. According to the 2008 DEH site assessment and mitigation (SAM) Case Listing, the two unauthorized release cases associated with failed tank integrity tests have been closed.

Goodwill Industries

This listed facility is located approximately 0.2 mile northwest of the Revised Project Footprint at 626-630 Front Street. According to records (leaking underground storage tank [LUST] database and DEH SAM Case Listing), this facility has had one reported case due to potential soil contamination; however, the case is closed.



Listed Facilities of Potential Environmental Concern

SAN YSIDRO LPOE IMPROVEMENTS

Figure 4.5-1

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Las Americas Development

The Las Americas development is located approximately 0.15 mile northwest of the Revised Project Footprint at 4211 Camino de la Plaza, and currently consists of the regional outlet shopping center. According to the 2008 DEH SAM Case Listing, this facility has one open case associated with a former waste oil UST.

Kennedy's Firestone

The Kennedy's Firestone facility is located approximately 0.03 mile northwest of the Revised Project Footprint at 4520 Camino de la Plaza. According to the Statewide Environmental Evaluation and Planning System (SWEEPS) database, this facility has one open case associated with a waste oil UST. No leaks are reported at this facility.

San Diego and Imperial Valley Railroad

The San Diego and Imperial Valley (SDIV) Railroad facility is located approximately 0.42 mile northwest of the Revised Project Footprint along the railroad corridor. A UST was removed from this facility in 1998, and soil samples indicated an unauthorized release of petroleum compounds. According to the case closure summary, less than 50 cubic yards of petroleum-impacted soil remains at this property, and no evidence of impacted groundwater was noted.

Coral Gates and Soil Disposal

This listed facility is located approximately 0.5 mile northwest of the Revised Project Footprint near Camino de la Plaza and Sipes Lane. This facility has had one unauthorized release LUST case, which resulted in the presence of pesticides in soil and volatile organic compounds (VOCs) in groundwater. The case regarding impacts to groundwater from VOCs is considered to be closed.

Nelson and Sloan/Cays

This facility consists of an approximately 58-acre site west of the Revised Project Footprint at the current location of the Las Americas shopping center. Based on the site's listing in the California Integrated Waste Management Board (CIWMB) Solid Waste Landfill-Related Sites database, this property was previously utilized as a solid waste disposal site. Solid waste issues associated with this facility included a sand borrow pit that was backfilled with undocumented fill material, burn ash from another location that was stockpiled in berms, and sandblast material that was placed on the ground. Soil samples collected from the burn ash berms indicated low levels of metals, but below regulatory thresholds. In 2001, the CIWMB issued a letter that the property had been clean-closed¹ and is not considered a solid waste disposal site.

According to the DEH LUST case closure summary, soil, and groundwater sampling indicated low levels of VOCs (chlorinated solvents) in groundwater and no VOCs in soil vapor samples. The DEH issued closure in June 2001 prior to the site being developed with the Las Americas shopping center.

¹ Clean closure of a solid waste disposal site refers to the complete removal of all waste and waste residuals, including contaminated soils.

San Diego Police Southern Facility

Given the distance of this facility from the Revised Project Footprint (approximately 0.11 mile) and the closed status of the LUST cases, no hazardous waste/materials impacts would occur.

Goodwill Industries

Based on the distance of this listed facility from the Revised Project Footprint (approximately 0.2 mile) and the closed case status, no hazardous waste/materials impacts would occur.

Las Americas Development

As discussed above, this facility has an open case associated with a former waste oil UST. A corrective action plan that was prepared in January 2008 indicates that the direction of groundwater flow is northwesterly, which is away from the Revised Project Footprint. Based on the direction of groundwater flow and distance from the Revised Project Footprint (approximately 0.15 mile), no hazardous waste/materials impacts would occur.

Kennedy's Firestone

As discussed above, this facility has an open case associated with a waste oil UST. Based on the fact that no leaks have been reported at this facility and the distance from the Revised Project Footprint (approximately 0.03 mile), no hazardous waste/materials impacts would occur.

San Diego and Imperial Valley Railroad

Based on the distance of this listed facility from the Revised Project Footprint (approximately 0.42 mile) and the closed case status, no hazardous waste/materials impacts would occur.

Coral Gates and Soil Disposal

Given the distance of this facility from the Revised Project Footprint (approximately 0.5 mile) and the closed case status, no hazardous waste/materials impacts would occur.

Nelson and Sloan/Cays

No hazardous waste/materials impacts would occur upon implementation of the Action Alternatives because the listed Nelson and Sloan/Cays facility has a closed case status, and was clean-closed as a solid waste disposal site prior to its redevelopment with the Las Americas shopping center.

Former Land Uses

Former land uses and facilities within the Revised Project Footprint include boilers, fuel storage areas, a gas station, and agricultural uses. Potential environmental concerns associated with these former uses are briefly described below.

Historical blueprint records indicate a boiler room and “fuel room” were previously located within the Old Customs House, and a gas station was previously located in the northeastern portion of the Revised Project Footprint, in the approximate location of the retail plaza at the San Ysidro Intermodal Transportation Center. Storage and use of fuels at these locations within and

Aerially-Deposited Lead

Due to proximity to the I-5 and I-805 freeways, soil within the Revised Project Footprint may contain aerially-deposited lead (ADL) as a result of emissions from vehicular exhaust prior to the elimination of lead from fuels in the mid-1980s.

Hazardous Building Materials

Based on the construction dates of existing facilities and infrastructure, there is potential that asbestos-containing materials (ACMs) may be present in building materials in the Revised Project Footprint. Lead-containing surfaces (LCSs) also may be present on building material surfaces of structures, and on other surfaces within the Revised Project Footprint, such as roadway striping, metal guard rails, and piping.

4.5.3 Environmental Consequences

Action Alternatives

The Six-lane and Ten-lane Alternatives would occur in the same locations with the similar footprints. Therefore, the study area for hazardous waste/materials would be the same for both of the action alternatives, and construction, operation, and maintenance activities would be similar. Therefore, potential impacts related to hazardous waste/materials under both action alternatives would be the same.

Listed Facilities of Potential Environmental Concern

The regulatory agency reports were reviewed to evaluate whether the listed properties posed a potential environmental concern, based on their distance from the Revised Project Footprint, the assumed direction of groundwater flow, the type of database on which they are listed, the nature of facility or waste generated, and/or their case status. Locations of the listed facilities are shown in Figure 4.5-1.

San Ysidro LPOE

While LPOE operations involve routine use, storage, and disposal of permitted hazardous substances (i.e., diesel, paint, and universal waste), no violations related to unauthorized releases of hazardous materials or waste have occurred. As discussed above, the LPOE has two open cases associated with contaminated soil from historical activities. Contaminated soil potentially could be encountered during excavation activities associated with the Action Alternatives.

Former Red Cab Facility

Although the former Red Cab facility located in the eastern portion of the Revised Project Footprint previously contained a gasoline UST and waste oil storage area, based on the nature of the contamination and the closed case status, no associated hazardous waste/materials impacts would occur.

adjacent to the Revised Project Footprint creates a potential environmental concern associated with unauthorized releases of fuels.

The western portion of the Revised Project Footprint (at the location of the surface parking lots east of Virginia Avenue) was previously used for agricultural purposes, consisting of dry farming and livestock/equestrian operations. Given these prior agricultural uses, it is possible that pesticides, herbicides, and/or fertilizers were applied to soils and/or stored in this area. Storage and application of such substances causes a potential environmental concern associated with on-site soils.

The property to the west of Virginia Avenue has historically been undeveloped. No soil staining, evidence of hazardous materials dumping, or obvious odors that could indicate the presence of hazardous materials were detected during site reconnaissance and therefore the anticipated risk for exposure to hazardous materials is minimal for this property.

Current Land Uses

Operations at the San Ysidro LPOE involve processing high volumes of vehicles, which generate urban contaminants, including fuels, oils, metals, grease, and other fluids. Specifically, the LPOE processes approximately 50,000 northbound vehicles per day (GSA 2013). Given the large number of vehicles traveling through, or parked at, the LPOE, there is the potential that contaminants from vehicular sources have leached into underlying soils. As a result, contaminated soils could be encountered during excavation activities associated with the Action Alternatives. The measures described in Section 4.5.4, however, would be implemented during construction to ensure that adverse impacts involving contaminated soils would be avoided.

The 2.3-acre property to the west of Virginia Avenue was undeveloped and contained storage of large vehicles and construction rubble at the time of the 2012 field survey. Subsequent to the 2012 field survey, this area has been graded, paved, and striped as a parking lot. As noted above, no direct evidence of releases of hazardous substances or petroleum products to soil or groundwater were identified and therefore, the anticipated risk for exposure to hazardous materials is minimal for this property.

Aerially-Deposited Lead

As discussed above, exposed soil within the Revised Project Footprint has the potential to contain ADL. Consequently, soil disturbance during construction of the Action Alternatives could encounter ADL.

Hazardous Building Materials

Records reviewed indicate that asbestos is present in the Old Customs House, and ACMs, LCS, and other hazardous building materials are present at the former commercial cargo inspection facility in the western portion of the Revised Project Footprint. ACMs also may be present in existing bridge joints and piping material. In addition, LCSs may be present on surfaces of existing facilities within the Revised Project Footprint, such as roadway striping, metal guard rails, piping, and bridge components. Implementation of the Action Alternatives would remove some of these facilities, which could release associated hazardous materials.

Polychlorinated biphenyls

Pad-mounted and pole-mounted transformers and utility vaults are located in various areas within the Revised Project Footprint. Some of these transformers may contain PCB dielectric fluids. Additionally, existing elevators at the LPOE may contain PCB hydraulic fluids. The Pedestrian Building, East Head House, and Old Customs House would not be impacted during implementation of the Action Alternatives, as these facilities have already been replaced and/or remodeled, and no impacts related to PCBs within these facilities would occur. Some existing transformers within other portions of the Revised Project Footprint may be removed or relocated. Therefore, there is a likely potential to encounter PCBs during construction of the Action Alternatives.

No Action Alternative

Under the No Action Alternative, GSA would continue to implement the Approved Project that was analyzed as the Preferred Alternative in the Final EIS. The study area for hazardous waste/materials under the No Action Alternative would be the same as the Action Alternatives, with the exception of the 2.3-acre portion west of Virginia Avenue. Construction, operation, and maintenance activities would be similar. The analysis presented above for the Action Alternatives would apply equally to the No Action Alternative, and potential impacts with respect to hazardous waste/materials would be similar. Specifically, the No Action Alternative would result in potential adverse impacts due to possible soil and/or groundwater contamination at listed facilities of potential environmental concern, and former and current uses within the Approved Project study area and LPOE. Additionally, potential adverse impacts could occur associated with ADL, hazardous building materials, and PCBs.

4.5.4 Avoidance, Minimization, and/or Mitigation Measures

Action Alternatives and No Action Alternative

The following avoidance, minimization, and mitigation measures would effectively avoid or address potential impacts related to hazardous waste/materials from the Action Alternatives and the No Action Alternative:

- Soil sampling should be conducted in areas within the Revised Project Footprint proposed to be disturbed and/or excavated prior to soil export, reuse, or disposal to characterize the soil for the presence of hazardous materials (e.g., metals, petroleum hydrocarbons, VOCs, pesticides, etc.). If contaminated soil is present, appropriate abatement actions should be implemented in accordance with applicable regulatory requirements.
- Health risk assessments should be conducted for facilities within the LPOE in which contamination has been documented to evaluate whether the levels of contaminants would pose a risk to human health.
- Prior to commencement of excavation activities, a Site and Community Health and Safety Plan should be prepared to manage potential health and safety hazards to workers and the public.
- Prior to commencement of excavation activities, a Soil Management Plan should be prepared to address the notification, monitoring, sampling, testing, handling, storage,

and disposal of contaminated media or substances that may be encountered during construction activities.

- Prior to commencement of excavation activities, a Groundwater Management Plan should be prepared to address the notification, monitoring, sampling, testing, handling, storage, and disposal of potentially contaminated groundwater.
- Existing transformers and elevator equipment within the Revised Project Footprint should be sampled for PCB content if proposed to be disturbed and/or moved during construction activities. If PCBs are present, appropriate abatement actions for their disposal should be implemented in accordance with regulatory requirements, and soil beneath transformers and/or elevators should be evaluated for evidence of releases. If present in underlying soils, appropriate abatement actions for removal and disposal should be implemented in accordance with applicable regulatory requirements.
- Wastes and potentially hazardous waste within the Revised Project Footprint, including trash, debris piles, and equipment, should be removed and recycled and/or disposed of off site, in accordance with applicable regulatory requirements.
- Prior to renovation or demolition of existing structures, surveys should be conducted to evaluate the presence, locations, and quantities of hazardous building materials (ACMs and LCSs). Suspect materials should be sampled and analyzed, and if present, appropriate abatement actions should be implemented in accordance with applicable regulatory requirements.
- Contract specifications should include references to the potential to encounter contaminated soil, groundwater, or other regulated wastes during construction activities.

4.6 AIR QUALITY AND GREENHOUSE GAS EMISSIONS

This subchapter evaluates potential environmental effects related to air quality and greenhouse gas emissions as a result of the Revised Project. The conclusions are based on the analysis contained in the Final EIS that addressed the Approved Project, as well as additional analysis and environmental studies that were conducted to evaluate the proposed modifications that comprise the Revised Project.

4.6.1 Regulatory Setting

Federal Clean Air Act

The federal Clean Air Act (CAA), as amended in 1990, is the federal law that governs air quality. This law and related regulations by the USEPA set standards for the quantity of pollutants that can be in the air. At the federal level, these standards are called the National Ambient Air Quality Standards (NAAQS); NAAQS have been established for six criteria pollutants that have been linked to potential health concerns. The six major air pollutants of concern, called “criteria pollutants,” include carbon monoxide (CO), sulfur dioxide (SO₂), nitrogen dioxide (NO₂), ozone (O₃), suspended particulate matter (PM), and lead (Pb). Suspended particulate matter is further categorized as particulates less than or equal to 10 microns in diameter (PM₁₀) and fine particulate matter less than or equal to 2.5 microns in diameter (PM_{2.5}).

In addition to the six criteria pollutants, the USEPA designated 188 substances as hazardous air pollutants under the federal CAA, which are known as Mobile Source Air Toxics (MSATs). MSATs are air pollutants known to cause or suspected of causing serious health effects (such as cancer), or adverse environmental effects. No NAAQS have been established for hazardous air pollutants. However, the USEPA has developed rules that limit emissions of hazardous air pollutants from specific industrial sources. These emissions control standards are known as “maximum achievable control technologies” and “generally achievable control technologies.” They are intended to achieve the maximum degree of reduction in emissions of hazardous air pollutants, taking into consideration the cost of emissions control, non-air quality health and environmental impacts, and energy requirements. Examples of hazardous air pollutants include benzene, which is found in gasoline; perchloroethylene, which is emitted by some dry cleaning facilities; and methylene chloride, a solvent and paint stripper used in some industries. Hazardous air pollutants are regulated under the CAA’s National Emission Standards for Hazardous Air Pollutants, which apply to specific sources of hazardous air pollutants; and under the Urban Air Toxics Strategy, which applies to area sources.

Air pollutants are classified as either primary or secondary pollutants, based on how they are formed. Primary air pollutants are emitted directly into the atmosphere from the source, and retain their chemical form. Examples of primary pollutants are the CO produced by a power plant burning fuel and volatile organic compounds emitted by a dry cleaner. Secondary air pollutants are formed through atmospheric chemical reactions – reactions that usually involve primary air pollutants (or pollutant precursors) and normal constituents of the atmosphere. Ozone, a major component of photochemical smog that is the greatest air quality concern in California, is a secondary air pollutant. Ozone precursors consist of two groups of chemicals: nitrogen oxides (NO_x) and organic compounds. NO_x consists of nitric oxide (NO) and NO₂. Organic compound precursors of ozone are routinely described by various terms, including volatile organic compounds (VOC), reactive organic compounds (ROC), and reactive organic gases (ROG). Finally, some air pollutants are a combination of primary and secondary pollutants. PM₁₀ and PM_{2.5} are both emitted as primary air pollutants by various mechanical

processes (e.g., abrasion, erosion, mixing, or atomization) or combustion processes. They are generated as secondary air pollutants through chemical reactions or through the condensation of gaseous pollutants into fine aerosols.

Air pollutant emissions are reported as the rate (by weight or volume) at which specific compounds are emitted into the atmosphere by a source. Typical units for emission rates from a source are pound (lb) per thousand gallons of fuel burned, lb per U.S. ton of material processed, and grams (g) per vehicle-mile traveled.

Ambient air quality is reported as the atmospheric concentrations of specific air pollutants at a particular time and location. The units of measure are expressed as a mass per unit volume (e.g., micrograms per cubic meter [$\mu\text{g}/\text{m}^3$] of air) or as a volume fraction (e.g., parts per million [ppm] by volume). The ambient air pollutant concentrations measured at a particular location are determined by the pollutant emissions rate, local meteorology, and atmospheric chemistry. Wind speed and direction, the vertical temperature gradient of the atmosphere, and precipitation patterns affect the dispersal, dilution, and removal of air pollutant emissions from the atmosphere.

The NAAQS for each of the regulated pollutants are shown in Table 4.6-1, *Federal Criteria Air Pollutant Standards, Effects, and Sources*.

The air quality management agencies of direct importance to San Diego County (the County) include the USEPA, the California Air Resources Board (CARB), and the San Diego Air Pollution Control District (SDAPCD). The USEPA has established federal ambient air quality standards for which the CARB and the SDAPCD have primary implementation responsibility.

San Diego Air Basin Attainment Designation

The USEPA classifies air basins (or portions thereof) as being in “attainment,” “nonattainment,” or “unclassified” for each criteria air pollutant, based on whether or not the NAAQS have been achieved. Areas designated as “maintenance” signifies former nonattainment areas. If an area is designated unclassifiable, it is because inadequate air quality data were available as a basis for a nonattainment or attainment designation.

Table 4.6-1 lists the federal attainment status of the San Diego Air Basin (SDAB) for the criteria pollutants. The USEPA classifies the SDAB as in attainment for CO, PM_{2.5}, NO₂, SO₂, and lead, and unclassifiable for PM₁₀ with respect to federal air quality standards. On May 21, 2012, the USEPA designated the SDAB as a non-attainment area for the 2008 8-hour ozone standard and classified it as a marginal area with an attainment date of December 31, 2015. This designation became effective on July 20, 2012. The SDAB also has been designated by the USEPA as a federal maintenance area for the CO standard.

**Table 4.6-1
FEDERAL CRITERIA AIR POLLUTANT STANDARDS, EFFECTS, AND SOURCES**

Pollutant	Averaging Time	Federal ¹ Standard	Principal Health and Atmospheric Effects	Typical Sources	Federal Attainment Status
Ozone (O ₃) ²	1 hour 8 hours	--- 0.075 ppm (annual fourth highest daily maximum 8-hours averaged over 3 years)	High concentrations irritate lungs. Long-term exposure may cause lung tissue damage and cancer. Long-term exposure damages plant materials and reduces crop productivity. Precursor organic compounds include many known toxic air contaminants and biogenic sources.	Low-altitude ozone is almost entirely formed from reactive organic gases/volatile organic compounds (ROG or VOC) and nitrogen oxides (NO _x) in the presence of sunlight and heat. Major sources include motor vehicles and other mobile sources, solvent evaporation, and industrial and other combustion processes.	Marginal Nonattainment
Carbon Monoxide (CO)	1 hour 8 hours	35 ppm 9 ppm	CO interferes with the transfer of oxygen to the blood and deprives sensitive tissues of oxygen. CO also is a minor precursor for photochemical ozone.	Combustion sources, especially gasoline-powered engines and motor vehicles. CO is the traditional signature pollutant for on-road mobile sources at the local and neighborhood scale.	Attainment/Maintenance
Respirable Particulate Matter (PM ₁₀)	24 hours Annual	150 µg/m ³ ---	Irritates eyes and respiratory tract. Decreases lung capacity. Associated with increased cancer and mortality. Contributes to haze and reduced visibility. Includes some toxic air contaminants. Many aerosol and solid compounds are part of PM ₁₀ .	Dust- and fume-producing industrial and agricultural operations; combustion smoke; atmospheric chemical reactions; construction and other dust-producing activities; unpaved road dust and re-entrained paved road dust; natural sources (wind-blown dust, ocean spray).	Unclassifiable
Fine Particulate Matter (PM _{2.5})	24 hours Annual	35 µg/m ³ (98 th percentile over 3 years) 15.0 µg/m ³ (annual mean averaged over 3 years)	Increases respiratory disease, lung damage, cancer, and premature death. Reduces visibility and produces surface soiling. Most diesel exhaust particulate matter – a toxic air contaminant – is in the PM _{2.5} size range. Many aerosol and solid compounds are part of PM _{2.5} .	Combustion including motor vehicles, other mobile sources, and industrial activities; residential and agricultural burning; also formed through atmospheric chemical (including photochemical) reactions involving other pollutants including NO _x , sulfur oxides (SO _x), ammonia, and VOC.	Attainment

**Table 4.6-1 (cont.)
FEDERAL CRITERIA AIR POLLUTANT STANDARDS, EFFECTS, AND SOURCES**

Pollutant	Averaging Time	Federal ¹ Standard	Principal Health and Atmospheric Effects	Typical Sources	Federal Attainment Status
Nitrogen Dioxide (NO ₂)	1 hour Annual	100 ppb ³ (98 th percentile over 3 years) 0.053 ppm	Irritating to eyes and respiratory tract. Colors atmosphere reddish-brown. Contributes to acid rain. Part of the “NO _x ” group of ozone precursors.	Motor vehicles and other mobile sources; refineries; industrial operations.	Attainment
Sulfur Dioxide (SO ₂)	1 hour 3 hours 24 hours Annual	0.075 ppm ⁴ (98 th percentile over 3 years) 0.5 ppm 0.14 ppm 0.030 ppm	Irritates respiratory tract; injures lung tissue. Can yellow plant leaves. Destructive to marble, iron, steel. Contributes to acid rain. Limits visibility.	Fuel combustion (especially coal and high-sulfur oil), chemical plants, sulfur recovery plants, metal processing; some natural sources like active volcanoes. Limited contribution possible from heavy-duty diesel vehicles if ultra-low sulfur fuel not used.	Attainment
Lead (Pb) ³	Quarterly Rolling 3-month average	1.5 µg/m ³ 0.15 µg/m ³	Disturbs gastrointestinal system. Causes anemia, kidney disease, and neuromuscular and neurological dysfunction. Also a toxic air contaminant and water pollutant.	Lead-based industrial processes like battery production and smelters. Lead paint, leaded gasoline. Aerially deposited lead from gasoline may exist in soils along major roads.	Attainment

Sources: Based on the USEPA National Ambient Air Quality Standards chart (<http://www.epa.gov/air/criteria.html>), Six Common Air Pollutants Health Effects (<http://www.epa.gov/airquality/urbanair/>), and Area Designation Maps (<http://www.epa.gov/region9/air/maps/index.html>).

Notes: ppm = parts per million; µg/m³ = micrograms per cubic meter; ppb=parts per billion (thousand million)

1. Federal standards are “not to exceed more than once a year” or as noted in parenthesis above.
2. Final rule signed March 12, 2008. The 1997 ozone standard (0.08 ppm, annual fourth-highest daily maximum 8 hour concentration, averaged over 3 years) and related implementation rules remain in place. In 1997, USEPA revoked the 1-hour ozone standard (0.12 ppm, not to be exceeded more than once per year) in all areas, although some areas have continued obligations under that standard (“anti-backsliding”). The 1-hour ozone standard is attained when the expected number of days per calendar year with maximum hourly average concentrations above 0.12 ppm is less than or equal to 1.
3. Final 1-hour NO₂ NAAQS published in the Federal Register on 2/9/2010, effective 3/9/2010. Initial nonattainment area designations should occur in 2012 with conformity requirements effective in 2013. Project-level hot spot analysis requirements, while not yet required for conformity purposes, are expected. Note: San Diego County have been designated as attainment.
4. USEPA finalized a 1-hour SO₂ standard of 0.075 ppm in June 2010.

Source: *San Ysidro Land Port of Entry Improvements Project Air Quality Technical Report*, July 2013

Air Quality Conformity

Under the 1990 CAA Amendments, federal actions must be found to conform to the State Implementation Plan (SIP) for achieving the goals of the CAA requirements related to the NAAQS. Conformity with the CAA takes place on two levels: first, at the regional level and second, at the project level. The proposed action must conform at both the regional- and project- level to be approved. Conformity requirements apply only in nonattainment and maintenance areas for the NAAQS, and only for the specific NAAQS that are or were violated. USEPA regulations at 40 CFR 93 govern the conformity process.

Regional level conformity in California is concerned with how well the region is meeting the standards set for CO, NO₂, O₃, and PM. California is in attainment for the other criteria pollutants. At the regional level, an RTP is developed that includes all of the transportation projects planned for a region over a period of years (usually at least 20 years). Based on the projects included in the RTP, an air quality model is run to determine whether or not the implementation of those projects would conform to emission budgets or other tests showing that attainment requirements of the CAA are met. The metropolitan planning organization (MPO) responsible for the preparation of RTP, the regional transportation improvement program (RTIP), and the associated air quality analyses in the Revised Project area is SANDAG. Any project listed in an RTP and/or RTIP must demonstrate conformity with the SIP. If the conformity analysis is successful, the MPO, such as SANDAG, and the appropriate federal agencies make the determination that the RTP is in conformity with the SIP for achieving the goals of the CAA. Otherwise, the projects in the RTP must be modified until conformity is attained. If the design and scope of a proposed project are the same as described in the RTP, then it is deemed to meet regional conformity requirements for purposes of project-level analysis.

Conformity at the project-level also requires “hot spot” analysis if an area is designated nonattainment or maintenance for carbon monoxide (CO) and/or particulate matter (PM₁₀ or PM_{2.5}). In general, projects must not cause the “hot spot” related standard to be violated, and must not cause any increase in the number and severity of violations in nonattainment areas. If a known CO or particulate matter violation is located in the project vicinity, the project must include measures to reduce or eliminate the existing violation(s) as well.

Global Climate Change and Greenhouse Gases

Global climate change refers to changes in average climatic conditions on Earth, as a whole, including temperature, wind patterns, precipitation, and storms. Global temperatures are moderated by naturally occurring atmospheric gases that include water vapor, carbon dioxide (CO₂), methane (CH₄), and nitrogen dioxide (N₂O). These atmospheric gases are known as greenhouse gases (GHG). In addition to the naturally occurring gases, man-made compounds also act as GHG; common examples include hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulfur hexafluoride (SF₆). These compounds are the result of activities including vehicular use, energy consumption/production, manufacturing, and cattle farming. These man-made compounds increase the natural concentration of GHG in the atmosphere and are commonly believed to result in a phenomenon referred to as “global warming.”

Although climate change and GHG reduction is a concern at the federal level, there are currently no regulations or legislation that have been enacted specifically addressing GHG emissions reductions and climate change at the project level. Neither the USEPA nor GSA has promulgated explicit guidance or methodology to conduct project-level GHG analysis.

In the past, the USEPA has not regulated GHGs under the federal CAA. However, the U.S. Supreme Court ruled on April 2, 2007, in *Massachusetts v. U.S. Environmental Protection Agency* that CO₂ is an air pollutant, as defined under the CAA, and that USEPA has the authority to regulate emissions of GHG. After a thorough examination of the scientific evidence and careful consideration of public comments, the USEPA announced on December 7, 2009 that GHGs threaten the public health and welfare of the American people. The administrator of the USEPA determined that six GHGs taken in combination endanger both the public health and the public welfare of current and future generations. The USEPA specifically identified CO₂, CH₄, N₂O, HFCs, PFCs, and SF₆ as GHGs.

Endangerment Finding: The USEPA Administrator finds that the current and projected concentrations of the six key well-mixed GHGs – CO₂, CH₄, N₂O, HFC, PFC, and SF₆ – in the atmosphere threaten the public health and welfare of current and future generations.

Cause or Contribute Finding: The USEPA Administrator finds that the combined emissions of these well-mixed GHG from motor vehicles and motor vehicle engines contribute to the GHG pollution which threatens public health and welfare.

The endangerment findings do not themselves impose any requirements on industry or other entities. However, this action was a prerequisite to finalizing the USEPA's proposed GHG emissions standards for light duty vehicles (*Proposed Greenhouse Gas Emission Standards for Light-Duty Vehicles*), which were jointly proposed by USEPA and the Department of Transportation's National Highway Traffic Safety Administration (NHTSA) on September 15, 2009. On May 7, 2010 the final *Light-Duty Vehicle Greenhouse Gas Emissions Standards and Corporate Average Fuel Economy Standards* was published in the Federal Register.

USEPA and the NHTSA are taking coordinated steps to enable the production of a new generation of clean vehicles with reduced GHG emissions and improved fuel efficiency from on-road vehicles and engines. These next steps include developing the first-ever GHG regulations for heavy-duty engines and vehicles, as well as additional light-duty vehicle GHG regulations. These steps were outlined by President Obama in a Presidential Memorandum on May 21, 2010.

The final combined USEPA and NHTSA standards that make up the first phase of this national program apply to passenger cars, light-duty trucks, and medium-duty passenger vehicles, covering model years 2012 through 2016. The standards require these vehicles to meet an estimated combined average emissions level of 250 grams of CO₂ per mile, (the equivalent to 35.5 miles per gallon [MPG] if the automobile industry were to meet this CO₂ level solely through fuel economy improvements). Together, these standards will cut GHG emissions by an estimated 960 million metric tons and 1.8 billion barrels of oil over the lifetime of the vehicles sold under the program (model years 2012 through 2016). On November 16, 2011, USEPA and NHTSA issued their joint proposal to extend this national program of coordinated GHG and fuel economy standards to model years 2017 through 2025 passenger vehicles.

To estimate the global warming potential, the United States quantifies GHG emissions using the 100-year timeframe values established by the Intergovernmental Panel on Climate Change, in accordance with United Nations Framework Convention on Climate Change. All global warming potentials are expressed relative to a reference gas, CO₂, which is assigned a global warming potential (GWP) equal to 1. The five other GHGs have a greater GWP than CO₂, ranging from

21 for CH₄, 310 for N₂O, 140 to 6,300 for HFCs, 6,500 to 9,200 for PFCs, and up to 23,900 for SF₆. To estimate the CO₂ equivalency of a non-CO₂ GHG, the appropriate GWP of that gas is multiplied by the amount of the gas emitted. All six GHGs are multiplied by their GWP and the results are added to calculate the total CO₂e. The dominant GHG emitted is CO₂, mostly from fossil fuel combustion (85.4 percent). Weighted by GWP, CH₄ is the second largest component of emissions, followed by N₂O. GWP-weighted emissions are presented in terms of equivalent emissions of CO₂, using units of metric tons of CO₂ equivalents (MT CO₂e).

4.6.2 Affected Environment

The analysis and conclusions presented in this subchapter are based on an air quality technical report (AQTR) prepared for the Revised Project (*San Ysidro Land Port of Entry Improvements Project Air Quality Technical Report*, July 2013). The Revised Project AQTR evaluated air emissions associated with construction and operation of only the components of the Revised Project that were not evaluated as part of the Approved Project in the 2009 Final EIS, including changes to the number of vehicular lanes in the proposed southbound roadway, installation of southbound inspection booths with pulse and surge southbound inspections on the proposed southbound roadway, the proposed bi-directional pedestrian crossing facility on the west side of the LPOE at Virginia Avenue, modifications to the development footprint and design of the proposed Virginia Avenue Transit Center, and constructing the employee parking structure as part of Phase III instead of Phase I. Specifically, the Revised Project AQTR analyzed (1) the traffic implications and resulting air emissions of the proposed southbound roadway (Six-lane and Ten-lane alternatives) with southbound pulse and surge inspections that would connect I-5 with Mexico's El Chaparral LPOE; (2) vehicular traffic impacts and resultant air emissions related to increased pedestrian demand anticipated to cross the border at the proposed bi-directional pedestrian crossing facility and utilize the modified Virginia Avenue Transit Facility; and (3) air emissions generated by employees vehicles associated with the proposed employee parking structure and other LPOE parking facilities. The Revised Project AQTR did not address those components of the Approved Project that would remain unchanged for the Revised Project.

An AQTR was prepared for the Approved Project (*Air Quality Impact Assessment for the San Ysidro Land Port of Entry Improvements Project*, July 2009) and included vehicle data that covered both northbound and southbound freeway segments; however, it did not evaluate any southbound inspections or resulting vehicle queuing because implementation of southbound inspections is an operational issue that is dependent on CBP protocols. At the time of preparation of the Final EIS (and supporting technical studies, including the Approved Project AQTR), it was undetermined if CBP would continue their existing pulse and surge inspections or implement new southbound inspection protocols. Therefore, the Approved Project AQTR evaluated vehicular air emissions resulting from the proposed improvements of the Approved Project, which did not include southbound inspections. Some of the analysis and conclusions of the 2009 AQTR remain applicable to the Revised Project (e.g. vehicular emissions at the northbound inspection area) because in addition to the proposed changes to the Approved Project, the Revised Project also includes the other components of the Approved Project that have not changed. Applicable information from the Final EIS as it relates to the Revised Project is noted in this subchapter.

Climate and Meteorology

The Revised Project Footprint is located in the SDAB, which coincides with San Diego County. The climate of the County is characterized by warm, dry summers and mild, wet winters. One of

the main determinants of the climatology is a semi-permanent high pressure area (the Pacific High) in the eastern Pacific Ocean. In the summer, this pressure center is located well to the north, causing storm tracks to be directed north of California. This high pressure cell maintains clear skies for much of the year. When the Pacific High moves southward during the winter, this pattern changes, and low pressure storms are brought into the region causing widespread precipitation. In the County, the months of heaviest precipitation are November through April, averaging about 9 to 14 inches annually. The mean temperature recorded at the Chula Vista air quality monitoring station (the closest station to the Revised Project Footprint) is 60.9 degrees Fahrenheit (°F) and the mean maximum and mean minimum temperatures are 68.4°F and 53.5°F, respectively.

The Pacific High also influences the wind patterns of California. The predominant wind directions are westerly and west-southwesterly during all four seasons, and the average annual wind speed is 5.6 mph.

A common atmospheric condition known as a temperature inversion affects air quality in San Diego. During an inversion, air temperatures get warmer rather than cooler with increasing height. Subsidence inversions occur during the warmer months (May through October) as descending air associated with the Pacific High comes into contact with cooler marine air. The boundary between the layers of air represents a temperature inversion that traps pollutants below it. The inversion layer is approximately 2,000 feet above mean sea level (AMSL) during the months of May through October. However, during the remaining months (November through April), the temperature inversion is approximately 3,000 feet AMSL. Inversion layers are important elements of local air quality because they inhibit the dispersion of pollutants, thus resulting in a temporary degradation of air quality.

Existing Ambient Air Quality

Existing air quality conditions in the Revised Project area can be characterized by monitoring data collected in the region. Ambient air pollutant concentrations in the SDAB are measured at ten air quality monitoring stations operated by the SDAPCD. The SDAPCD air quality monitoring station that represents that best represents the climate and topography of the Revised Project area is the Otay Mesa Paseo International Monitoring Station. This station monitors CO, NO₂, O₃, SO_x, and PM₁₀. According to the SDAPCD, PM₁₀ concentrations measured at the Otay Mesa Paseo International Monitoring Station are heavily influenced by the station's proximity to the truck border crossing at the Otay Mesa LPOE. PM_{2.5} concentrations were measured at the Chula Vista Monitoring Station. Table 4.6-2, *Ambient Air Quality Summary*, presents the excesses of standards and the highest pollutant levels recorded at these stations for the years 2010 to 2012.

Table 4.6-2 AMBIENT AIR QUALITY SUMMARY			
Pollutant Standards	2010	2011	2012
Carbon Monoxide (CO)¹			
Maximum 1-hour concentration (ppm)	3.1	N/D	N/D
Maximum 8-hour concentration (ppm)	2.21	N/D	N/D
Number of Days Standard Exceeded			
NAAQS 1-hour (>35 ppm)	0	0	0
NAAQS 8-hour (>9 ppm)	0	0	0
Nitrogen Dioxide (NO₂)¹			
Maximum 1-hour concentration (ppb)	91	100	72
Annual Average (ppm)	0.021	0.020	N/D
Number of Days Standard Exceeded			
NAAQS 1-hour	0	00	0
NAAQS Annual	0	0	0
Sulfur Dioxide (SO_x)¹			
Maximum 1-hour concentration (ppb)	27	18	N/D
Maximum 24-hour concentration (ppm)	0.008	0.006	N/D
National annual average concentration (ppm)	0.001	0.001	N/D
Number of Days Standard Exceeded			
NAAQS 1-hour (> 75 ppb)	0	0	
NAAQS 24-hour (>0.14 ppm)	0	0	
NAAQS 24-hour (>0.030 ppm)	0	0	
Ozone (O₃)¹			
Maximum 8-hour concentration (ppm)	0.068	0.076	0.061
Number of Days Standard Exceeded			
NAAQS 8-hour (>0.075 ppm)	0	1	0
Particulate Matter (PM₁₀)¹			
National maximum 24-hour concentration (µg/m ³)	108	125	126
National second highest 24-hour concentration (µg/m ³)	101	99	92
National third highest 24-hour concentration (µg/m ³)	79	97	84
National fourth highest 24-hour concentration (µg/m ³)	79	93	72
Number of Days Standard Exceeded			
NAAQS 24-hour (>150 µg/m ³)	0	0	0
Particulate Matter (PM_{2.5})²			
Maximum 24-hour concentration (µg/m ³)	22.7	27.9	34.3
Second highest 24-hour concentration (µg/m ³)	21.2	18.7	24.3
Third highest 24-hour concentration (µg/m ³)	19.4	18.6	23.3
Fourth highest 24-hour concentration (µg/m ³)	19.3	18.0	20.1
Number of Days Standard Exceeded			
NAAQS 24-hour >35 µg/m ³)	0	0	0

N/D No Data

¹ Data from the Otay Mesa Paseo International Monitoring Station

² Data from the Chula Vista Monitoring Station

Source: San Ysidro Land Port of Entry Improvements Project Air Quality Technical Report, July 2013

Sensitive Receptors

Air pollutant-sensitive receptors are typically defined as schools (preschool-12th grade), hospitals, resident care facilities, or day-care centers, or other facilities that may house individuals with health conditions that would be adversely impacted by changes in air quality. The following sensitive receptors are located within 1.5 miles of the Revised Project Footprint:

- San Ysidro Head Start, 249 Willow Road
- Willow Elementary School, 226 Willow Road
- Beyer Elementary School, 2312 East Beyer Boulevard
- Our Lady of Mt. Carmel School, 4141 Beyer Boulevard
- Sunset Elementary School, 3825 Sunset Lane
- La Mirada Elementary School, 222 Avenida de la Madrid
- Smythe Avenue Elementary School, 1880 Smythe Avenue

4.6.3 Environmental Consequences

This section presents the results of an assessment of potential air quality and GHG impacts associated with the Revised Project alternatives. The evaluation is based on analysis and calculations in the Revised Project AQTR and addresses the potential for air emissions associated with the short-term construction and long-term operation of the Revised Project. Each alternative (Six-lane Alternative, Ten-lane Alternative, and No Action Alternative) is analyzed for potential air quality and GHG impacts under the Near-term (year 2016) and Long-term (year 2035) scenarios. The near-term represents conditions for opening day (completion of Phase III), and the long-term denotes future buildout conditions.

The TIS prepared for the Revised Project (*Traffic Impact Study Virginia Avenue Pedestrian Facility & I-5 Southbound Realignment*, March 26, 2013) analyzed a Baseline scenario that represents an updated version of the existing conditions (i.e., conditions that have changed since 2009). The Revised Project TIS compared the Action Alternatives (Six-lane Alternative and Ten-lane Alternative) to this Baseline scenario. Accordingly, the Revised Project AQTR uses the Baseline defined in the Revised Project TIS as a basis for comparison of the Action Alternatives.

Methodologies, Assumptions, and Thresholds

Construction Assessment Assumptions and Methodology

Emissions from the construction activities of the Action Alternatives of the Revised Project were estimated using the California Emission Estimator Model (CalEEMod). CalEEMod construction assumptions include the construction of the 600-stall employee parking structure, the smaller parking lots on-site, and other buildings that are proposed as part of Phase III. The South Coast Air Quality Management District's Road Construction Model was used to estimate construction emissions associated with the actual road construction (e.g., southbound roadway and Virginia Avenue Transit Facility). The total emissions output from these two models were added together to obtain annual construction emission totals. Heavy construction equipment requirements and associated emissions for site grading, demolition, building construction, and paving activities were estimated based on the Road Construction Model default values and professional judgment. Emissions associated with worker travel to the construction site and construction truck deliveries were estimated based on default values in the model. Additionally,

to be consistent with SDAPCD Rule 55 for reducing construction emissions, the use of watering (three times daily) to minimize dust was input into the CalEEMod construction analysis.

It was estimated that construction for the analyzed Revised Project components would require 15 to 18 months to complete. To estimate fugitive dust emissions associated with site grading, it was assumed that a maximum of 25 percent of the total acreage (a total of 25 acres were included in the analysis to provide a conservative estimate) for each Action Alternatives (Six-lane and Ten-lane alternatives) would be disturbed on a single day.

Operational Assessment Assumptions and Methodology

Criteria Pollutant Emission Modeling

Criteria pollutant emissions (CO, PM₁₀, PM_{2.5}, and ozone precursors, VOC and NO_x) associated with operation of the Action Alternatives of the Revised Project were estimated using CARB's on-road emission factor model (EMFAC2011) and vehicle activity data contained in the Revised Project TIS. The EMFAC2011 model calculates emission rates from different classes of motor vehicles, which are used in conjunction with traffic data such as vehicle speed and vehicle miles traveled (VMT) to calculate emission inventories associated with the Revised Project. EMFAC2011 was used to estimate emission factors and emissions of ozone precursors (VOC and NO_x), CO, CO₂, PM₁₀, and PM_{2.5}.

Carbon Monoxide Hot Spot Modeling

CO concentrations at some intersections with LOS E or F near the vicinity of the Revised Project Footprint were modeled using the Caltrans CALINE4 line source dispersion model. Input parameters required for the CALINE4 model include traffic volumes, CO emission factors, receptor locations, meteorological conditions, and background concentrations. Traffic volumes and operating conditions used in the CALINE4 modeling runs were obtained from the Revised Project TIS. Vehicle emission rates were determined using EMFAC2011 emission rate program. CO concentrations were estimated at four receptor locations near the intersections. Receptors were chosen based on the Caltrans CO modeling protocol, and were located approximately 10 feet from the edge of the intersection in all directions to represent a worst-case scenario. Receptor heights were set at 5.9 feet. The meteorological conditions used in the modeling represent a calm winter period with an ambient temperature of 60°F, and a humidity level of 50 percent. The worst-case wind angle option was used to determine a worst-case concentration for each receptor location. Background concentrations of CO were based on monitoring data provided by the CARB and USEPA.

Mobile Source Air Toxics Assessment Assumptions and Methodology

The University of California, Davis, in cooperation with Caltrans, developed a CT-EMFAC spreadsheet tool that utilizes EMFAC2007 emission factors, CARB speciation factors, and human-input project-specific traffic activity data, such as peak- and off-peak-hour VMT, speed, travel times, and traffic volumes. The CT-EMFAC2007 spreadsheet tool applies the traffic activity data to the emission factors and produces an output file (spreadsheet) that estimates MSAT emissions. This tool was used to calculate MSATs for the Revised Project components, including the southbound roadway alternatives (six or ten lanes), the bi-directional pedestrian crossing facility, and the employee trips generated by LPOE parking facilities.

Greenhouse Gas Assessment Assumptions and Methodology

GHG emission estimates for the Revised Project components were calculated using CalEEMod, EMFAC, and the Road Construction model. CalEEMod is an air quality modeling program that estimates air pollution emissions for various land uses, area sources, construction projects, and project operations. The Road Construction model is an air quality modeling program that estimates air pollution emissions associated with roadway construction projects (e.g., southbound roadway and Virginia Avenue Transit Facility).

The methodology used to assess GHG emission impacts is based on the following equation:

$$\text{Metric Tons of GHG} \times \text{GWP} = \text{Metric Tons of CO}_2\text{e emissions}$$

This equation provides the basic calculation required to determine CO₂e emissions from the total mass of a given GHG using the GWPs published by the IPCC. This method was used to evaluate GHG emissions during construction and operation of the Revised Project. For this analysis, only CO₂, CH₄, and N₂O are the only GHG considered due to the relatively large contribution of these gases in comparison to other GHGs produced during construction and operation phases of the Revised Project.

Impact Thresholds

The General Conformity Rule of the CAA (40 CFR §§ 51.850-860 and 40 CFR §§ 93.150-160) establishes *de minimus* thresholds, which are emissions thresholds established by the USEPA for air emissions caused by federally sponsored, approved, or funded activities in areas that do not meet the NAAQS thresholds. The *de minimis* threshold established for each pollutant varies by the severity of nonattainment, and sets an emission level, in tons per year, above which further analysis is required to demonstrate that the proposed activities would not cause or contribute to a violation of a NAAQS for a nonattainment pollutant.

The SDAB is currently classified as a non-attainment area for the 2008 8-hour ozone standard, and a maintenance area for carbon monoxide standards. Concentrations of SO₂, PM₁₀, PM_{2.5} and Pb are classified as attainment or unclassifiable. Within the SDAB, if net annual emissions remain below 100 tons of CO, ozone precursors (VOCs and NO_x), impacts would not be considered adverse and no formal CAA conformity determination would be required. For the purpose of NEPA review, a *de minimis* threshold value of 100 annual tons of PM₁₀ and PM_{2.5} is used to determine the severity of impacts for particulates.

Impacts associated with localized CO hot spot emissions were evaluated based on the NAAQS. The federal standard for the 1-hour average CO concentration is ppm, and the 8-hour average concentration is 9 ppm.

In order to serve as a guide for determining when a project results in adverse GHG impacts, the USEPA proposes to establish a screening threshold for GHG emission analysis by utilizing the Greenhouse Gas Reporting Implementation Program. Under CFR 98, sources that emit 25,000 MT or more of CO₂e per year in the United States require a mandatory reporting of their annual GHG emissions to USEPA. Therefore, 25,000 MT is used in this analysis as the threshold for adverse GHG impacts.

The impact thresholds used in the analysis of the Revised Project's potential impacts related to air quality and GHG emissions are summarized in Table 4.6-3, *Air Quality and GHG Impact*

Thresholds. In all cases except for operational emissions associated with the southbound roadway and operational GHG emissions, impacts are based on whether emissions generated by the Revised Project would exceed the applicable threshold. For the southbound roadway and operational GHG emissions, impacts are based on the net difference between the Near-term/Long-term scenarios and the respective future Baseline to assess the additional operational air emissions of southbound traffic attributable to the Revised Project.

Table 4.6-3 AIR QUALITY AND GHG IMPACT THRESHOLDS	
Emission Source	Threshold
Criteria Pollutant Construction and Operational Impacts	
Carbon Monoxide (CO)	100 tons/year
Oxides of Nitrogen (NO _x)	100 tons/year
Volatile Organic Compounds (VOC)	100 tons/year
Particulate Matter, 2.5 microns (PM _{2.5})	100 tons/year
Particulate Matter, 10 microns (PM ₁₀)	100 tons/year
GHG Impacts	
CO ₂ equivalents (CO ₂ e)	25,000 annual MT
CO Hot Spot Impacts	
CO concentration (1-hour/8-hour average)	35 ppm/8 ppm

Six-lane Alternative

Criteria Pollutants - Construction Impacts

Construction activity is a source of dust and exhaust emissions that can have substantial temporary impacts on local air quality (i.e., exceed the NAAQS for ozone, CO, PM₁₀, and PM_{2.5}). Temporary construction emissions would result from processes related to grubbing/land clearing, grading/excavation, drainage/utilities/subgrade, and paving activities and construction worker commuting patterns. Pollutant emissions would vary daily, depending on the level of activity, specific operations, and prevailing weather. It is anticipated that construction activities of the analyzed Revised Project components would begin in 2015 and be completed in 2017.

During construction, short-term degradation of air quality may occur due to the release of particulate emissions (airborne dust) generated by excavation, grading, hauling, and other activities related to construction. Emissions from construction equipment are also anticipated and would include CO, ozone precursors (NO_x and VOCs), PM₁₀, PM_{2.5}, and MSATs such as diesel particulate matter (DPM).

Construction-related effects on air quality are greatest during the site preparation phase because most engine emissions are associated with the demolition, handling, and transport of materials. If not properly controlled, these activities temporarily generate PM₁₀, PM_{2.5}, and small amounts of CO, SO₂, NO_x, and VOCs. Sources of fugitive dust would include disturbed soils at the construction site(s) and trucks carrying uncovered loads of soils. Unless properly controlled, vehicles leaving the construction site(s) would deposit mud on local streets, which could be an additional source of airborne dust after it dries. PM₁₀ emissions would vary from day to day, depending on the nature and magnitude of construction activity and local weather conditions. PM_{2.5} emissions would depend on soil moisture, silt content of soil, wind speed, and the amount

of equipment operating. Larger dust particles would settle near the source, while fine particles will be dispersed from the construction site over greater distances.

In addition to dust-related PM₁₀ emissions, heavy trucks and construction equipment powered by gasoline and diesel engines would generate exhaust emissions including CO, SO₂, NO_x, VOCs, and some soot particulates (PM₁₀ and PM_{2.5}). If construction activities were to increase traffic congestion in the area, CO and other emissions from traffic would increase slightly while those vehicles are delayed. These emissions would be temporary and limited to the immediate area surrounding the construction site(s).

Table 4.6-4, *Annual Construction Emissions for the Six-lane Alternative*, summarizes the annual criteria pollutant emissions associated with construction of Six-lane Alternative. This table contains annual construction emissions for each year of construction for the Six-lane Alternative, as well as the *de minimis* thresholds. Maximum emissions for each construction activity were determined by totaling the annual emissions from those construction activities that would occur simultaneously in the proposed construction schedule. As shown in Table 4.6-4, construction emissions generated during the construction phases of the Six-lane Alternative would not exceed the federal *de minimis* thresholds for VOC, NO_x, CO, PM₁₀, and PM_{2.5} and no adverse impacts would occur.

Table 4.6-4 ANNUAL CONSTRUCTION EMISSIONS FOR THE SIX-LANE ALTERNATIVE						
Construction Activity	Emissions (Tons/Year)					
	Year	VOC	NO_x	CO	PM₁₀	PM_{2.5}
Demolition and Grading	2015	<1	2	1	<1	<1
Roadways and Pavement	2016	<1	1	<1	1	<1
Building and Parking Lot/Structure	2016	1	4	4	<1	<1
	2017	3	<1	<1	<1	<1
<i>Total Construction Emissions</i>	2015	<1	2	1	<1	<1
Thresholds		100	100	100	100	100
Exceeds Threshold?		No	No	No	No	No
<i>Total Construction Emissions</i>	2016	1	5	4	1	<1
Thresholds		100	100	100	100	100
Exceeds Threshold?		No	No	No	No	No
<i>Total Construction Emissions</i>	2017	3	<1	<1	<1	<1
Thresholds		100	100	100	100	100
Exceeds Threshold?		No	No	No	No	No

Numbers rounded to whole number - if a non-zero value was less than 1.0, <1 was utilized

Source: San Ysidro Land Port of Entry Improvements Project Air Quality Technical Report, July 2013

Criteria Pollutants - Operational Impacts

Southbound Roadway

Operational air emissions generated by the Revised Project are mainly attributable to motor vehicles operating on the roadway network, predominantly those operating in the vicinity of the Revised Project Footprint. Emissions of criteria pollutants (i.e., VOC, NO_x, CO, PM₁₀, and PM_{2.5}) that would be generated by operation of the proposed southbound roadway were calculated under near-term and long-term conditions for the Six-lane Alternative and compared

to the respective Baseline condition. The results of these calculations are summarized in Table 4.6-5, *Operational Emissions of the Southbound Roadway for the Six-lane Alternative*. The table presents the speed and daily VMT, along with the quantity of emissions (in tons/year) and the net difference between the Near-term and Long-term scenarios and the corresponding Baseline. Two speeds were incorporated in the analysis of future conditions because it was assumed that every hour consisted of 30 minutes of southbound inspections followed by 30 minutes without inspections to represent worst-case conditions on the southbound roadway. These speed assumptions also incorporate information related to queuing on the southbound roadway. Thus, the speed assumptions provide a conservative estimate of vehicular emissions.

Table 4.6-5 OPERATIONAL EMISSIONS OF THE SOUTHBOUND ROADWAY FOR THE SIX-LANE ALTERNATIVE							
Scenario	Speed (mph)	Daily VMT	Tons per year				
			VOC	NO _x	CO	PM ₁₀	PM _{2.5}
Near-term							
Baseline (2016)	5/25	52,128	94	169	1,365	5	4
Six-lane Alternative	20/30	53,483	44	129	1,070	2	2
<i>Difference</i>	<i>-15/-5</i>	<i>+1,355</i>	<i>-50</i>	<i>-40</i>	<i>-295</i>	<i>-3</i>	<i>-2</i>
Threshold	--	--	100	100	100	100	100
Exceeds Threshold?	--	--	No	No	No	No	No
Long-term							
Baseline (2035)	5/15	69,300	76	116	928	7	7
Six-lane Alternative	10/20	71,102	55	104	867	5	5
<i>Difference</i>	<i>-5/-5</i>	<i>+1,802</i>	<i>-21</i>	<i>-12</i>	<i>-61</i>	<i>-2</i>	<i>-2</i>
Threshold	--	--	100	100	100	100	100
Exceeds Threshold?	--	--	No	No	No	No	No

Numbers rounded to whole number - if a non-zero value was less than 1.0, <1 was utilized.
Source: *San Ysidro Land Port of Entry Improvements Project Air Quality Technical Report*, July 2013

As shown in Table 4.6-5, the difference in emissions of criteria pollutants between the Six-lane Alternative and the future Baseline scenarios would not exceed applicable thresholds under near-term or long-term condition. In fact, the Six-lane Alternative would result in a net decrease in criteria pollutant emissions generated by the proposed southbound roadway under near-term and long-term conditions compared to the corresponding Baseline. Therefore, the operation of the southbound roadway under the Six-lane Alternative would not result in emissions that would violate federal air quality standards, and therefore, would not have an adverse impact on air quality.

Virginia Avenue Transit Facility

Emissions of criteria pollutants that would be generated by buses, taxis, and POV pick-up and drop-off trips at the proposed Virginia Avenue Transit Facility were calculated for the Action Alternatives under near-term and long-term conditions using CARB's EMFAC2011 data. The calculations were based on estimated POV traffic data contained in the Revised Project TIS, as well as estimated bus trips contained in a Mobility Study that was prepared for the Approved Project (*San Ysidro Land Port of Entry (LPOE) Border Station Expansion Mobility Study*, April 2009).

For the Baseline condition, Camiones Way was utilized as the existing pedestrian loading area because it currently includes a transit and POV loading area. The revised Project, as well as the Approved Project proposes to replace this existing facility with the proposed Virginia Avenue Transit Facility. The total number of daily POV trips for the existing pedestrian loading area at the terminus of Camiones Way in the Baseline condition was not available; however, the total volume of pedestrians crossing at the proposed bi-directional pedestrian crossing facility at Virginia Avenue under the Near-term and Long-term scenarios was provided in Revised Project TIS. In order to calculate the number of daily POV trips to/from the existing Camiones Way pedestrian loading facility, the total number of daily pedestrian crossings in the Baseline scenario (16,200) was compared to the total daily pedestrian crossings in the Near-term (2016) scenario (20,300) to determine a growth factor ratio (1.253). Applying this ratio to the volume of POV trips for the Near-term scenario (2,520), the number of POV trips to the existing Camiones Way pedestrian loading facility for the Baseline condition was determined to be approximately 2,011.

This methodology was also used to calculate bus trips for the Near-term and Long-term scenarios. A daily total of 21 buses currently originate from the San Ysidro border (KOA 2009), which equates to a total of 42 daily inbound and outbound bus trips. Applying the same growth factor ratio as discussed above between the Baseline and Near-term scenarios (1.253), a total of 53 bus trips would occur under near-term conditions. A growth factor ratio was also calculated between the Near-term and Long-term scenarios (3.508) and was applied to the total number of near-term bus trips to calculate the number of long-term bus trips. Accordingly, the total number of bus trips would be 185 under long-term conditions.

Table 4.6-6, *Operational Emissions of the Virginia Avenue Transit Facility for the Action Alternatives*, presents emissions of criteria pollutants for the Baseline condition, and the Near-term, and Long-term scenarios for the Action Alternatives of the Revised Project.

Table 4.6-6 OPERATIONAL EMISSIONS OF THE VIRGINIA AVENUE TRANSIT FACILITY FOR THE ACTION ALTERNATIVES								
Scenario	Speed (mph)	POVs per day	Buses per day	Tons per year				
				VOC	NO _x	CO	PM ₁₀	PM _{2.5}
Baseline ¹	Idling - 25	2,011	42	2	5	22	<1	<1
Near-term	Idling - 25	2,520	53	5	9	59	<1	<1
Threshold	--	--	--	100	100	100	100	100
Exceeds Threshold?	--	--	--	No	No	No	No	No
Long-term	Idling - 25	8,840	185	11	15	88	1	1
Threshold	--	--	--	100	100	100	100	100
Exceed threshold?	--	--	--	No	No	No	No	No

¹ Camiones way was used for Baseline Virginia Avenue because Camiones way is the existing pedestrian drop-off, and would be effectively replaced by the Virginia Avenue Transit Facility.

Numbers rounded to whole number - if a non-zero value was less than 1.0, <1 was utilized.

Source: *San Ysidro Land Port of Entry Improvements Project Air Quality Technical Report*, July 2013

As shown in Table 4.6-6, emissions of criteria pollutants related to the proposed Virginia Avenue Transit Facility would not exceed applicable thresholds for the Action Alternatives under near-term or long-term conditions. Therefore, the operation of the Virginia Avenue Transit Facility

under the Six-lane Alternative would not result in emissions that would violate air quality standards and thus, would not have an adverse impact on air quality.

Employee Parking Facilities

Emissions of criteria pollutants that would be generated by LPOE employee vehicle trips were calculated for the Action Alternatives under near-term and long-term conditions using CARB's EMFAC2011 data. Although the Revised Project TIS estimated the number of employee trips at the LPOE to be 310 ADT (155 per shift, two shifts per day), an additional 155 trips (a third employee shift) were added to this total to provide a more conservative analysis, resulting in a daily total of 465 employee trips. Based on proposed on-site circulation patterns, the analysis assumed each employee trip would travel 0.25 mile from the freeway ramp to reach the parking facility. The number of employee vehicle trips would be the same for both Action Alternatives; the difference of four lanes and inspection booths on the southbound roadway between the Six-lane and Ten-lane alternatives would not affect employee staffing and resulting employee trips. Emissions from employee vehicle trips are presented in Table 4.6-7, *Operational Emissions from Employee Trips for the Action Alternatives*.

Table 4.6-7 OPERATIONAL EMISSIONS FROM EMPLOYEE TRIPS FOR THE ACTION ALTERNATIVES							
Scenario	Speed(mph)	Employee vehicle trips per day	Tons per year				
			VOC	NO _x	CO	PM ₁₀	PM _{2.5}
Near-term	25	465	<1	1	0	<1	<1
Threshold	--	--	100	100	100	100	100
Exceeds Threshold?	--	--	No	No	No	No	No
Long-term	25	465	<1	<1	2	<1	<1
Threshold	--	--	100	100	100	100	100
Exceeds Threshold?	--	--	No	No	No	No	No

Numbers rounded to whole number - if a non-zero value was less than 1.0, <1 was utilized.

Source: San Ysidro Land Port of Entry Improvements Project Air Quality Technical Report, July 2013

As shown in Table 4.6-7, emissions of criteria pollutants related to the additional employee vehicle trips associated with both of the Action Alternatives would not exceed applicable thresholds under near-term or long-term conditions. Therefore, operations related to the employee parking facilities under the Six-lane Alternative would not result in emissions that would violate air quality standards and thus, would not have an adverse impact on air quality.

Air Quality Conformity

Regional Conformity

To determine whether the Six-lane Alternative is consistent with local air quality plans and programs, a regional conformity determination must be made to demonstrate that the Six-lane Alternative would not cause or contribute to a violation of an ambient air quality standard (Table 4.6-1). As stated in Section 4.6.1, the SDAB is currently considered to be a marginal nonattainment area for the federal 8-hour ozone standard. At the regional level, an RTP is developed that includes all of the transportation projects planned for a region over a period of years (usually at least 20 years). Based on the projects included in the RTP, an air quality

model is run to determine whether or not the implementation of those projects would conform to emission budget for the basin and that the attainment strategies in the SIP are met. If the design and scope of a proposed project are the same as described in the RTP, then it is deemed to meet regional conformity requirements for the purposes of project-level analysis.

The Approved Project was included in the 2030 San Diego RTP: Pathways for the Future (Table A.2- Phased Highway Projects – Revenue Constrained Plan, page A-9). The Approved Project was also included in the SANDAG 2008 RTIP as MPO ID CAL-56, RTP #08-00 (page 36). A conformity determination for both the 2030 RTP and the 2008 RTIP was made by U.S. Department of Transportation (USDOT) on November 17, 2008. The description of the Revised Project is consistent with the Approved Project included in the 2030 RTP, the 2008 RTIP, and the assumptions in the SANDAG regional emissions analysis. SANDAG's 2030 RTP has now been superseded by the 2050 RTP, and the 2008 RTIP has now been superseded by the 2012 RTIP. DOT approved a finding of conformity for the 2050 RTP and the 2012 RTIP on December 13, 2012. The MPO-ID number for the Approved Project is not found in the 2050 RTP or the 2012 RTIP; for this reason, conformity applicability analysis has been conducted based on the information available in the 2008 RTIP and the 2030 RTP. However, the 2050 RTP includes a description of the improvements in progress at the San Ysidro LPOE, and both the Approved Project and the Revised Project are consistent with this description. Therefore, based on the conformity applicability analysis review, the Revised Project would conform to the SIP, and no adverse impact associated with regional air quality conformity would occur.

Project-level Conformity

Conformity at the project-level requires a “hot spot” analysis if an area is designated nonattainment or maintenance for CO and/or particulate matter (PM₁₀ or PM_{2.5}). As indicated in Table 4.6-1, the SDAB is designated as a federal maintenance area for the CO standard. During periods of near-calm winds, heavily congested intersections can produce “hot spots” of elevated levels of CO that could potentially impact nearby sensitive receptors.

The Caltrans Transportation Project-Level Carbon Monoxide Protocol was followed to determine whether a CO hot spot is likely to form due to traffic generated by the Revised Project. A CO “hot spot” evaluation is typically conducted when (1) the LOS of an intersection or roadway decreases to a LOS E or worse as a result of the project; (2) signalization and/or channelization is added to an intersection as a result of the project; and (3) sensitive receptors such as residences, schools, hospitals, etc. are located in the vicinity of the affected intersection or roadway segment. CO concentrations at intersections with LOS E or F near the vicinity of the Revised Project site were modeled using the Caltrans CALINE4 line source dispersion model.

USEPA guidance specifies modeling for the three intersections with the worst LOS, and the three intersections with the highest traffic volumes, which may be the same intersections in some cases. The Revised Project TIS evaluated whether or not there would be a decrease in the LOS at the intersections affected by the Action Alternatives under near-term and long-term conditions (refer to Subchapter 4.2, Traffic and Transportation/Pedestrian and Bicycle Facilities). Five intersections that would operate at LOS E or F with high PM peak hour volumes under near-term and long-term conditions were modeled for CO impacts under the Action Alternatives to represent the worst-case conditions. The modeled intersections include:

- Via de San Ysidro/I-5 northbound ramps
- East San Ysidro Boulevard/I-805 southbound ramps
- East San Ysidro Boulevard/I-805 northbound ramps

- East San Ysidro Boulevard/Camino de la Plaza
- Camino de la Plaza/I-5 southbound ramps

Tables 4.6-8, *Near-term Maximum CO Concentrations of the Action Alternatives*, and 4.6-9, *Long-term Maximum CO Concentrations of the Action Alternatives*, present maximum one-hour and eight-hour CO concentrations predicted at locations approximately 10 feet from the edge of these intersections under near-term and long-term conditions.

Table 4.6-8 NEAR-TERM MAXIMUM CO CONCENTRATIONS OF THE ACTION ALTERNATIVES (ppm)						
Intersection	Baseline Maximum 1-Hour	Near-term Maximum 1-Hour	Exceed Federal Standard? (35 ppm)	Baseline Maximum 8-Hour	Near-term Maximum 8-Hour	Exceed Federal Standard? (9 ppm)
Via de San Ysidro/ I-5 NB ramps	4.1	4.3	No	2.5	3.1	No
East San Ysidro Blvd./ I-805 SB ramps	4.5	4.7	No	2.8	3.4	No
East San Ysidro Blvd./ I-805 NB ramps	4.1	4.3	No	2.5	3.1	No
East San Ysidro Blvd./ Camino de la Plaza	3.7	4.0	No	2.3	2.9	No
Camino de la Plaza/ I-5 SB ramps	4.1	4.4	No	2.6	3.2	No

Source: *San Ysidro Land Port of Entry Improvements Project Air Quality Technical Report*, July 2013

Table 4.6-9 LONG-TERM MAXIMUM CO CONCENTRATIONS OF THE ACTION ALTERNATIVES (ppm)						
Intersection	Baseline Maximum 1-Hour	Long-term Maximum 1-Hour	Exceed Federal Standard? (35 ppm)	Baseline Maximum 8-Hour	Long-term Maximum 8-Hour	Exceed Federal Standard? (9 ppm)
Via de San Ysidro/ I-5 NB ramps	3.5	3.6	No	2.5	2.6	No
East San Ysidro Blvd./ I-805 SB ramps	3.8	3.9	No	2.7	2.8	No
East San Ysidro Blvd./ I-805 NB ramps	3.6	3.8	No	2.9	2.9	No
East San Ysidro Blvd./ Camino de la Plaza	3.6	3.8	No	2.9	2.9	No
Camino de la Plaza/ I-5 SB ramps	3.9	4.0	No	2.8	2.9	No

Source: *San Ysidro Land Port of Entry Improvements Project Air Quality Technical Report*, July 2013

As shown in Tables 4.6-8 and 4.6-9, the predicted CO concentrations would be below the one-hour and eight-hour federal standard for CO at all of the analyzed intersections for the Action Alternatives. No associated adverse air quality impacts would occur under the Six-lane Alternative.

Mobile Source Air Toxics

MSAT emissions from traffic were calculated for the proposed southbound roadway, Virginia Avenue Transit Facility, and employee vehicle trips to determine the impact of the Revised Project on the surrounding area.

Currently, there are limited tools and techniques available for assessing project-specific health impacts from MSATs, as there are no established criteria for determining when MSAT emissions are considered to have an adverse impact under NEPA. In December 2012, FHWA issued a memorandum titled *Interim Guidance Update on Mobile Source Air Toxic Analysis in NEPA Documents* to advise FHWA division offices and other government agencies as to when and how to analyze MSATs in the NEPA process for highway-related projects. The FHWA interim guidance defines the types of projects that are likely to have a higher potential for MSAT effects. These projects typically have an annual average daily traffic (AADT) volume exceeding 140,000 vehicles per day. In California, the corresponding AADT criteria are 100,000 vehicles on urban non-freeways and 50,000 vehicles on rural non-freeways. In addition, California considers a project to have a higher potential MSAT effect if modifications to freeways are proposed to take place within 500 to 1,000 feet of sensitive land uses (e.g., residences, schools, day care centers, playgrounds, and medical facilities).

The basic procedure for analyzing emissions for on-road MSATs is to calculate emission factors using EMFAC2007 and apply the emission factors to speed and VMT data specific to the project. The emission factors information used in this analysis are from EMFAC2007 specific to the SDAB. This analysis focuses on the nine MSAT pollutants identified by the USEPA as being the highest priority MSATs: acrolein, acetaldehyde, benzene, 1,3-butadiene, DPM, diesel exhaust organic gases (DOG), formaldehyde, naphthalene, and POM.

Southbound Roadway

Table 4.6-10, *Near-term MSAT Emissions of the Southbound Roadway for the Six-lane Alternative*, presents a comparison of MSAT emissions between the proposed southbound roadway for the Six-lane Alternative and the Baseline under near-term conditions. Table 4.6-11, *Long-term MSAT Emissions of the Southbound Roadway for the Six-lane Alternative*, presents a similar comparison under long-term conditions.

Table 4.6-10 NEAR-TERM MSAT EMISSIONS OF THE SOUTHBOUND ROADWAY FOR THE SIX-LANE ALTERNATIVE			
MSAT	Baseline (2016) Emissions (g/year)	Six-lane Alternative	
		Near-term Emissions (g/year)	Difference (g/year)
acrolein	17	11	-6
acetaldehyde	52	35	-17
benzene	416	272	-144
1,3-butadiene	72	48	-24
diesel particulate matter	154	113	-41
diesel exhaust organic gases	291	187	-104
formaldehyde	231	153	-78
naphthalene	266	166	-100
polycyclic organic matter	36	23	-13

Source: San Ysidro Land Port of Entry Improvements Project Air Quality Technical Report, July 2013

Table 4.6-11 LONG-TERM MSAT EMISSIONS OF THE SOUTHBOUND ROADWAY FOR THE SIX-LANE ALTERNATIVE			
MSAT	Baseline (2035) Emissions (g/year)	Six-lane Alternative	
		Long-term Emissions (g/year)	Difference (g/year)
acrolein	11	10	-1
acetaldehyde	27	24	-3
benzene	273	245	-28
1,3-butadiene	46	41	-5
diesel particulate matter	132	121	-11
diesel exhaust organic gases	255	231	-24
formaldehyde	138	124	-14
naphthalene	327	295	-32
polycyclic organic matter	45	41	-4

Source: San Ysidro Land Port of Entry Improvements Project Air Quality Technical Report, July 2013

As shown in Tables 4.6-10 and 4.6-11, MSAT emissions on the southbound roadway under the Six-lane Alternative would be lower than the Baseline under near-term and long-term conditions. The decrease is mainly attributable to the additional capacity to accommodate the demand of vehicles traveling southbound. No associated adverse air quality impacts would occur.

Virginia Avenue Transit Facility

MSAT emissions would be generated by POVs, buses, and taxis utilizing the proposed Virginia Avenue Transit Facility. Table 4.6-12, *MSAT Emissions of the Virginia Avenue Transit Facility for the Action Alternatives*, presents a comparison of MSAT emissions between the proposed Virginia Avenue Transit Facility and the current Camiones Way pedestrian loading area under the Baseline. According to the Revised Project TIS, the number of pedestrians would be the same for the Action Alternatives (Six-lane and Ten-lane alternatives) and consequently for the

purposes of this MSAT analysis, a single pedestrian volume for the Virginia Avenue Transit Facility was used to analyze near-term and long-term conditions.

**Table 4.6-12
MSAT EMISSIONS OF THE VIRGINIA AVENUE TRANSIT FACILITY FOR THE ACTION ALTERNATIVES**

MSAT	Baseline ¹ Emissions (g/year)	Near-term Emissions (g/year)	Long-term Emissions (g/year)	Difference - Near-term (g/year)	Difference - Long-term (g/year)
acrolein	37	26	13	-11	-24
acetaldehyde	122	80	32	-42	-90
benzene	927	675	354	-252	-573
1,3-butadiene	157	111	56	-46	-101
diesel particulate matter	253	212	147	-41	-106
diesel exhaust organic gases	484	451	311	-33	-173
formaldehyde	511	353	167	-158	-344
naphthalene	405	400	394	-5	-11
polycyclic organic matter	54	54	54	0	0

¹Camiones way used for Baseline Virginia Avenue because Camiones way is the existing pedestrian drop-off, and would be effectively replaced by the Virginia Avenue Transit Facility.

Source: San Ysidro Land Port of Entry Improvements Project Air Quality Technical Report, July 2013

As shown in Table 4.6-12, MSAT emissions associated with vehicular traffic (i.e., POVs, buses, taxis) at the Virginia Avenue Transit Facility would decrease with the Six-lane Alternative under near-term and long-term conditions. No associated adverse air quality impacts would occur.

Employee Parking Facilities

Table 4.6-13, *MSAT Emissions from Employee Trips for the Action Alternatives*, presents the MSAT emissions that would be generated by employee vehicle trips for the Revised Project under near-term and long-term conditions.

**Table 4.6-13
MSAT EMISSIONS FROM EMPLOYEE TRIPS FOR THE ACTION ALTERNATIVES**

MSAT	Near-term (g/year)	Long-term (g/year)
acrolein	11	6
acetaldehyde	33	14
benzene	259	138
1,3-butadiene	46	24
diesel particulate matter	113	80
diesel exhaust organic gases	182	134
formaldehyde	145	71
naphthalene	134	131
polycyclic organic matter	18	18

Source: San Ysidro Land Port of Entry Improvements Project Air Quality Technical Report, July 2013

Future MSAT emissions would likely be lower than present levels as a result of the USEPA's national control programs and California's vehicle emission control programs that are projected to reduce MSAT emissions by 57 to 87 percent between 2000 and 2035. Conditions may differ from these national and state projections in terms of fleet mix and turnover, VMT growth rates, and local control measures. However, the magnitude of the USEPA- and CARB-projected reductions is so great (even after accounting for VMT growth) that MSAT emissions associated with the employee trips are likely to be lower in the future in nearly all cases. Consequently, no adverse air quality impacts would occur.

MSAT Analysis at Nearby Educational Facilities

Pursuant to EO 13045, *Protection of Children from Environmental Health Risks and Safety Risks*, Federal agencies are directed to make it a high priority to identify and assess environmental health risks and safety risks that may disproportionately affect children. An MSAT analysis was conducted to determine potential MSAT impacts at the closest sensitive receptor to the Revised Project Footprint, Willow Elementary School, which is located approximately 0.4 mile to the northwest adjacent to the I-5/I-805 merge, where traffic produces air pollutant emissions.

The specific MSAT of greatest health concern from freeways are DPM in the categories of fine (PM_{10}) and ultra-fine ($PM_{2.5}$) particles. These particles are composed of elemental carbon with adsorbed compounds, such as organic compounds, sulfate, nitrate, metals, and other trace elements. The particles are respirable, which means that they can avoid many of the human respiratory system defense mechanisms and enter deeply into the lungs.

The Six-lane Alternative would result in reduced levels of analyzed MSATs compared to the Baseline condition (refer to Tables 4.6-10 and 4.6-11) because the increased capacity with the proposed six-lane southbound roadway would help reduce southbound vehicle queue lengths and idling on the freeway segment adjacent to the school. Therefore, the Six-lane Alternative would not result in an adverse impact associated with MSAT emissions at the Willow Elementary School.

Greenhouse Gas Impacts

Construction Emissions

The Action Alternatives of the Revised Project would emit GHG emissions during construction from the combustion of fossil fuels in construction equipment, worker vehicles, delivery vehicles, and haul trucks accessing the Revised Project Footprint. Construction emissions were estimated using CalEEMod and Roadway Construction Models. Table 4.6-14, *Annual GHG Construction Emissions for the Six-lane Alternative*, presents a summary of the GHG emissions resulting from construction activities for the Six-lane Alternative.

Table 4.6-14 ANNUAL GHG CONSTRUCTION EMISSIONS FOR THE SIX-LANE ALTERNATIVE					
Construction Activity	Year	Emissions (MT/Year)			
		CO₂	CH₄	N₂O	Total CO₂e
Demolition and Grading	2015	245	<1	0	245
Roadways and Pavement	2016	100	-	-	100
Building and Parking Lot/Structure	2016	696	<1	0	697
	2017	31	0	0	31
<i>Total Construction Emissions</i>		<i>1,071.23</i>	<i><1</i>	<i>0</i>	<i>1,073</i>
Threshold					25,000
Exceed Threshold?					No

Numbers rounded to whole number - if a non-zero value was less than 1.0, <1 was utilized. MT= metric ton
Source: San Ysidro Land Port of Entry Improvements Project Air Quality Technical Report, July 2013

As shown in Table 4.6-14, annual GHG construction emissions generated during the construction phases of the Six-lane Alternative would be 1,073 CO₂e, which would not exceed the federal annual screening criteria of 25,000 metric tons. No associated adverse impacts would occur.

Operational Emissions

Analyzed sources of operational GHG emissions generated by the Action Alternatives of the Revised Project would include the vehicle trips associated with the proposed southbound roadway (six or ten lanes), Virginia Avenue Transit Facility, and employees trips; energy use; solid waste generation; and water consumption. Table 4.6-15, *Operational GHG Emissions of the Six-lane Alternative*, presents the total operational GHG emissions for the Baseline and Six-lane Alternative under near-term and long-term conditions, as well as the net difference in GHG emissions between the Baseline and Six-lane Alternative.

As shown in the Table 4.6-15, the difference in CO₂e emissions associated with operational activities for the Six-lane Alternatives as compared to the Baseline condition would not exceed the federal annual screening criteria of 25,000 MT. Operational GHG emissions would decrease compared to the Baseline under both near-term and long-term conditions based on the additional capacity provided on the proposed southbound roadway, which would reduce vehicle idling times, as well as federal and state vehicular emissions regulations and programs that will reduce GHG emissions in the vehicle fleet. Consequently, no adverse operational impacts associated with GHG emissions would occur.

Table 4.6-15 OPERATIONAL GHG EMISSIONS FOR THE SIX-LANE ALTERNATIVE			
GHG Emission Source	Baseline (MT/year)	Six-lane Alternative	
		(MT/year)	Difference (MT/year)
Near-term			
Vehicles - I-5 Southbound	428,491	251,162	-177,329
Vehicles - Virginia Avenue	4,330 ¹	17,685	-25,616
Vehicles - Employee Trips	1,057 ²	1,057	0
Energy – Buildings	94	94	0
Solid Waste – Facilities	6	6	0
Water – Buildings	23	23	0
<i>Total Near-term GHG Emissions</i>	<i>434,002</i>	<i>270,027</i>	<i>-163,975</i>
Threshold	--	--	25,000
Exceeds Threshold?	--	--	No
Long-term			
Vehicles - I-5 Southbound	649,493	509,814	-139,679
Vehicles - Virginia Avenue	4,330 ¹	53,715	10,414
Vehicles - Employee Trips	1,056	1,056	0
Energy – Buildings	94	94	0
Solid Waste – Facilities	6	6	0
Water – Buildings	23	23	0
<i>Total Long-term GHG Emissions</i>	<i>649,493</i>	<i>509,814</i>	<i>-139,679</i>
Threshold	--	--	25,000
Exceeds Threshold?	--	--	No

¹Camiones Way used for Baseline Virginia Avenue because Camiones Way is the existing pedestrian drop-off, and would be effectively replaced by the Virginia Avenue Transit Facility.

²The Revised Project TIS (LLG 2013) does not provide a Baseline ADT for employee trips, so it is assumed the same as the respective near-term and long-term scenarios.

Source: San Ysidro Land Port of Entry Improvements Project Air Quality Technical Report, July 2013

Ten-lane Alternative

Criteria Pollutants - Construction Impacts

Table 4.6-16, *Annual Construction Emissions for the Ten-lane Alternative*, summarizes the annual criteria pollutant emissions associated with construction of Ten-lane Alternative. As shown in Table 4.6-16, construction emissions generated during the construction phases of the Ten-lane Alternative would not exceed the *de minimis* thresholds and thus, no adverse impacts would occur.

Table 4.6-16 ANNUAL CONSTRUCTION EMISSIONS FOR THE TEN-LANE ALTERNATIVE						
Construction Activity	Emissions (Tons/Year)					
	Year	VOC	NO_x	CO	PM₁₀	PM_{2.5}
Demolition and Grading	2015	<1	2	1	<1	<1
Roadways and Pavement	2016	<1	5	2	2	1
Building and Parking Lot/Structure	2016	1	4	4	<1	<1
	2017	3	<1	<1	<1	<1
<i>Total Construction Emissions</i>	2015	<1	2	1	<1	<1
Thresholds		100	100	100	100	100
Exceeds threshold?		No	No	No	No	No
<i>Total Construction Emissions</i>	2016	1	9	6	3	1
Thresholds		100	100	100	100	100
Exceeds threshold?		No	No	No	No	No
<i>Total Construction Emissions</i>	2017	3	<1	<1	<1	<1
Thresholds		100	100	100	100	100
Exceeds thresholds?		No	No	No	No	No

Numbers rounded to whole number - if a non-zero value was less than 1.0, <1 was utilized
Source: San Ysidro Land Port of Entry Improvements Project Air Quality Technical Report, July 2013

Criteria Pollutants - Operational Impacts

Southbound Roadway

Emissions of criteria pollutants that would be generated by operation of the proposed southbound roadway were calculated under near-term and long-term conditions for the Ten-lane Alternative and compared to the respective Baseline condition. The results of these calculations are summarized in Table 4.6-17, *Operational Emissions of the Southbound Roadway for the Ten-lane Alternative*. The table presents the speed and daily VMT, along with the quantity of emissions (in tons/year) and the net difference between the Near-term and Long-term scenarios and the corresponding Baseline.

Table 4.6-17 OPERATIONAL EMISSIONS OF THE SOUTHBOUND ROADWAY FOR THE TEN-LANE ALTERNATIVE							
Scenario	Speed (mph)	Daily VMT	Tons per year				
			VOC	NO_x	CO	PM₁₀	PM_{2.5}
Near-term							
Baseline (2016)	5/25	52,128	94	169	1,365	5	4
Ten-lane Alternative	25/35	58,905	39	133	1,075	2	2
<i>Difference</i>	-20/-10	+6,777	-55	-36	-290	-3	-2
Threshold	--	--	100	100	100	100	100
Exceeds Threshold?	--	--	No	No	No	No	No
Long-term							
Baseline (2035)	5/15	69,300	76	116	928	7	7
Ten-lane Alternative	25/35	78,309	28	85	736	2	2
<i>Difference</i>	-20/-20	+9,009	-48	-31	-192	-5	-5
Threshold	--	--	100	100	100	100	100
Exceeds Threshold?	--	--	No	No	No	No	No

Numbers rounded to whole number - if a non-zero value was less than 1.0, <1 was utilized.
Source: San Ysidro Land Port of Entry Improvements Project Air Quality Technical Report, July 2013

As shown in Table 4.6-17, the difference in emissions of criteria pollutants between the Ten-lane Alternative and the Baseline would not exceed applicable thresholds under near-term or long-term condition. The Ten-lane Alternative would result in a net decrease in criteria pollutant emissions generated by the proposed southbound roadway under near-term and long-term conditions compared to the corresponding Baseline. Therefore, the operation of the southbound roadway under the Ten-lane Alternative would not result in emissions that would violate air quality standards and thus, no adverse impacts related to air quality would occur.

Virginia Avenue Transit Facility

As discussed above under the Six-lane Alternative, emissions of criteria pollutants that would be generated by buses, taxis, and POV pick-up and drop-off trips at the proposed Virginia Avenue Transit Facility were calculated for the Action Alternatives under near-term and long-term conditions. As shown in Table 4.6-6, emissions of criteria pollutants related to the proposed Virginia Avenue Transit Facility would not exceed applicable thresholds for the Action Alternatives under near-term or long-term conditions. Therefore, the operation of the Virginia Avenue Transit Facility under the Ten-lane Alternative would not result in emissions that would violate air quality standards and thus, no adverse air quality impacts would occur.

Employee Parking Facilities

Emissions of criteria pollutants that would be generated by LPOE employee vehicle trips were calculated for the Action Alternatives under near-term and long-term conditions and are presented in Table 4.6-7, as discussed above under the Six-lane Alternative. As shown in Table 4.6-7, emissions of criteria pollutants related to the additional employee vehicle trips associated with the Action Alternatives would not exceed applicable thresholds under near-term or long-term conditions. Therefore, operations related to the employee parking facilities under the Ten-lane Alternative would not result in emissions that would violate air quality standards and thus, no adverse air quality impacts would occur.

Air Quality Conformity

Regional Conformity

As previously discussed under the Six-lane Alternative, the description of the Revised Project is consistent with the Approved Project included in the 2030 RTP, the 2008 RTIP, and the assumptions in the SANDAG regional emissions analysis. Although SANDAG's 2030 RTP has now been superseded by the 2050 RTP, and the 2008 RTIP has now been superseded by the 2012 RTIP, conformity applicability analysis of the Action Alternatives of the Revised Project has been conducted based on the information available in the 2008 RTIP and the 2030 RTP. As concluded for the Six-lane Alternative, the Ten-lane Alternative would conform to the SIP, and no adverse regional air quality effects would occur.

Project-level Conformity

A CO "hot spot" analysis was conducted at five intersections that would be affected by the Action Alternatives of the Revised Project under near-term and long-term conditions. The results of the analysis would be the same for both the Six-lane and Ten-lane alternatives, and are presented in Tables 4.6-8 and 4.6-9. As shown, the predicted CO concentrations would be

below the one-hour and eight-hour federal standard for CO at all of the analyzed intersections. No associated adverse air quality impacts would occur under the Ten-lane Alternative.

Mobile Source Air Toxics

Southbound Roadway

Tables 4.6-18, *Near-term MSAT Emissions of the Southbound Roadway for the Ten-lane Alternative*, and 4.6-19, *Long-term MSAT Emissions of the Southbound Roadway for the Ten-lane Alternative*, present a comparison of MSAT emissions between the proposed southbound roadway for the Ten-lane Alternative and the Baseline under near-term and long-term conditions, respectively.

Table 4.6-18 NEAR-TERM MSAT EMISSIONS OF THE SOUTHBOUND ROADWAY FOR THE TEN-LANE ALTERNATIVE			
MSAT	Baseline Emissions (g/year)	Ten-lane Alternative	
		Near-term Emissions (g/year)	Difference (g/year)
acrolein	17	9	-8
acetaldehyde	52	29	-23
benzene	416	255	-161
1,3-butadiene	72	40	-32
diesel particulate matter	154	99	-55
diesel exhaust organic gases	291	156	-135
formaldehyde	231	127	-104
naphthalene	266	133	-133
polycyclic organic matter	36	18	-18

Source: *San Ysidro Land Port of Entry Improvements Project Air Quality Technical Report, July 2013*

Table 4.6-19 LONG-TERM MSAT EMISSIONS OF THE SOUTHBOUND ROADWAY FOR THE TEN-LANE ALTERNATIVE			
MSAT	Baseline Emissions (g/year)	Ten-lane Alternative	
		Long-term Emissions (g/year)	Difference (g/year)
acrolein	11	5	-6
acetaldehyde	27	12	-15
benzene	273	120	-153
1,3-butadiene	46	21	-25
diesel particulate matter	132	71	-61
diesel exhaust organic gases	255	117	-138
formaldehyde	138	62	-76
naphthalene	327	99	-228
polycyclic organic matter	45	14	-31

Source: *San Ysidro Land Port of Entry Improvements Project Air Quality Technical Report, July 2013*

As shown in Tables 4.6-18 and 4.6-19, MSAT emissions on the southbound roadway under the Ten-lane Alternative would be lower than the Baseline under near-term and long-term conditions due to the additional capacity to accommodate the demand of vehicles traveling southbound. No associated adverse air quality impacts would occur.

Virginia Avenue Transit Facility

MSAT emissions from traffic associated with the Virginia Avenue Transit Facility would be the same for both the Six-lane and Ten-lane alternatives, and are presented in Table 4.6-12. As shown, MSAT emissions associated with vehicular traffic at the Virginia Avenue Transit Facility would decrease with the Ten-lane Alternative under near-term and long-term conditions. No associated adverse air quality impacts would occur.

Employee Parking Facilities

MSAT emissions from employee trips would be the same for both the Six-lane and Ten-lane alternatives, and are presented in Table 4.6-13. As discussed under the Six-lane Alternative, future MSAT emissions would likely be lower than present levels as a result of the USEPA's national control programs and California's vehicle emission control programs that are projected to reduce MSAT emissions between 2000 and 2035. No associated adverse air quality impacts would occur.

MSAT Analysis at Nearby Educational Facilities

The Ten-lane Alternative would result in reduced levels of MSATs compared to the Baseline condition (refer to Tables 4.6-18 and 4.6-19) due to the increased capacity of the ten-lane southbound roadway. This would help reduce vehicle queue length and idling on the freeway segment adjacent to the closest sensitive receptor, Willow Elementary School, at the I-5/I-805 merge. Therefore, the Ten-lane Alternative would not result in an adverse impact associated with MSAT emissions at Willow Elementary School.

Greenhouse Gas Impacts

Construction Emissions

Table 4.6-20, *Annual GHG Construction Emissions for the Ten-lane Alternative*, presents a summary of the GHG emissions resulting from construction activities for the Ten-lane Alternative.

Construction Activity	Year	Emissions (Metric Tons/Year)			
		CO ₂	CH ₄	N ₂ O	Total CO ₂ e
Demolition and Grading	2015	245	<1	0	245
Roadways and Pavement	2016	399	-	-	399
Building and Parking Lot/Structure	2016	696	<1	0	697
	2017	31	0	0	31
<i>Total Construction Emissions</i>		<i>1,370</i>	<i><1</i>	<i>0</i>	<i>1,372</i>
Threshold					25,000
Exceeds Threshold?					No

Numbers rounded to whole number - if a non-zero value was less than 1.0, <1 was utilized.

Source: *San Ysidro Land Port of Entry Improvements Project Air Quality Technical Report*, July 2013

As shown in Table 4.6-20, annual GHG construction emissions generated during the construction phases of the Ten-lane Alternative would be 1,372 CO₂e, which would not exceed the federal annual screening criteria of 25,000 metric tons. No associated adverse impacts would occur.

Operational Emissions

Table 4.6-21, *Operational GHG Emissions of the Ten-lane Alternative*, presents the total operational GHG emissions for the Baseline and Ten-lane Alternative under near-term and long-term conditions, as well as the net difference in GHG emissions between the Baseline and Ten-lane Alternative.

GHG Emission Source	Baseline (MT/year)	Ten-lane Alternative	
		(MT/year)	Difference (MT/year)
Near-term			
Vehicles - I-5 Southbound	428,491	237,174	-191,317
Vehicles - Virginia Avenue	4,330 ¹	17,685	-25,616
Vehicles - Employee Trips	1,057 ²	1,057	0
Energy – Buildings	94	94	0
Solid Waste – Facilities	6	7	1
Water – Buildings	23	23	0
Total Near-term GHG Emissions	434,002	256,040	-177,962
Threshold	--	--	25,000
Exceeds Threshold?	--	--	No

Table 4.6-21 (cont.) OPERATIONAL GHG EMISSIONS FOR THE TEN-LANE ALTERNATIVE			
GHG Emission Source	Baseline (MT/year)	Ten-lane Alternative	
		(MT/year)	Difference (MT/year)
Long-term			
Vehicles - I-5 Southbound	649,493	315,094	-334,399
Vehicles - Virginia Avenue	4,330 ¹	53,715	10,414
Vehicles - Employee Trips	1,056	1,056	0
Energy – Buildings	94	94	0
Solid Waste – Facilities	6	6	0
Water – Buildings	23	23	0
<i>Total Long-term GHG Emissions</i>	<i>649,493</i>	<i>369,989</i>	<i>-285,014</i>
Threshold	--	--	25,000
Exceeds Threshold?	--	--	No

¹Camiones Way used for Baseline Virginia Avenue because Camiones Way is the existing pedestrian drop-off, and would be effectively replaced by the Virginia Avenue Transit Facility.

²The Revised Project TIS does not provide a Baseline ADT for employee trips, so it is assumed the same as the respective near-term and long-term scenarios.

Source: *San Ysidro Land Port of Entry Improvements Project Air Quality Technical Report*, July 2013

As shown in the Table 4.6-21, the difference in CO₂e emissions associated with operational activities for the Ten-lane Alternative as compared to the Baseline condition would not exceed the federal annual screening criteria of 25,000 MT. Operational GHG emissions would decrease compared to the Baseline under both near-term and long-term conditions based on the additional capacity provided on the proposed southbound roadway, which would reduce vehicle idling times, as well as federal and state vehicular emissions regulations and programs that will reduce GHG emissions in the vehicle fleet. Consequently, no adverse operational impacts associated with GHG emissions would occur.

No Action Alternative

The No Action Alternative would result in full implementation of the Approved Project without the southbound roadway and Virginia Avenue modifications proposed under the Six-lane and Ten-lane Revised Project alternatives, or the changes to the phasing/construction of proposed components of the Approved Project (e.g., Virginia Avenue pedestrian crossing facility and the employee parking structure).

The southbound roadway under the No Action Alternative would be similar to the Six-lane Alternative in that the number of southbound lanes would be similar. Under the Six-lane Alternative configuration, the southbound roadway would have six lanes whereas the southbound roadway under the Approved Project would include six lanes plus a bus lane (refer to Figure 3-3). The Virginia Avenue Transit Facility implemented under the Approved Project would only consist of a loop turn-around at the end of Virginia Avenue (refer to Figure 3-3). Additionally, the pedestrian crossing facility at Virginia Avenue would only provide southbound crossings, instead of both southbound and northbound proposed under the Action Alternatives of the Revised Project. Refer to Chapter 3, *Project Alternatives*, for additional details of the No Action Alternative.

As previously stated, an AQTR was prepared for the Approved Project in 2009 *Air Quality Impact Assessment for the San Ysidro Land Port of Entry Improvements Project*, July 2009).

The Approved Project AQTR was based on traffic data contained in the Approved Project TIS, which utilized the year 2014 for the near-term condition and 2030 for the horizon year condition, as opposed to 2016 and 2035 that was utilized for the Revised Project. The reason for the difference in analysis years is solely based on the passage of time. The following analysis of the No Action Alternative is based on the results and conclusions of the Approved Project AQTR.

Criteria Pollutants - Construction Impacts

As concluded in the Final EIS, construction emissions of criteria pollutants under the Approved Project (i.e., No Action Alternative) would be less than the *de minimis* thresholds throughout the duration of all three construction phases of the Approved Project, as shown in Table 4.6-22, *Annual Construction Emissions of the No Action Alternative*. Therefore, no adverse construction-related air quality impacts would occur under the No Action Alternative.

Table 4.6-22 ANNUAL CONSTRUCTION EMISSIONS OF THE NO ACTION ALTERNATIVE (tons/year)						
Source	CO	VOC	NO_x	SO_x	PM₁₀	PM_{2.5}
Phase I						
Fugitive Dust – Demolition	--	--	--	--	<1	<1
Heavy Construction Equipment	25	7	46	<1	3	3
Construction Worker Travel	5	<1	1	<1	<1	<1
Heavy Duty Trucks	8	2	23	<1	1	1
Fugitive Dust – Grading	--	--	--	--	5	1
Fugitive Dust – Vehicles	--	--	--	--	7	1
<i>Total Annual Emissions</i>	38	9	70	<1	17	6
Threshold	100	100	100	100	100	100
Exceeds Threshold?	No	No	No	No	No	No
Phase II						
Fugitive Dust – Demolition	--	--	--	--	<1	<1
Heavy Construction Equipment	9	2	17	<1	1	1
Construction Worker Travel	3	<1	<1	<1	<1	<1
Heavy Duty Trucks	1	<1	4	<1	<1	<1
Fugitive Dust – Grading	--	--	--	--	5	1
Fugitive Dust – Vehicles	--	--	--	--	1	<1
<i>Total Annual Emissions</i>	13	3	21	<1	8	2
Threshold	100	100	100	100	100	100
Exceeds Threshold?	No	No	No	No	No	No
Phase III						
Fugitive Dust – Demolition	--	--	--	--	<1	<1
Heavy Construction Equipment	13	3	23	<1	1	1
Construction Worker Travel	3	<1	<1	<1	<1	<1
Heavy Duty Trucks	6	1	17	<1	1	1
Fugitive Dust – Grading	--	--	--	--	5	1
Fugitive Dust – Vehicles	--	--	--	--	6	1
<i>Total Annual Emissions</i>	22	4	40	<1	13	4
Threshold	100	100	100	100	100	100
Exceeds Threshold?	No	No	No	No	No	No

Numbers rounded to whole number - if a non-zero value was less than 1.0, <1 was utilized.

Source: San Ysidro Land Port of Entry Improvements Project Final Environmental Impact Statement, August 2009.

Criteria Pollutants - Operational Impacts

Southbound Roadway

As concluded in the Final EIS, the total operational emissions under the Approved Project, including the southbound roadway would result in a net decrease in emissions for all criteria pollutants, as shown in Table 4.6-23, *Operational Emissions of the No Action Alternative*. Therefore, no adverse operational air quality impacts would occur under the No Action Alternative.

Table 4.6-23 OPERATIONAL EMISSIONS OF THE NO ACTION ALTERNATIVE (Tons/Year)							
	CO	NO_x	VOCs	SO_x	PM₁₀	PM_{2.5}	
Near-term (2014) - No Build Alternative							
Vehicles on I-5 and I-805	234	67	10	1	5	3	
Vehicles on Surface Streets	37	9	2	<1	1	1	
Idling Vehicles	815	194	101	2	27	23	
Total Emissions	1,086	270	113	3	33	27	
Near-term (2014) - No Action Alternative							
Vehicles on I-5 and I-805	292	82	12	1	6	4	
Vehicles on Surface Streets	33	8	1	<1	1	1	
Idling Vehicles	305	73	38	1	10	9	
Total Emissions	630	163	51	2	17	14	
<i>Net Emissions</i>	<i>-456</i>	<i>-107</i>	<i>-62</i>	<i>-1</i>	<i>-16</i>	<i>-13</i>	
Threshold	100	100	100	100	100	100	
Exceeds Threshold?	No	No	No	No	No	No	
Horizon Year (2030) – No Build Alternative							
Vehicles on I-5 and I-805	160	37	7	1	7	4	
Vehicles on Surface Streets	21	5	1	<1	1	1	
Idling Vehicles	908	220	122	6	65	54	
Total Emissions	1,089	262	130	7	72	59	
Horizon Year (2030) – No Action Alternative							
Vehicles on I-5 and I-805	206	46	9	1	8	5	
Vehicles on Surface Streets	20	4	1	<1	1	1	
Idling Vehicles	191	46	26	1	14	11	
Total Emissions	417	96	36	2	23	17	
<i>Net Emissions</i>	<i>-672</i>	<i>-166</i>	<i>-94</i>	<i>-5</i>	<i>-49</i>	<i>-42</i>	
Threshold	100	100	100	100	100	100	
Exceeds Threshold?	No	No	No	No	No	No	

Numbers rounded to whole number - if a non-zero value was less than 1.0, <1 was utilized.

Source: *San Ysidro Land Port of Entry Improvements Project Final Environmental Impact Statement*, August 2009.

Virginia Avenue Transit Facility

As concluded in the Final EIS, the operational emissions under the Approved Project on surface streets, including Virginia Avenue would result in a net decrease in emissions for all criteria pollutants (refer to Table 4.6-23). Therefore, no adverse operational air emissions impacts would occur under the No Action Alternative.

Employee Parking Facilities

As concluded in the Final EIS, the operational emissions under the Approved Project on surface streets, including those utilized by employee vehicles would result in a net decrease in emissions for all criteria pollutants (refer to Table 4.6-23). Therefore, no adverse operational air emissions impacts would occur under the No Action Alternative.

Air Quality Conformity

Regional Conformity

As concluded in the Final EIS, the description of the Approved Project is consistent with the 2030 RTP, the 2008 RTIP, and the assumptions in the SANDAG regional emissions analysis, which occurred prior to the now adopted 2050 RTP and 2012 RTIP documents. The 2050 RTP includes a description of the improvements in progress at the San Ysidro LPOE, and the Approved Project is consistent with this description. Therefore, the No Action Alternative would conform to the SIP and no associated adverse regional air quality impact would occur.

Project-level Conformity

A CO ‘hot spot’ analysis was prepared for the Approved Project in 2009 in the Approved Project AQTR, and is summarized in the Final EIS. The intersections analyzed for CO hot spots for the Approved Project were based on traffic data in the Approved Project TIS and included:

- Via de San Ysidro/Calle Primera
- Via de San Ysidro/I-5 Northbound ramps
- Camino de la Plaza/I-5 Southbound ramps
- Camino de la Plaza/Virginia Avenue

As concluded in the Final EIS, the CO “hot spot” analysis prepared for the Approved Project would not result in emissions in excess of the one-hour or eight-hour CO standards, as shown in Table 4.6-24, *Near-term (2014) Maximum CO Concentrations of the No Action Alternative*, and 4.6-25, *Horizon Year (2030) Maximum CO Concentrations of the No Action Alternative*. Accordingly, the No Action Alternative would not result in associated adverse air quality impacts.

Table 4.6-24 NEAR-TERM (2014) MAXIMUM CO CONCENTRATIONS OF THE NO ACTION ALTERNATIVE (ppm)						
Intersection	No Build Maximum 1-Hour	Near-term Maximum 1-Hour	Exceed Federal Standard? (35 ppm)	No Build Maximum 8-Hour	Near-term Maximum 8-Hour	Exceed Federal Standard? (9 ppm)
Via de San Ysidro/ Calle Primera	3.6	3.6	No	2.59	2.59	No
Via de San Ysidro/ I-5 NB ramps	3.5	3.5	No	2.52	2.52	No
Camino de la Plaza/ Virginia Avenue	4.0	3.9	No	2.87	2.80	No

Source: *San Ysidro Land Port of Entry Improvements Project Final Environmental Impact Statement*, August 2009

Table 4.6-25 HORIZON YEAR (2030) MAXIMUM CO CONCENTRATIONS OF THE NO ACTION ALTERNATIVE (ppm)						
Intersection	No Build Maximum 1-Hour	Horizon Maximum 1-Hour	Exceed Federal Standard? (35 ppm)	No Build Maximum 8-Hour	Horizon Maximum 8-Hour	Exceed Federal Standard? (9 ppm)
Via de San Ysidro/ Calle Primera	3.4	3.4	No	2.45	2.45	No
Via de San Ysidro/ I-5 NB ramps	3.3	3.3	No	2.38	2.38	No
Camino de la Plaza/ Virginia Avenue	3.5	3.5	No	2.52	2.52	No
Camino de la Plaza/ I-5 SB ramps	3.5	3.5	No	2.52	2.52	No

Source: *San Ysidro Land Port of Entry Improvements Project Final Environmental Impact Statement*, August 2009

Mobile Source Air Toxics

As concluded in the Final EIS, the total MSAT emissions under the Approved Project would result in a net decrease in MSAT emissions compared to the No Build condition due to the decrease in queue times at the border crossing. As with the Action Alternatives of the Revised Project, future MSAT emissions under the No Action Alternative would likely be lower than present levels as a result of the USEPA’s national control programs and California’s vehicle emission control programs that are projected to reduce MSAT emissions by 57 to 87 percent between 2000 and 2035. Conditions may differ from these national and state projections in terms of fleet mix and turnover, VMT growth rates, and local control measures. However, the magnitude of the USEPA- and CARB-projected reductions is so great (even after accounting for VMT growth) that MSAT emissions are likely to be lower in the future in nearly all cases. Therefore, no adverse operational air emissions impacts would occur under the No Action Alternative.

Greenhouse Gas Impacts

A summary of the calculated GHG emissions for the Approved Project is contained in the Final EIS and is summarized in Table 4.6-26, *GHG Emissions of the No Action Alternative*.

Table 4.6-26 GHG EMISSIONS OF THE NO ACTION ALTERNATIVE (Metric Tons/Year)			
Emission Source	CO ₂	CH ₄	N ₂ O
Building Electricity Use	1,084	0.0083	0.0046
Building Natural Gas Use	124	0.014	0.0002
Net Vehicle Emissions - Freeway	10,724	0.564	1.486
Net Vehicle Emissions – Surface Streets	-750	-0.047	-0.060
Net Vehicle Emissions – Idling	-124,937	-7.496	-10.462
Total Net Emissions	-113,755	-7	-9
<i>Total Net CO₂ Equivalent Emissions</i>	<i>-116,700</i>		

Source: *San Ysidro Land Port of Entry Improvements Project Final Environmental Impact Statement*, August 2009

Similar to the Action Alternatives, the No Action Alternative would result in a net decrease in GHG emissions compared to the No Build condition based on the additional capacity at the LPOE, which would reduce vehicle idling times, as well as federal and state vehicular emissions regulations and programs that will reduce GHG emissions in the vehicle fleet. Consequently, no adverse operational impacts associated with GHG emissions would occur.

4.6.4 Avoidance, Minimization, and/or Mitigation Measures

Action Alternatives and No Action Alternative

Although the Action Alternatives (Six-lane and Ten-lane Alternatives) and the No Action Alternative would not result in adverse air quality or GHG impacts, the following measures would help minimize construction-related criteria air pollutant emissions and GHG emissions to the extent feasible:

- Suspend grading and earth moving when wind gusts exceed 25 mph unless the soil is wet enough to prevent dust plumes.
- Cover trucks when hauling loose material.
- Stabilize the surface of materials stockpiles if not removed immediately.
- Limit vehicular paths on unpaved surfaces and stabilize any temporary roads.
- Trucks should be washed off as they leave the construction site(s), as necessary, to control fugitive dust emissions.
- Track-out reduction measures such as gravel pads should be used at access points to minimize dust and mud deposits on roads affected by construction traffic.
- Construction equipment and vehicles should be properly tuned and maintained. Low sulfur fuel should be used in all construction equipment.
- Minimize unnecessary vehicular and machinery activities.
- Sweep paved streets at least once per day where there is evidence of dirt that has been carried on to the roadway.
- Revegetate disturbed land, including vehicular paths created during construction to avoid future off-road vehicular activities.
- Locate construction equipment and truck staging and maintenance areas as far as feasible and nominally downwind of schools, active recreation areas, and other areas of high population density.
- To the extent feasible, construction traffic should be routed and scheduled to reduce congestion and related air quality impacts caused by idling vehicles along local roads during peak travel times.
- Provide landscaping where possible, which reduces surface warming and decreases CO₂ through photosynthesis.
- Use lighter color surfaces, such as Portland cement, which helps to increase the albedo effect (i.e., surface reflectivity of the sun's radiation) and cool the surface.
- Use of energy efficient lighting.

4.7 BIOLOGICAL RESOURCES

This subchapter evaluates potential environmental effects to biological resources as a result of the Revised Project. The conclusions are based on the analysis contained in the Final EIS that addressed the Approved Project, as well as additional analysis and environmental studies that were conducted to evaluate the proposed modifications that comprise the Revised Project.

4.7.1 Regulatory Setting

The USFWS is responsible for the protection of federally listed special-status species. Special-status species are selected for protection because they are rare and/or subject to population and habitat declines. “Special status” is a general term for species that are afforded varying levels of regulatory protection. The highest level of protection is given to species that are formally listed or proposed for listing as endangered or threatened under the federal Endangered Species Act (ESA).

Federal Endangered Species Act

The federal ESA and subsequent amendments (16 U.S.C. Section 1531, et seq; also see 50 CFR Part 402) provide for the conservation of endangered and threatened species and the ecosystems upon which they depend. Under Section 7 of the federal ESA, federal agencies are required to consult with USFWS and the National Oceanic and Atmospheric Administration (NOAA) Fisheries to ensure that they are not undertaking, funding, permitting, or authorizing actions likely to jeopardize the continued existence of listed species or destroy or adversely modify designated critical habitat. Critical habitat is defined as geographic locations critical to the existence of a threatened or endangered species. The outcome of consultation under Section 7 (if required) is a Biological Opinion or an incidental take permit. Section 3 of the federal ESA defines take as “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or any attempt at such conduct.” Since no federally threatened or endangered species were identified within the Biological Study Area (BSA) of the Revised Project, the federal ESA does not apply to the Revised Project.

Clean Water Act

The CWA (33 U.S.C. 1344) is the primary federal law regulating wetlands and waters. The CWA regulates the discharge of dredged or fill material into waters of the U.S., including wetlands. Waters of the U.S. (WUS) include navigable waters, interstate waters, territorial seas, and other waters that may be used in interstate or foreign commerce. To classify wetlands for the purposes of the CWA, a three-parameter approach is used that includes the presence of hydrophytic (water-loving) vegetation, wetland hydrology, and hydric soils (soils subject to saturation/inundation). All three parameters must be present, under normal circumstances, for an area to be designated as a jurisdictional wetland under the CWA.

Section 404 of the CWA establishes a regulatory program that provides that no discharge of dredged or fill material can be permitted if a practicable alternative exists that is less damaging to the aquatic environment or if the nation’s waters would be significantly degraded. The Section 404 permit program is run by the U.S. Army Corps of Engineers (Corps) with oversight by the USEPA.

The RWQCBs were established under the Porter-Cologne Water Quality Control Act to oversee water quality. The RWQCB also issues water quality certifications for impacts to wetlands and waters in compliance with Section 401 of the CWA.

Executive Order 11990

EO 11990 also regulates the activities of federal agencies with regard to wetlands. Essentially, this EO states that a federal agency cannot undertake or provide assistance for new construction located in wetlands unless the head of the agency finds: 1) that there is no practicable alternative to the construction and 2) the proposed project includes all practicable measures to minimize harm.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) is a federal statute that prohibits the ability to “pursue, hunt, take, capture, kill, attempt to take, capture or kill, possess, offer for sale, sell, offer to purchase, purchase, deliver for shipment, ship, cause to be shipped, deliver for transportation, transport, cause to be transported, carry, or cause to be carried by any means whatever, receive for shipment, transportation or carriage, or export, at any time, or in any manner, any migratory bird, included in the terms of this Convention... for the protection of migratory birds... or any part, nest, or egg of any such bird.” This statute allows the USFWS to enforce the prohibition of direct “taking” of active nests. Implementation of this law typically includes restrictions on development activities when sensitive nesting birds, including raptors, are present. Since no sensitive nesting birds or raptors were identified within the BSA of the Revised Project, the MBTA does not apply to the Revised Project.

4.7.2 Affected Environment

The analysis and conclusions presented in this subchapter are based on the *Biological Letter Report for the Virginia Avenue Transit Facility – San Ysidro LPOE Expansion Project* prepared in June 2013 for the proposed Virginia Avenue Transit Facility, and the *Minimal Impacts Natural Environment Study (NES-MI; San Ysidro Land Port of Entry Improvements Project Natural Environment Study – Minimal Impacts, August 2009)* prepared to evaluate the biological resources and potential impacts to such resources within the BSA that was identified in the Final EIS for the Approved Project. The biological letter report was prepared to assess existing biological conditions and potential biological resources impacts not addressed in the 2009 NES-MI or Final EIS, specifically related to Phase III of the Revised Project, including modifications to the development footprint and design of the proposed Virginia Avenue Transit Facility. The results of this report, which are contained in Appendix I of this SEIS, are summarized in this subchapter. The 2009 NES-MI addressed the potential for direct impacts (e.g., by grading, construction, and/or staging), as well as indirect impacts (e.g., noise) resulting from the Approved Project. Much of the analysis and conclusions of the 2009 NES-MI remain applicable to the Revised Project because in addition to the proposed changes to the Approved Project, the Revised Project also includes the other components of the Approved Project that have not changed. Applicable information from the NES-MI as it relates to the Revised Project is summarized in this subchapter.

The Revised Project BSA encompasses the 52.5-acre BSA of the Approved Project that was identified in the 2009 Final EIS and an additional 2.3-acre area west of Virginia Avenue (that was not included in the Approved Project BSA) to accommodate the proposed Virginia Avenue Transit Facility. As discussed in Chapter 1, the proposed bi-directional pedestrian crossing

facility at Virginia Avenue would require the footprint of the transit facility to be shifted to the west and extended outside of the LPOE boundary that was evaluated in the Final EIS. The Revised Project BSA is pictured in Figure 4.7-1, *Vegetation Communities and WUS*.

A general biological survey and a jurisdictional delineation were conducted within the Approved Project BSA as part of the environmental studies completed for the Final EIS. A general biological survey was conducted within the 2.3-acre area of the Revised Project BSA on May 31, 2013, to map vegetation, record locations of sensitive species observed or detected in and adjacent to the 2.3-acre area of the Revised Project BSA, and assess the potential for jurisdictional WUS. The 2.3-acre area of the Revised Project BSA consists of a paved lot and a concrete storm drain channel that is separated from the paved lot by a chain link fence.

Prior to conducting the biological field survey for the 2.3-acre area of the Revised Project BSA, searches of the California Natural Diversity Database (CNDDDB) and USFWS sensitive species databases were performed for information regarding sensitive species known to occur within 0.5 mile of the LPOE. Additionally, on June 24, 2013, a search of the USFWS Information, Planning, and Conservation System (IPaC) was conducted for any threatened or endangered species, designated critical habitat, or other natural resources of concern that could be affected by the proposed project.

Vegetation Communities

Five vegetation communities/habitats occur within the Revised Project BSA, including disturbed wetland, non-native grassland, eucalyptus woodland, disturbed habitat, and developed land (refer to Figure 4.7-1). Of these, only disturbed wetland and non-native grassland are considered sensitive vegetation communities. The 2.3-acre area of the Revised Project BSA contains developed land and disturbed habitat. Small patches of unpaved ground between entrances and the concrete storm drain along the western edge were the only portions that support vegetation. Table 4.7-1, *Vegetation Communities Within the Revised Project BSA*, identifies the acreage of these vegetation communities. A brief discussion of each vegetation community/habitat follows.

Table 4.7-1 VEGETATION COMMUNITIES WITHIN THE REVISED PROJECT BSA	
Vegetation Community/Habitat	Revised BSA Total (acre)
Disturbed wetland	0.04
Non-native grassland	0.7
Eucalyptus woodland	0.1
Disturbed habitat	1.0
Developed land	53.0
TOTAL	54.8

Disturbed Wetland

Disturbed wetland is dominated by exotic wetland species that invade areas that have been previously disturbed or undergone periodic disturbances. These non-natives become

established more readily following natural or human-induced habitat disturbance than the native wetland flora. Within the Revised Project BSA, 0.04 acre of disturbed wetland occurs in a small patch along a defined earthen channel east of Camiones Way (refer to Figure 4.7-1). Dominant species within this disturbed wetland in the Approved Project BSA include curly dock (*Rumex crispus*) and Bermuda grass (*Cynodon dactylon*) with lesser amounts of castor-bean (*Ricinus communis*). Native wetland species that make up a very small portion of the disturbed wetland include mule fat (*Baccharis salicifolia*) and Goodding's black willow (*Salix gooddingii*).

Non-native Grassland

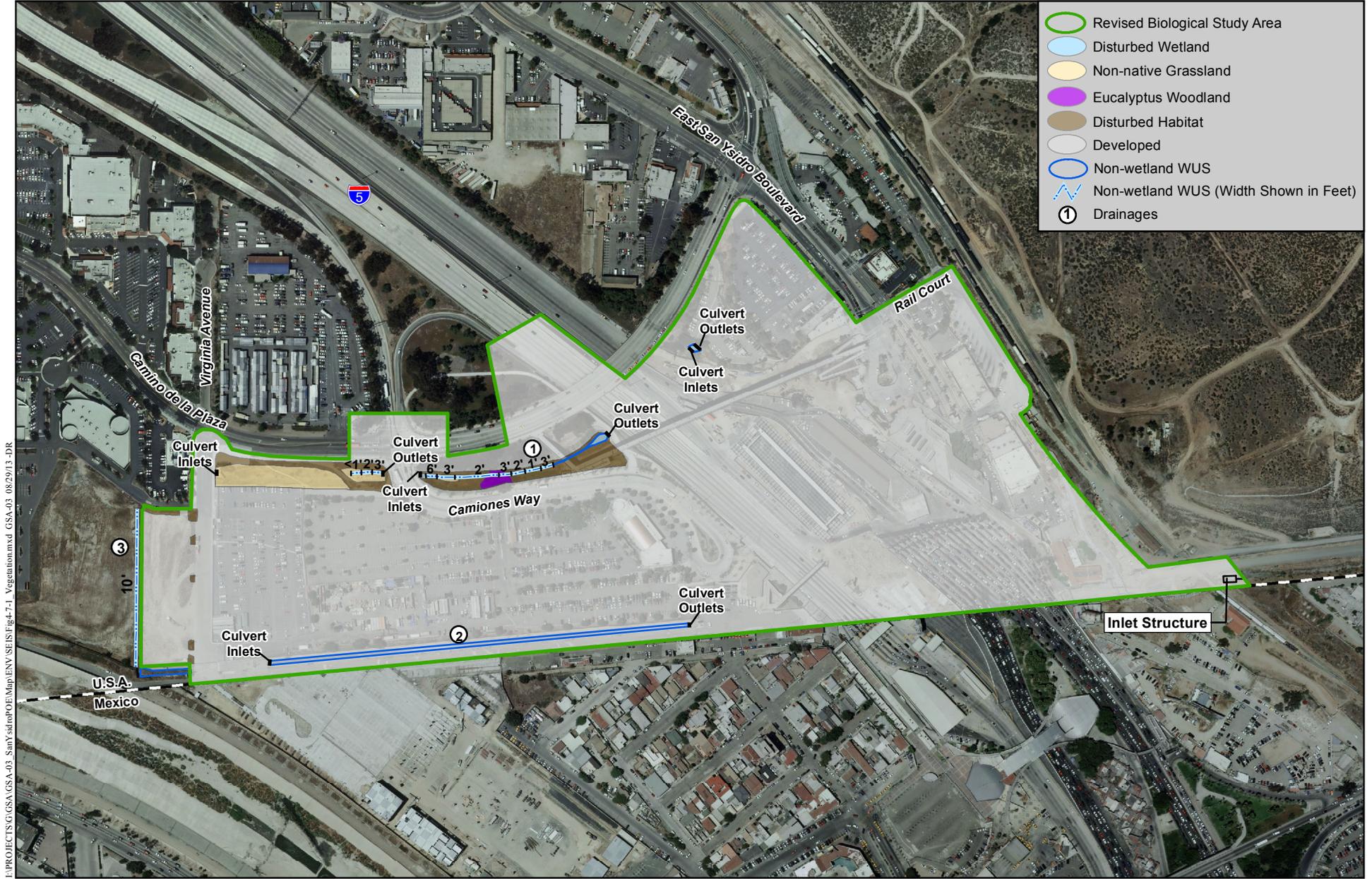
Non-native grassland areas may have supported native grassland in the past, but have been overrun by exotic, introduced annuals. Given that the Revised Project BSA has not supported native grassland in the recent past, it is likely that the small patches of non-native grassland within the Revised Project BSA are a result of seed dispersal, which then takes advantage of water draining off the roadway from rainfall. Plant species within this vegetation community in the Revised Project BSA include ripgut grass (*Bromus diandrus*), oats (*Avena* sp.), Italian ryegrass (*Lolium multiflorum*), California burclover (*Medicago polymorpha*), cheeseweed (*Malva parviflora*), and occasionally curly dock. The Revised Project BSA contains 0.7 acre of non-native grassland, located south of Camino de la Plaza in the northwestern portion of the Revised Project BSA (refer to Figure 4.7-1).

Eucalyptus Woodland

Eucalyptus woodland is dominated by eucalyptus (*Eucalyptus* sp.), an introduced species that has often been planted purposely for wind blocking, ornamental, and hardwood production purposes. Most groves are monotypic with the most common species being either the blue gum (*Eucalyptus gunnii*) or red gum (*E. camaldulensis* ssp. *obtusa*). The understory within well-established groves is usually very sparse due to the closed canopy and allelopathic (toxic; suppresses plant growth) nature of the abundant leaf and bark litter. If sufficient moisture is available, eucalyptus becomes naturalized and is able to reproduce and expand its range. The sparse understory offers only limited wildlife habitat; however, as a wildlife habitat, these woodlands provide excellent nesting sites for a variety of raptors, including red-shouldered hawks (*Buteo lineatus*). During winter migrations, a large variety of warblers may be found feeding on the insects that are attracted to the eucalyptus flowers. Eucalyptus trees with active raptor nests are considered sensitive. A 0.1-acre patch of this eucalyptus woodland occurs within the Revised Project BSA to the east of Camiones Way (refer to Figure 4.7-1).

Disturbed Habitat

Disturbed habitat includes land cleared of vegetation (e.g., dirt roads), land containing a preponderance of non-native plant species such as ornamentals or ruderal exotic species that take advantage of disturbance (previously cleared or abandoned landscaping), or land showing signs of past or present animal usage that removes any capability of providing viable habitat. Dominant plant species within this vegetation community in the Revised Project BSA include garland daisy (*Glebionis coronaria*), filaree (*Erodium* sp.), cheeseweed, and crystalline iceplant (*Mesembryanthemum crystallinum*). Native species also were observed within the Revised Project BSA, including goldenbush (*Isocoma menziesii*), elegraph weed (*Heterotheca grandiflora*), horseweed (*Erigeron Canadensis*), western ragweed (*Ambrosia psilostachya*), and California sun-cup (*Camissoniopsis bistorta*). The Revised Project BSA contains a total of 1.0 acre of disturbed habitat, comprised of a 0.9-acre patch located south of Camino de la Plaza and west of I-5 and 0.1 acre within the 2.3-acre area in the western portion of the Revised



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Vegetation Communities and WUS

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Project BSA, west of Virginia Avenue (within the 2.3-acre area of the Revised Project BSA) (refer to Figure 4.7-1).

Developed Land

Developed land is where permanent structures and/or pavement have been placed, which prevents the growth of vegetation, or where landscaping is clearly tended and maintained. Within the Revised Project BSA, developed land encompasses 53 acres and consists of I-5, Camino de la Plaza, Camiones Way, East San Ysidro Boulevard, Rail Court, other roadways, commercial buildings with associated parking, and landscaped areas (refer to Figure 4.7-1).

Sensitive Resources

Jurisdictional Areas

Corps jurisdictional areas within the Revised Project BSA total 0.50 acre of non-wetland WUS. These areas are comprised of three drainages, which are identified as drainage numbers 1, 2, and 3 in Figure 4.7-1. Drainage number 1 consists of a 0.07-acre earthen channel between Camiones Way and Camino de la Plaza that also extends under the freeway to a culvert. Drainage number 2 consists of a 0.32 acre concrete-lined channel that runs parallel to the north side of the border, west of I-5. Drainage number 3 consists of a 0.11-acre concrete storm drain channel along the western edge of the Revised Project BSA, west of the Virginia Avenue.

Plants and Animals

During the general biological surveys conducted for the Approved Project, a total of 44 plant species and 18 animal species were observed or detected, but no sensitive plant or animal species were observed.

A total of 19 plant species and 5 animal species were observed or detected within the 2.3-acre area of the Revised Project BSA. Twelve of the plant species are non-native and none of the plant or animal species is sensitive. The CNDDDB database search identified three sensitive plant and five sensitive animal species reported within 0.5 mile of the 2.3-acre area of the Revised Project BSA. The IPaC search returned eight listed plant species and nine listed animal species. Some species occurred on both lists. Species that were identified in the database searches are listed in Table 4.7-2, *Sensitive Plant and Animal Species With Potential to Occur Within the 2.3-Acre Area of the Revised Project BSA*. None of these species have the potential to occur within the Revised Project BSA due to lack of suitable habitat, and none were observed during the survey of the 2.3-acre area of the Revised Project BSA.

Table 4.7-2 SENSITIVE PLANT AND ANIMAL SPECIES WITH POTENTIAL TO OCCUR WITHIN THE 2.3-ACRE AREA OF THE REVISED PROJECT BSA	
Species	Potential to Occur
Plant Species	
Golden-spined cereus (<i>Bergerocactus emoryi</i>)	None. Occurs on sandy soils on dry coastal bluffs. No suitable habitat occurs within the Revised Project BSA.
Beach goldenaster (<i>Heterotheca sessiliflora</i> ssp. <i>sessiliflora</i>)	None. Occurs in sandy openings in coastal scrub. No suitable habitat occurs within the Revised Project BSA.
California Orcutt grass (<i>Orcuttia californica</i>)	None. Occurs in or near vernal pools. No suitable habitat occurs within the Revised Project BSA.
Otay mesa-mint (<i>Pogogyne nudiuscula</i>)	None. Restricted to vernal pools. No suitable habitat occurs within the Revised Project BSA.
Otay tarplant (<i>Deinandra conjugens</i>)	None. Occurs on clay soils in grasslands or lightly vegetated coastal sage scrub. No suitable habitat occurs within the Revised Project BSA (on-site soil is sand).
Salt marsh bird's-beak (<i>Cordylanthus maritimus</i> ssp. <i>maritimus</i>)	None. Occurs in salt marshes, particularly on slightly raised hummocks. No suitable habitat occurs within the Revised Project BSA.
San Diego ambrosia (<i>Ambrosia pumila</i>)	Very low. Found in a variety of habitats, including disturbed habitat, but prefers creek beds, seasonally dry drainages, and floodplains.
San Diego button-celery (<i>Eryngium aristulatum</i> var. <i>parishii</i>)	None. Occurs in vernal pool or mima mound areas with vernal moist conditions. No suitable habitat occurs within the Revised Project BSA.
San Diego thornmint (<i>Acanthomintha ilicifolia</i>)	None. Occurs in grassy openings in chaparral or sage scrub or near vernal pools with friable or broken clay soils (on-site soil is sand). No suitable habitat occurs within the Revised Project BSA.
Slender cottonheads (<i>Nemacaulis denunada</i> var. <i>gracilis</i>)	None. Occurs on coastal dunes. No suitable habitat occurs within the Revised Project BSA.
Spreading navarretia (<i>Navarretia fossalis</i>)	Very low. Occurs in vernal pools, vernal swales, or wet roadside depressions.
Animal Species	
Quino checkerspot butterfly (<i>Euphydryas editha quino</i>)	None. Habitat includes open stands of sage scrub and chaparral, adjacent open meadows, old foot trails and dirt roads in association with its primary larval host plant, dwarf plantain (<i>Plantago erecta</i>). While this butterfly is known from Otay Mesa, the Revised Project BSA does not contain suitable habitat.
Riverside fairy shrimp (<i>Streptocephalus woottoni</i>)	None. Occurs in deep vernal pools and seasonal wetlands not present within the Revised Project BSA.
San Diego fairy shrimp (<i>Branchinecta sandiegonensis</i>)	None. Occurs in seasonally astatic pools which occur in tectonic swales or earth slump basins and other areas of shallow, standing water often in patches of grassland and agriculture interspersed in coastal sage scrub and chaparral. No suitable habitat occurs within the Revised Project BSA.
Orange-throated whiptail (<i>Aspidoscelis hyperythra</i>)	Low. Occurs in sage scrub and grassland areas. No suitable habitat occurs within the Revised Project BSA.
Rosy boa (<i>Charina trivirgata</i>)	None. Occurs on rocky hillsides covered with dense chaparral. No suitable habitat occurs within the Revised Project BSA.

Table 4.7-2 (cont.) SENSITIVE PLANT AND ANIMAL SPECIES WITH POTENTIAL TO OCCUR WITHIN THE 2.3-ACRE AREA OF THE REVISED PROJECT BSA	
Species	Potential to Occur
<i>Animal Species (cont.)</i>	
California least tern (<i>Sterna antillarum browni</i>)	None. This tern is a coastal oceanic species, but in San Diego County has been observed inland foraging in coastal lowland lakes. No suitable habitat occurs within the Revised Project BSA.
Coastal California gnatcatcher (<i>Polioptila californica californica</i>)	None. Occurs in coastal sage scrub habitat that does not occur within the Revised Project BSA.
Light-footed clapper rail (<i>Rallus longirostris levipes</i>)	None. Occurs in coastal salt marshes but has been known to use brackish and freshwater sites. No suitable habitat occurs within the Revised Project BSA.
Least Bell's vireo (<i>Vireo bellii pusillus</i>)	None. Occurs in riparian thickets, usually willow and cottonwood. No suitable habitat occurs within the Revised Project BSA.
Western snowy plover (<i>Charadrius alexandrinus nivosus</i>)	None. Occurs on beaches, dunes, and salt flats that are not present within the Revised Project BSA.
Pacific pocket mouse (<i>Perognathus longimembris pacificus</i>)	None. Occurs where there is fine-grained, sandy, or gravelly substrates in coastal strand, coastal dunes, river alluvium, or coastal sage scrub growing on marine terraces. Also, it only has been recorded within approximately 2.4 miles inland of the Pacific Ocean. No suitable habitat occurs within the Revised Project BSA, and the BSA is too far inland.

Source: Biological Letter Report for the Virginia Avenue Transit Facility – San Ysidro LPOE Expansion Project June 26, 2013.

4.7.3 Environmental Consequences

Six-lane Alternative

Vegetation Communities

No direct impacts to sensitive vegetation communities would occur under the Six-lane Alternative. All proposed improvements would occur within developed land and disturbed habitat, which are not sensitive vegetation types. Vegetation impacts resulting from the Six-lane Alternative are shown in Figure 4.7-2, *Impacts to Vegetation and WUS: Six-lane Alternative*.

Sensitive Resources

Jurisdictional Areas

The Six-lane Alternative would impact a total of 0.08 acre of non-wetland WUS. Approximately 0.08 acre of drainage number 2 would be impacted by construction of the proposed southbound roadway and southbound headhouse (refer to Figure 4.7-2). Impacts to these jurisdictional areas would require compensatory mitigation (as identified below in Section 4.7.4), as well a CWA Section 404 Nationwide Permit from the Corps and a Section 401 Water Quality Certification from the RWQCB.

Plants and Animals

Since no sensitive plant or animal species were observed within the Revised Project BSA, implementation of the Six-lane Alternative would not result in impacts to sensitive species.

Indirect Impacts

While the Six-lane Alternative would not directly impact sensitive vegetation communities (as discussed above), the proposed southbound roadway of the Six-lane Alternative would be constructed adjacent to a drainage channel southeast of the Camino de la Plaza/Camiones Way intersection that supports 0.04 acre of disturbed wetland (refer to Figure 4.7-1). Indirect impacts to this sensitive vegetation type could potentially occur during construction of the southbound roadway. This drainage also supports a small patch of eucalyptus woodland, which could potentially support nesting birds that could be indirectly impacted during construction activities.

Land surrounding the Revised Project BSA is already developed except for the graded lot to the west. The adjacent portions of the Tijuana River are in a concrete channel and support no riparian habitat. In addition, the Tijuana River channel is separated from the Revised Project BSA by a large berm that supports the border fence and a road used by CBP vehicles.

Water quality impacts resulting from surface runoff of urban contaminants or sediments potentially could occur during construction or operation of the Six-lane Alternative. Decreased water quality could result in adverse indirect impacts to vegetation, aquatic animals, and terrestrial wildlife that depend on these resources. These potential impacts would be addressed through conformance with the NPDES and City guidelines, as well as incorporation of long-term water quality controls, including measures that would avoid or reduce off-site sediment transport (e.g., the use of storm water filters, street sweeping, and drainage facility maintenance), as identified in Subchapter 3.8 of the Final EIS. Implementation of these measures would avoid indirect water quality impacts to biological resources.

Ten-lane Alternative

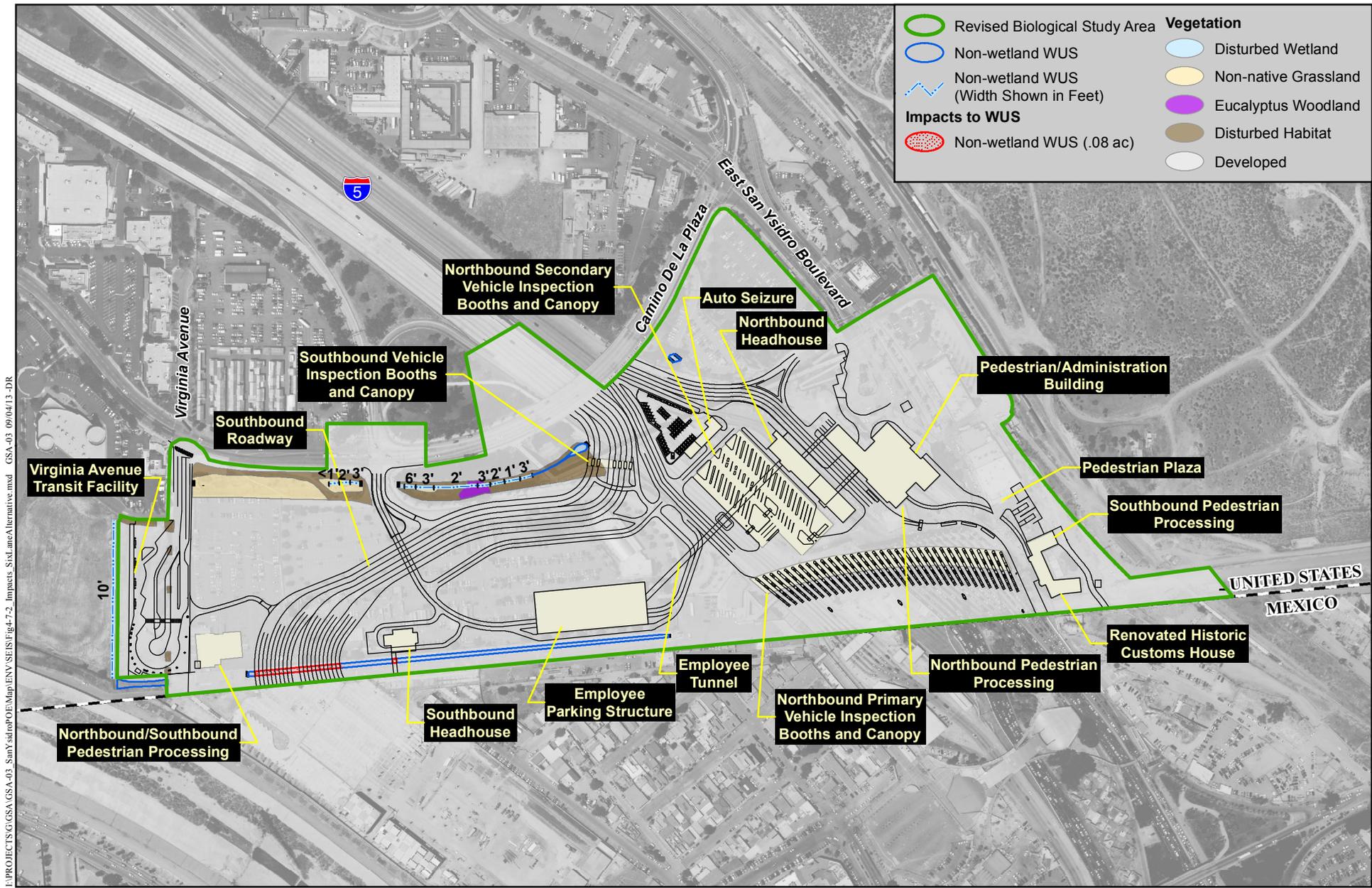
Vegetation Communities

The southbound roadway under the Ten-lane Alternative would impact a portion of the disturbed wetland that occurs within a defined earthen channel east of Camiones Way. Construction of the three western lanes of the proposed southbound roadway would directly impact 0.02 acre of this disturbed wetland, as shown in Figure 4.7-3, *Impacts to Vegetation and WUS: Ten-lane Alternative*. No other direct impacts to sensitive vegetation communities would occur under the Ten-lane Alternative.

Sensitive Resources

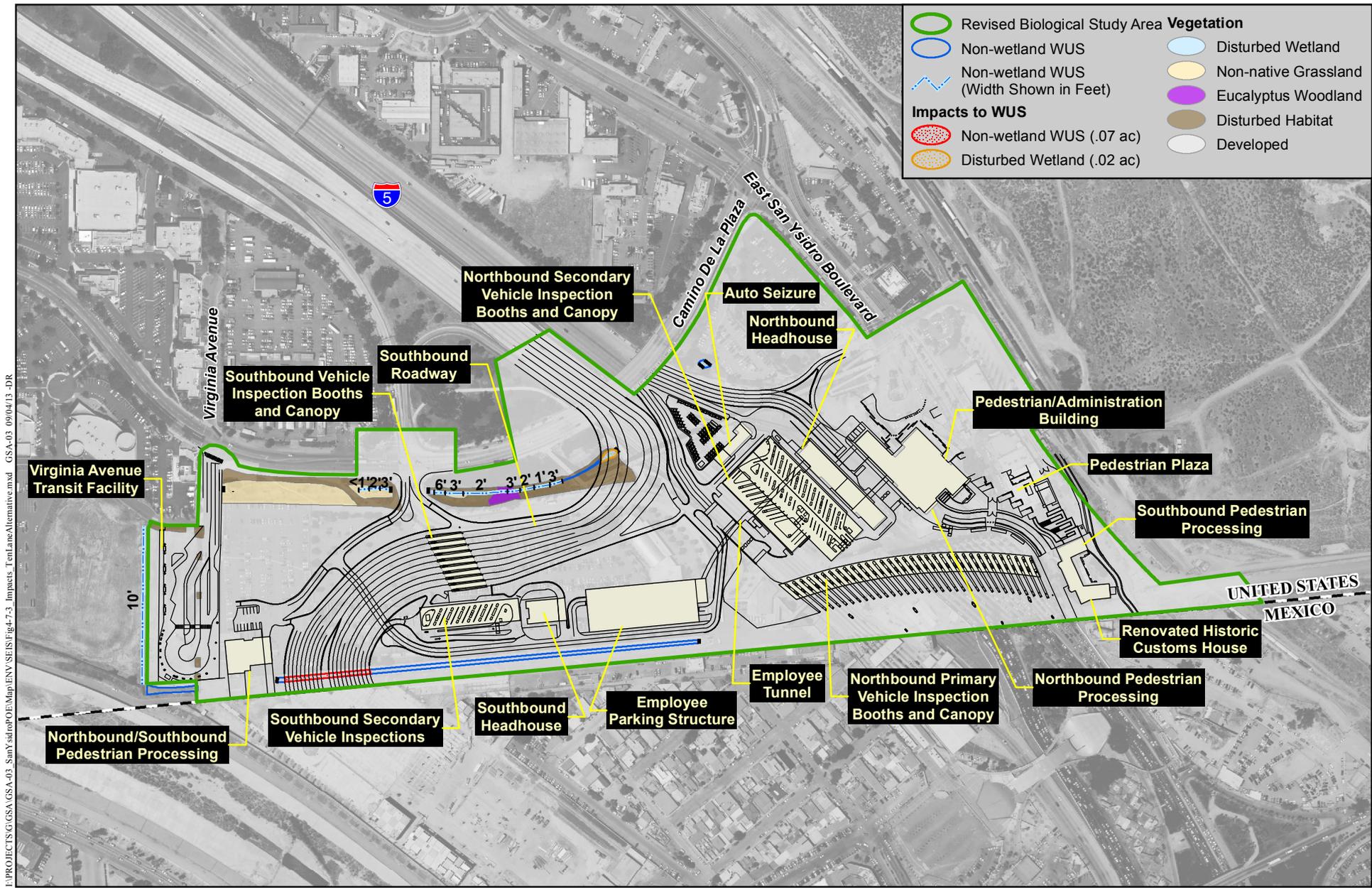
Jurisdictional Areas

The Ten-lane Alternative would impact a total of 0.07 acre of non-wetland WUS. Approximately 0.07 acre of drainage number 2 would be impacted by construction of the proposed southbound roadway and southbound headhouse (refer to Figure 4.7-3). Impacts to these jurisdictional areas would require compensatory mitigation (as identified below in Section 4.7.4), as well as a CWA Section 404 Nationwide Permit from the Corps and a Section 401 Water Quality Certification from the RWQCB.



Impacts to Vegetation and WUS: Six-lane Alternative

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Impacts to Vegetation and WUS: Ten-lane Alternative

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Plants and Animals

Since no sensitive plant or animal species were observed within the Revised Project BSA, implementation of the Ten-lane Alternative would not result in impacts to sensitive species.

Indirect Impacts

Implementation of the Ten-lane Alternative could potentially result in indirect impacts to biological resources. The drainage channel southeast of the Camino de la Plaza/Camiones Way intersection contains a small patch of eucalyptus woodland (refer to Figure 4.7-3), which could potentially support nesting birds that could be indirectly impacted during construction activities.

Land surrounding the Revised Project BSA is already developed except for the graded lot to the west. The adjacent portions of the Tijuana River are in a concrete channel and support no riparian habitat. In addition, the Tijuana River channel is separated from the Revised Project BSA by a large berm that supports the border fence and a road used by CBP vehicles.

Water quality impacts resulting from surface runoff of urban contaminants or sediments potentially could occur during construction or operation of the Six-lane Alternative. Decreased water quality could result in adverse indirect impacts to vegetation, aquatic animals, and terrestrial wildlife that depend on these resources. These potential impacts would be addressed through conformance with the NPDES and City guidelines, as well as incorporation of long-term water quality controls, including measures that would avoid or reduce off-site sediment transport (e.g., the use of storm water filters, street sweeping, and drainage facility maintenance), as identified in Subchapter 3.8 of the Final EIS. Implementation of these measures would avoid indirect water quality impacts to biological resources.

No Action Alternative

Under the No Action Alternative, GSA would continue to implement the Approved Project that was analyzed as the Preferred Alternative in the Final EIS. As indicated in the Final EIS, the Approved Project would not result in direct impacts to sensitive vegetation communities or plant or animal species. Indirect impacts to sensitive vegetation communities and jurisdictional areas would potentially occur due to construction and operation of facilities adjacent to the drainage channel southeast of the Camino de la Plaza/Camiones Way intersection. Under the No Action Alternative, impacts to 0.07 acre of non-wetland WUS would occur as a result of the southbound roadway, southbound-only pedestrian crossing facility, and U.S. Border Patrol facility.

4.7.4 Avoidance, Minimization, and/or Mitigation Measures

Six-lane Alternative

Implementation of the following avoidance, minimization, and mitigation measures would avoid or reduce indirect impacts to biological resources resulting from the Six-lane Alternative:

- Prior to the commencement of construction, jurisdictional areas and sensitive vegetation within the Revised Project BSA should be fenced with orange plastic exclusionary fencing, and no personnel, debris, or equipment would be allowed within the jurisdictional areas.

- Impacts to 0.08 acre of non-wetland WUS should be mitigated at a 1:1 ratio through purchase of mitigation credits equal to 0.08 acre of ephemeral drainage at an approved mitigation bank.
- If removal of habitat and/or construction activities is necessary adjacent to nesting habitat during the bird breeding season (January 15 to September 15), the GSA shall retain an approved biologist to conduct a pre-construction survey to determine the presence or absence of: (1) non-listed nesting migratory birds on, or within, 100 feet of the construction area; (2) Federally- or State-listed birds on, or within, 300 feet of the construction area; and (3) nesting raptors within 500 feet of the construction area. The pre-construction survey will be conducted within 10 calendar days prior to the start of construction. The results of the survey will be submitted to the GSA for review and approval prior to initiating any construction activities.
- If nesting birds are detected by the approved biologist, the following buffers will be established: (1) no work will occur within 100 feet of a non-listed nesting migratory bird nest; (2) no work will occur within 300 feet of a listed bird nest; and (3) no work will occur within 500 feet of a raptor nest. If construction within these buffers cannot be avoided, GSA, in consultation with the resource agencies, will determine the appropriate buffer.

Ten-lane Alternative

Implementation of the following avoidance, minimization, and mitigation measures would avoid or reduce indirect impacts to biological resources resulting from the Ten-lane Alternative:

- Prior to the commencement of construction, jurisdictional areas and sensitive vegetation within the Revised Project BSA should be fenced with orange plastic exclusionary fencing, and no personnel, debris, or equipment would be allowed within the jurisdictional areas.
- Impacts to 0.07 acre of non-wetland WUS should be mitigated at a 1:1 ratio through purchase of mitigation credits equal to 0.08 acre of ephemeral drainage at an approved mitigation bank.
- Impacts to 0.02 acre of disturbed wetland should be mitigated at a 2:1 ratio through a combination of creation, restoration, enhancement, and acquisition (at an approved mitigation bank) of 0.04 acre of wetlands.
- If removal of habitat and/or construction activities is necessary adjacent to nesting habitat during the bird breeding season (January 15 to September 15), the GSA shall retain an approved biologist to conduct a pre-construction survey to determine the presence or absence of: (1) non-listed nesting migratory birds on, or within, 100 feet of the construction area; (2) Federally- or State-listed birds on, or within, 300 feet of the construction area; and (3) nesting raptors within 500 feet of the construction area. The pre-construction survey will be conducted within 10 calendar days prior to the start of construction. The results of the survey will be submitted to the GSA for review and approval prior to initiating any construction activities.
- If nesting birds are detected by the approved biologist, the following buffers will be established: (1) no work will occur within 100 feet of a non-listed nesting migratory bird

nest; (2) no work will occur within 300 feet of a listed bird nest; and (3) no work will occur within 500 feet of a raptor nest. If construction within these buffers cannot be avoided, GSA, in consultation with the resource agencies, will determine the appropriate buffer.

No Action Alternative

Implementation of the following avoidance, minimization, and mitigation measures would avoid or reduce indirect impacts to biological resources resulting from the No Action Alternative:

- During construction of the Preferred Alternative, jurisdictional areas and sensitive vegetation within the BSA should be fenced with orange plastic exclusionary fencing, and no personnel, debris, or equipment would be allowed within the jurisdictional areas.
- Impacts to 0.07 acre of non-wetland WUS should be mitigated at a 1:1 ratio through purchase of mitigation credits equal to 0.07 acre of ephemeral drainage at an approved mitigation bank.
- If removal of habitat and/or construction activities is necessary adjacent to nesting habitat during the bird breeding season (January 15 to September 15), the GSA shall retain an approved biologist to conduct a pre-construction survey to determine the presence or absence of: (1) non-listed nesting migratory birds on, or within, 100 feet of the construction area; (2) Federally- or State-listed birds on, or within, 300 feet of the construction area; and (3) nesting raptors within 500 feet of the construction area. The pre-construction survey will be conducted within 10 calendar days prior to the start of construction. The results of the survey will be submitted to the GSA for review and approval prior to initiating any construction activities.
- If nesting birds are detected by the approved biologist, the following buffers will be established: (1) no work will occur within 100 feet of a non-listed nesting migratory bird nest; (2) no work will occur within 300 feet of a listed bird nest; and (3) no work will occur within 500 feet of a raptor nest. If construction within these buffers cannot be avoided, GSA, in consultation with the resource agencies, will determine the appropriate buffer.

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4.8 RELATIONSHIP BETWEEN LOCAL SHORT-TERM USES OF THE HUMAN ENVIRONMENT AND THE MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

NEPA requires a discussion of a project's relationship of local short-term impacts and use of resources to the maintenance and enhancement of long-term productivity in 40 CFR Section 1502.16 (Environmental Consequences) of the CEQ Regulations. A discussion of the Revised Project alternatives and the No Action Alternative is provided below.

4.8.1 Action Alternatives

The Action Alternatives (Six-lane Alternative and Ten-lane Alternative) would involve short-term construction activities that would be necessary for the attainment of short-term and long-term transportation and economic objectives associated with an improved border crossing facility. The local short-term impacts and use of resources by the Action Alternatives are consistent with the maintenance and enhancement of long-term productivity for the San Diego/Tijuana region and beyond. The following short-term and long-term losses and benefits would occur:

Short-term losses would include:

- Economic losses experienced by businesses affected by reduced access and parking during construction;
- Temporary construction impacts such as noise, air quality, motorized and non-motorized traffic delays or detours;
- Brief interruptions in utility service where relocation or connections would be required;
- Interruptions in border crossings where temporary lane obstructions would be required during construction; and
- Visual impacts from construction activities.

Short-term benefits would include:

- Increased jobs and revenue generated during construction.

Long-term losses would include:

- Use of construction materials and energy.

Long-term benefits would include:

- Reduction in southbound and northbound wait times at the San Ysidro LPOE and potentially at the Otay Mesa LPOE, improving the free movement of passenger vehicles and people;
- Reduced air emissions due to shorter idling times;
- Improved connections for cross-border travelers to existing and new multi-modal transportation options on both the east and west sides of the LPOE;
- Improvement in security and the ability to conduct inspections at the San Ysidro LPOE;

- Improved productivity, as people spend less time waiting to cross the border and more time working and other productive pursuits; and
- Reduction in energy consumption due to reduced wait times at the San Ysidro LPOE and use of energy efficient and sustainable design features at the improved LPOE.

4.8.2 No Action Alternative

The No Action Alternative would be expected to result in similar short- and long-term impacts and benefits to the Action Alternatives. The exception would be the long-term benefit identified above with respect to improved connections for cross-border travelers to new multi-modal transportation options near the LPOE.

Under the No Action Alternative, a single northbound pedestrian crossing would be provided on the east side of the LPOE at Virginia Avenue. The new northbound pedestrian crossing proposed under the Action Alternatives would not be constructed, which would result in a less desirable pedestrian circulation pattern. Provision of only one northbound pedestrian crossing would result in greater walking distances to the northbound border crossing.

Like the Action Alternatives, the No Action Alternative would remove Camiones Way, and would replace it with a transit facility along Virginia Avenue, but under the No Action Alternative, this transit facility would be smaller and more limited in its ability to accommodate buses, taxis, jitneys, POV, and bicycles.

Compared to the Action Alternatives, the No Action Alternative would have less of a long-term benefit with respect to improved connections for cross-border travelers to new multi-modal transportation options. The No Action Alternative also would not improve southbound traffic congestion and resulting air quality degradation associated with southbound inspections.

4.9 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES THAT WOULD BE INVOLVED IN THE REVISED PROJECT

4.9.1 Action Alternatives

Implementation of the Action Alternatives would involve a commitment of a range of natural, physical, human, and fiscal resources. Proposed activities include the demolition of most of the existing LPOE facility and the construction of new border crossing facilities. Considerable amounts of fossil fuels, labor, and construction materials such as cement, aggregate, and bituminous material would be expended in demolition and construction activities. Additionally, large amounts of labor and natural resources would be used in the making of construction materials. These materials are generally not retrievable. However, they are not in short supply and their use would not have an adverse effect upon continued availability of these resources.

Land used in the construction of the proposed facility is considered an irreversible commitment during the time period that the land is used for a border facility. However, most of the subject land is owned by the federal government and consists of the existing LPOE that is already committed for such uses; of the remainder, all but the land required for the Virginia Avenue transit facility consists of land currently designated and used for commercial purposes, whose conversion to border crossing facilities was addressed in the Final EIS. In addition, under the Revised Project, some land required for the expanded Virginia Avenue transit facility would be developed on a permanent easement on adjacent private land currently designated and used for commercial purposes; the Revised Project would not require acquisition or relocation of the commercial uses for the Virginia Ave Transit Facility. Under the Approved Project or the Revised Project, the commercial uses that are yet to be acquired and/or relocated would occur in accordance with federal regulations. As noted in the Final EIS, it is anticipated that displaced businesses relocated within the community would generate higher tax revenues due to higher assessed property values at the new locations, which would compensate for any initial loss of tax revenues. In addition, increased economic activity throughout the region as a result of implementation of the Approved Project or the Revised Project would be expected to further offset any temporary loss in property tax revenue from the parcel acquisitions. If a greater need arises for use of any of the land developed as part of the Approved Project or the Revised Project, or if the border facility is no longer needed, the land can be converted to another use. At present, there is no reason to believe such a conversion would ever be necessary or desirable, particularly given the regional importance of the San Ysidro LPOE.

Implementation of the Action Alternatives would require a substantial one-time expenditure of federal funds, which are not retrievable; this would be partially offset by savings in energy and time. In addition to the costs of construction, there would be costs for maintenance and personnel. The commitment of these resources is based on the concept that residents in the immediate area, region, state, and nation would benefit from the improved quality and efficiency of the San Ysidro LPOE. These benefits would consist of improved accessibility, greater safety, reduced energy use, and time savings, which are expected to outweigh the commitment of these resources.

4.9.2 No Action Alternative

The No Action Alternative would entail a different cross-border pedestrian and vehicle circulation scheme than the Action Alternatives, resulting in a slightly reduced, but similar commitment of resources. As in the case of the Action Alternatives, the anticipated project benefits of improved accessibility, greater safety, reduced energy use, and time savings would be expected to outweigh the commitment of these resources.

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4.10 CUMULATIVE IMPACTS

This subchapter evaluates potential cumulative environmental effects as a result of the Revised Project. The conclusions are based on the analysis contained in the Final EIS that addressed the Approved Project, as well as additional analysis and environmental studies that were conducted to evaluate the proposed modifications that comprise the Revised Project.

4.10.1 Regulatory Setting

CEQ regulations implementing NEPA require federal agencies to analyze cumulative effects of their actions on the environment. In accordance with 40 CFR, Section 1508.7 of the CEQ Regulations, cumulative impacts are defined 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.

Cumulative impacts can result from individually minor, but collectively substantial impacts taking place over a period of time. Cumulative impacts on resources in the Revised Project area may result from the impacts of the Revised Project together with other past, present, and reasonably foreseeable projects, such as residential, commercial, industrial, and other development. These land use activities may result in cumulative effects on a variety of natural resources, such as species and their habitats, water resources, and air quality. They also can contribute to cumulative impacts on the urban environment, such as changes in community character, traffic patterns, noise, housing availability, and employment.

4.10.2 Affected Environment

The analysis of cumulative impacts follows the process in the CEQ's *Considering Cumulative Impacts under NEPA* (CEQ 1997). The following 11 steps serve as guidance for identifying and assessing cumulative impacts:

1. Identify the significant cumulative effects issues associated with the proposed action and define the assessment goals.
2. Identify the geographic boundaries of the analysis.
3. Identify the time frame for the analysis.
4. Identify other actions that have contributed or may contribute to cumulative effects.
5. Characterize the components and status of the environment.
6. Characterize the stresses on the environment.
7. Define a baseline condition for the environment.
8. Identify important cause-and-effect relationships.
9. Determine the magnitude and significance of the cumulative effects.
10. Modify or add alternative actions.
11. Monitor cumulative effects of the selected alternative.

Cumulative Projects

Current and reasonably foreseeable projects in the SYCP Area are identified in Table 4.1-1 and Figure 4.1-3 in Subchapter 4.1, *Land Use and Community Issues*. Information on these projects was obtained through consultation with City planners familiar with past, present, and reasonably foreseeable projects in the area surrounding the Revised Project site, as well as review of available environmental documentation. Table 4.1-1 provides a summary of the public and private development projects within the SYCP Area. Refer to Figure 4.1-3 for the location of these identified cumulative projects.

There are 16 projects in the SYCP Area that have been recently constructed, are under construction, are in various stages of processing/review by the applicable lead agency, or are currently planned for development. These cumulative projects consist of a mixture of residential, commercial/retail, and mixed-use land uses. Cumulative projects also include a medical facility and a transit center.

In addition to these projects within the SYCP Area, there is one proposed border project to the east within the community of Otay Mesa, which entails construction of a new four-lane freeway (SR-11), and a new LPOE at east Otay Mesa. A Presidential Permit has been granted following the completion of a Program Environmental Impact Report/Program EIS for this project to select the preferred project location. A Tier II or project-level environmental document was prepared to evaluate alternative designs for SR-11 and the new LPOE, and a ROD was signed in 2012. This new LPOE is planned to serve passenger and commercial vehicles, as well as pedestrians as a toll facility. It is expected to help alleviate congestion at the San Ysidro and Otay Mesa LPOEs and has been shown to be needed with or without the Revised Project (Caltrans 2012). For this reason, this additional project, although located outside of the cumulative study area for traffic and air quality, has been considered in the cumulative analysis.

Similarly, planned improvements at the existing Otay Mesa LPOE are anticipated to nearly double the number of lanes for non-commercial border crossers, as well as significantly increase this LPOE's capacity to process commercial traffic. As in the case of the new Otay Mesa East LPOE, this project has been considered in the present Revised Project cumulative analysis, because it is expected to help alleviate congestion at the San Ysidro LPOE and has been shown to be needed with or without the Revised Project (GSA 2013b).

In addition, a privately funded Cross-border Facility project is proposed west of the Otay Mesa LPOE and immediately across the U.S-Mexico border from Tijuana's international airport. This facility would provide a parking structure and direct cross-border access to the airport. It would be staffed by CBP employees, who would process only airline ticket holders arriving at or departing from the Tijuana airport. Like the Otay Mesa and Otay Mesa East LPOE projects, the Cross-border Facility project has been considered in the present Revised Project cumulative analysis, because it is expected to help alleviate congestion at the San Ysidro LPOE and has been shown to be needed regardless of whether the Revised Project is implemented.

Cumulative Issues

Based on methodologies contained in the CEQ's *Considering Cumulative Effects under NEPA* (CEQ 1997), the cumulative analysis in this subchapter analyzes in detail the issues of (1) Traffic and Transportation/Pedestrian and Bicycle Facilities, and (2) Air Quality and GHG Emissions. Revised Project impacts on other issues/resources would not contribute to adverse

cumulative effects. A brief explanation of why the Revised Project would not contribute to cumulative effects of other environmental issues is provided in Section 4.10.3.

Cumulative Study Areas

The area of cumulative effect varies depending on the resource issue analyzed. The cumulative air quality study area for the Revised Project encompasses the SYCP Area, while the cumulative GHG study area encompasses the global atmosphere. The cumulative traffic study area includes roadway segments, freeway segments, and intersections that are likely to be affected by the Revised Project. The traffic study area, shown in Figure 4.2-1, includes 6 roadway segments, 3 freeway segments, and 14 intersections within an approximately one-mile radius of the San Ysidro LPOE within the U.S.

4.10.3 Environmental Consequences

Cumulative Issues Analyzed in Detail

Traffic and Transportation/Pedestrian and Bicycle Facilities

Cumulative traffic impacts of the Revised Project were evaluated in the TIS prepared for the Revised Project (*Traffic Study Virginia Avenue Pedestrian Facility & I-5 Southbound Realignment*, March 2013), and cumulative traffic effects of the Approved Project were evaluated in the TIS prepared for the Approved Project (*San Ysidro Land Port of Entry Border Station Expansion Traffic Impact Study*, July 2009). These cumulative traffic analyses evaluated future traffic conditions at the anticipated buildout of the San Ysidro community. The Approved Project TIS utilized the year 2030 as the buildout condition, and the Revised Project utilized the year 2035. The difference in horizon years is solely due to the passage of time between preparation of the studies, but both represent buildout of the San Ysidro community, including the expanded LPOE (either the Approved Project or Revised Project).

Action Alternatives

Roadway Segments. Traffic volumes on the segments of Camino de la Plaza, between Virginia Avenue and the I-5 southbound ramps, and between the I-5 southbound ramps and East San Ysidro Boulevard, would increase with the Six-lane or Ten-lane Alternative; higher volumes and reduction in LOS would result in adverse cumulative traffic impacts to these two roadway segments. Cumulative adverse traffic impacts would not occur to any other analyzed local roadway segment by the either of the Action Alternatives.

Intersections. The addition of Six-lane or Ten-lane Alternative traffic at the following traffic study area intersections would result in considerably increased delays at locations that already operate at LOS F, resulting in adverse cumulative traffic impacts:

- East San Ysidro Boulevard/Camino de la Plaza/Beyer Boulevard (LOS F during the PM peak hour)
- Camino de la Plaza/Virginia Avenue (LOS F during the PM peak hour)

Freeway Queuing and Wait Times. Under horizon year conditions, as stated in the Final EIS, wait times for northbound traffic without the proposed improvements at the San Ysidro LPOE were forecast to exceed 10 hours several times during the day, which would result in extremely long queues of northbound vehicles waiting to cross the border. With the Approved Project or

the Revised Project, northbound wait times would be reduced to a maximum of 1.5 hours throughout the day.

As discussed in Subchapter 4.2, *Traffic and Transportation/Pedestrian and Bicycle Facilities*, excess demand for southbound freeway lanes of 1,653 vehicles is expected to occur under long-term conditions, resulting in a southbound queue totaling 7.83 miles (over five lanes) under the Baseline scenario. With the additional capacity proposed by the Six-lane Alternative, a reduction of 3.10 miles in queue length would occur, resulting in a total southbound queue length of 4.73 miles (or 0.57 mile per lane on I-5, and 0.83 mile per lane on I-805). Thus, the Six-lane Alternative is anticipated to help alleviate border wait times and queue lengths due to the increase in southbound capacity. With the additional capacity proposed by the Ten-lane Alternative, however, queuing would be eliminated. The Ten-lane Alternative is anticipated to provide the greatest benefit in alleviating border wait times and queue lengths as compared to the other alternatives because it would provide the largest increase in southbound capacity.

No adverse cumulative traffic impacts associated with southbound freeway queuing would occur from the Action Alternatives.

Bicycle Facilities, Transit Facilities, and Parking. Both Action Alternatives would provide identical additional pedestrian and bicycle facilities that would improve mobility within the Revised Project area. Pedestrian and bicycle access to and from Mexico would be improved with the proposed bi-directional pedestrian crossing facility at Virginia Avenue and the modified Virginia Avenue Transit Facility. No adverse cumulative pedestrian or bicycle circulation impacts would result from the Action Alternatives.

The Action Alternatives would remove the surface parking lots between Virginia Avenue and I-5, resulting in the loss of 1,178 parking spaces in a fee-based lot. The loss of parking capacity under the Action Alternatives would be accommodated through new fee-based parking facilities implemented by private commercial enterprises, increased use of alternative modes of transportation such as transit, as well as existing parking facilities. No adverse cumulative impacts to parking would result from the Action Alternatives.

No Action Alternative

Under the No Action Alternative, the modified Virginia Avenue Transit Facility and the expanded southbound roadway would not be constructed, and the pedestrian crossing facility at Virginia Avenue would only include southbound crossings. All other features of the Approved Project would be implemented. Traffic volumes on traffic study area roadway segments and intersections would increase as the community is built out.

Roadway Segments. As analyzed in the Final EIS, the No Action Alternative (Approved Project) would result in adverse cumulative impacts to the following local roadway segment:

- Camino de la Plaza between Virginia Avenue and the I-5 southbound ramps

Intersections. As analyzed in the Final EIS, the No Action Alternative (Approved Project) would result in adverse cumulative impacts to the following intersections:

- Camino de la Plaza/I-5 northbound ramps (LOS E during the PM peak hour)
- Camino de la Plaza/ Virginia Avenue (LOS F during the PM peak hour)

Freeway Queuing. As noted for the Action Alternatives, with the Approved Project or the Revised Project, northbound wait times would be reduced from approximately 10 hours to 1.5 hours throughout the day.

As explained in Section 4.2.3 of this SEIS, although southbound freeway queuing was not analyzed in the Final EIS, the 2013 TIS Six-lane Alternative would be comparable to the No Action Alternative (Approved Project) for purposes of the southbound queuing analysis, because the number of southbound queuing lanes would be similar. No Action Alternative long-term southbound freeway queuing operations are identified as the Six-lane Alternative scenario in Table 4.2-20. As shown, no queuing would occur during the AM peak hour under long-term conditions for the No Action Alternative, but during the PM peak hour, freeway queuing would amount to a total of 4.73 miles, with an excess demand of 999 vehicles. Freeway queue lengths per lane presented in Table 4.2-21 and Figure 4.2-6 indicate that queue lengths for each freeway segment would be shorter than under the Baseline scenario, but longer than under the Ten-lane Alternative. This is because the No Action Alternative proposes six southbound lanes compared to five lanes under the Baseline scenario and ten lanes under the Ten-lane Alternative.

Bicycle Facilities, Transit Facilities and Parking. Although the No Action Alternative would not improve pedestrian and bicycle mobility and transit facilities to the same extent as the Action Alternatives, it would still make improvements over the existing condition and thus, no adverse pedestrian, bicycle, or transit-related impacts would result from the No Action Alternative.

As with the Action Alternatives, implementation of the No Action Alternative would remove the surface parking lots between Virginia Avenue and I-5, resulting in the loss of 1,178 parking spaces in a fee-based lot. The loss of parking capacity under this alternative would be accommodated through new fee-based parking facilities implemented by private commercial enterprises, increased use of alternative modes of transportation such as transit, and existing parking facilities,. No adverse impacts to parking would result from the No Action Alternative.

Air Quality and Greenhouse Gas Emissions

Action Alternatives

Criteria Pollutants - Construction Impacts. The AQTR prepared for the Revised Project (*San Ysidro Land Port of Entry Improvements Project Air Quality Technical Report*, July 2013) evaluated construction emissions by comparing projected annual construction emissions of the Action Alternatives with *de minimus* thresholds established under 40 CFR Part 93, the General Conformity Rule, which applies to federal projects in nonattainment areas. As discussed in Subchapter 4.6, *Air Quality and Greenhouse Gas Emissions*, annual construction emissions of the Six-lane and Ten-lane alternatives would not exceed the *de minimis* thresholds for all pollutants (refer to Tables 4.6-4 and 4.6-16).

However, if multiple cumulative projects (listed in Table 4.1-1) are constructed at the same time, construction emissions of either Action Alternative, in combination with emissions generated by the other projects under simultaneous construction, potentially may exceed the *de minimus* thresholds. The Six-lane or Ten-lane Alternatives, therefore, could contribute to an adverse cumulative air quality impact during construction.

Criteria Pollutants - Operational Impacts. The Action Alternatives would generate emissions of criteria pollutants (i.e., VOC, NO_x, CO, PM₁₀, and PM_{2.5}) from vehicles operating on the

proposed southbound roadway; buses, taxis, and POV pick-up and drop-off trips at the proposed Virginia Avenue Transit Facility; and employee vehicle trips. As discussed in detail in Subchapter 4.6, *Air Quality and Greenhouse Gas Emissions*, the difference in emissions of criteria pollutants generated by the proposed southbound roadway (six lanes or ten lanes) between both of the Action Alternatives and the Baseline would not exceed applicable thresholds under long-term conditions. In fact, both Action Alternatives would result in a net decrease in criteria pollutant emissions generated by the proposed southbound roadway under long-term conditions compared to the corresponding Baseline (refer to Tables 4.6-5 and 4.6-17). Emissions of criteria pollutants related to the proposed Virginia Avenue Transit Facility and additional employee vehicle trips associated with the Action Alternatives would not exceed applicable thresholds under long-term conditions (refer to Tables 4.6-6 and 4.6-7).

Additionally, the Six-lane and Ten-lane Alternatives would conform to the SIP because the description of the Revised Project is consistent with the Approved Project included in the 2030 RTP, the 2008 RTIP, and the assumptions in the SANDAG regional emissions analysis. Although SANDAG's 2030 RTP has now been superseded by the 2050 RTP, and the 2008 RTIP has now been superseded by the 2012 RTIP, conformity applicability analysis of the Action Alternatives of the Revised Project has been conducted based on the information available in the 2008 RTIP and the 2030 RTP. However, the 2050 RTP includes a description of the improvements in progress at the San Ysidro LPOE, and both the Approved Project and the Revised Project are consistent with this description. Therefore, based on the conformity applicability analysis review, the Action Alternatives of the Revised Project would conform to the SIP.

The Action Alternatives would also conform to applicable CO standards and would not result in CO hot spots at local intersections under long-term conditions, as demonstrated in Table 4.6-9.

Because the Action Alternatives would not result in adverse operational air emissions under long-term conditions and would conform to the SIP and applicable CO standards, operational emissions of the Action Alternatives would not contribute to adverse cumulative operational air quality impacts.

Greenhouse Gas Emissions Impacts. Individual projects do not generate enough GHG emissions to influence global climate change, but their incremental contribution combined with any increase of all other sources of GHG may result in cumulative impacts.

As discussed in Subchapter 4.6, *Air Quality and Greenhouse Gas Emissions*, annual GHG construction emissions of the Six-lane and Ten-lane Alternatives would not exceed the federal annual screening criteria of 25,000 metric tons (refer to Tables 4.6-14 and 4.6-20). Additionally, the difference in CO₂e emissions associated with operational activities for the Six-lane and Ten-lane Alternatives as compared to the Baseline condition would not exceed the federal annual screening criteria of 25,000 MT. Operational GHG emissions would decrease compared to the Baseline under long-term conditions (refer to Tale 4.6-15 and 4.6-21). Consequently, no adverse cumulative GHG impacts would occur.

No Action Alternative

Criteria Pollutants – Construction Impacts. The AQTR prepared for the Approved Project (*Air Quality Impact Assessment for the San Ysidro Land Port of Entry Improvements Project*, July 2009) evaluated construction emissions by comparing projected annual construction emissions of the Approved Project with *de minimus* thresholds established under 40 CFR

Part 93, the General Conformity Rule, which applies to federal projects in nonattainment areas. As concluded in the Final EIS, annual emissions for each individual phase of the Approved Project would be below the *de minimis* thresholds for all criteria pollutants during construction of the Approved Project (refer to Table 4.6-22).

As concluded for the Action Alternatives, if multiple cumulative projects (refer to Table 4.1-1) are constructed at the same time, the No Action Alternative's construction emissions, in combination with emissions generated by the other projects under simultaneous construction, potentially may exceed the *de minimus* thresholds. As concluded in the Final EIS, the No Action Alternative, therefore, could contribute to an adverse cumulative air quality impact during construction.

Criteria Pollutants - Operational Impacts. As concluded in the Final EIS, the description of the Approved Project is consistent with the 2030 RTP, the 2008 RTIP, and the assumptions in the SANDAG regional emissions analysis, which occurred prior to the now adopted 2050 RTP and 2012 RTIP documents. The 2050 RTP includes a description of the improvements in progress at the San Ysidro LPOE, and the Approved Project is consistent with this description. Therefore, the No Action Alternative would conform to the SIP.

As concluded in the Final EIS, the CO "hot spot" analysis prepared for the Approved Project would not result in emissions in excess of the one-hour or eight-hour CO standards under horizon year conditions (refer to Table 4.6-25).

The Approved Project would result in operational air emissions from vehicles on I-5, I-805, local surface streets, and vehicles idling at the border. The No Action Alternative, however, would result in a net decrease in emissions overall due to the reduction in idling time at the border crossing (refer to Table 4.6-23).

Because the Approved Project would conform to the SIP and applicable CO standards, and would not result in a net increase in operational air emissions, operational emissions of the No Action Alternative would not contribute to adverse cumulative air quality impacts.

Greenhouse Gas Emissions Impacts. Similar to the Action Alternatives, the No Action Alternative would result in a net decrease in GHG emissions compared to the No Build condition (refer to Table 4.6-26). The Approved Project is designed to reduce congestion and vehicle time delays by expanding the LPOE at the border. Without the Approved Project, wait times at the border are projected to increase up to ten hours in the horizon year (2030). Implementation of the No Action Alternative would reduce projected wait times to a maximum of 1.5 hours throughout the day (*San Ysidro Land Port of Entry Border Station Expansion Traffic Impact Study*, July 2009). Due to the reduction in vehicle idling times at the border crossing, vehicle hours traveled, and improved traffic flow resulting from the Approved Project, CO₂ emissions at the LPOE would be reduced. Consequently, no adverse cumulative GHG impacts would occur under the No Action Alternative.

Issues That Would Not Contribute to Cumulative Impacts

Revised Project impacts on the environmental issues/resources below would not contribute to adverse cumulative effects. A brief discussion of each environmental issue/resource is provided below.

Land Use

Proposed uses at the LPOE under the Action Alternatives would be compatible with the underlying commercial and industrial land use designations/zones of relevant adopted local land use plans. The new facilities would function and integrate with surrounding uses in the same manner as the existing LPOE facility or the LPOE under the No Action Alternative. The improved LPOE would be compatible with surrounding commercial uses and transportation facilities, including existing regional freeways (I-5 and I-805), and would be consistent with relevant local, state, and federal plans and policies. Presumably, all cumulative projects in the SYCP Area also would be designed to be consistent with existing land uses and all relevant local, state, and federal plans and policies, or could require plan amendments to avoid or mitigate potential impacts. Overall, no associated adverse cumulative land use impacts would be anticipated.

Community Character

The SYCP Area, inclusive of the Revised Project Footprint, does not experience a high level of community cohesion due to the existing border facilities, functions, and associated activities. The SYCP Area is furthermore divided by transportation corridors that traverse the community, including I-5, I-805, and the trolley line. The Revised Project would be consistent with the existing SYCP, and would not further divide the established community. On the contrary, the Approved Project has constructed a pedestrian bridge spanning the I-5 and LPOE that restores some connectivity and mobility between the divided eastern and western sides of the community, and the Revised Project would also incorporate this pedestrian bridge and proposes a bi-directional pedestrian crossing facility in the western portion of the LPOE that further improve mobility within the SYCP Area. Furthermore, the Revised Project would replace existing border facilities with new ones. Development of the cumulative projects (as identified in Table 4.1-1 and Figure 4.1-3), which primarily consist of mixed-use, residential, and commercial retail uses, would generally be compatible within the developed community. Because it would not change land uses and facility types, the Revised Project, together with the identified cumulative projects, would not contribute to associated adverse cumulative community character impacts.

Visual/Aesthetics

The Revised Project Footprint is located in an area that is almost entirely developed. The implementation of the Revised Project (either Action Alternative), in combination with other identified cumulative projects (as identified in Table 4.1-1 and Figure 4.1-3) in the Revised Project viewshed, would cause incrementally more visual change in the viewshed than would the Revised Project alone. A total of eight cumulative projects are located within the one-mile radius of the Revised Project viewshed. These include three infill mixed-use projects, one multi-family residential project, one commercial/retail project, and two outdoor swap meet/bazaar projects within the developed portion of the viewshed, as well as the proposed SYITC transit project adjacent to the Revised Project Footprint. The commercial and residential projects and the SYITC would be the most visible and would result in the highest level of change within the Revised Project viewshed. The mixed-use projects are located further from the Revised Project Footprint (just under one mile to the northwest) between the I-5 and I-805 and thus, would not be highly noticeable within the existing visual environment. The outdoor swap meet/bazaar projects are located less than 0.5 mile from the Revised Project Footprint, but this type of use does not construct tall vertical elements or structures that are highly visible from adjacent areas, particularly in a developed visual environment. Thus, taken together, the

cumulative projects would result in a low to moderate level of change in the viewshed given the existing developed visual environment and the similarity between existing and proposed land uses.

Additionally, the Revised Project would replace existing border facilities with new border facilities. Views and viewer response to the Revised Project would be similar to the existing condition, since land uses and facility types would not substantially change. Therefore, the Revised Project's contribution to visual change within the viewshed would not result in adverse cumulative visual effects.

Cultural Resources

The Final EIS concluded that the Approved Project had the potential to impact the Old Customs House, which is listed on the NRHP. Pursuant to Section 106 of the NHPA, GSA has consulted with the SHPO, Advisory Council on Historic Preservation, and other parties regarding the potential future use of the Old Customs House. The same modifications to the Old Customs House are also proposed under the Revised Project, and so the potential for cultural resource impacts in this area remains. Avoidance, minimization, and mitigation measures are identified in Section 4.4, *Cultural Resources*, of this SEIS that address Project impacts (for the Action Alternatives and No Action Alternative). Similar to the Revised Project, if development of the identified cumulative projects (as described in Table 4.1-1 and Figure 4.1-3) would affect any listed cultural or historical resources, mitigation would be implemented on a project-specific basis to avoid or minimize impacts.

The Revised Project area is developed and does not contain any historic districts or assemblage of historical resources or properties. While there may be individual buildings throughout the SYCP Area that potentially could be historic, the Revised Project, in combination with the identified cumulative projects, would not result in the alteration and/or loss of resources that contribute to a historic setting or district. Therefore, the Revised Project would not contribute to adverse cumulative cultural resources impacts.

Water Quality/Hydrology/Floodplain

Implementation of the Revised Project would result in the generation of short- and long-term contaminants, and would contribute to cumulative water quality impacts in downstream receiving waters, including the Tijuana River and Estuary. Identified short- and long-term project-specific water quality impacts associated with the Revised Project would be reduced through conformance with existing regulatory permit requirements (i.e., NPDES Construction Permit and associated City Storm Water Standards) and incorporation of BMPs. Because it would not be possible for these efforts to completely eliminate the generation of contaminants, the Revised Project would incrementally contribute to cumulative water quality impacts. These cumulative impacts are not considered adverse, however, based on the following considerations: (1) all identified project-level water quality impacts would be avoided or reduced through site-specific Revised Project design features and conformance with existing regulatory requirements; and (2) the Revised Project and identified cumulative projects are subject to the same water quality standards intended to limit urban runoff contaminants, conform with Basin Plan water quality objectives and beneficial uses, and address regional (i.e., cumulative) water quality impacts on a watershed-wide basis, and therefore would be required to implement measures to minimize water quality impacts as well.

The Revised Project would not result in hydrology or flooding impacts related to drainage alteration, increased runoff volumes/velocities, or storm drain capacity due to proposed design elements (refer to the introduction to Chapter 4.0). Presumably, all cumulative projects in the SYCP Area would be designed to accommodate their runoff volumes and velocities by constructing appropriate facilities such that drainage basins and storm drain systems are not adversely impacted. Therefore, no associated adverse cumulative impacts would occur.

Geology and Soils

All potential project-specific geotechnical impacts associated with the Revised Project would be avoided or reduced through conformance with established regulatory requirements and geotechnical recommendations of the comprehensive geotechnical evaluation that would be conducted prior to final design of the Revised Project. Potential geology and soils effects are inherently site-specific and would not combine with other planned or proposed development to contribute to cumulative impacts.

Paleontology

All potential project-specific impacts to paleontological resources associated with the Revised Project would be effectively avoided or addressed through identified avoidance and minimization measures. Cumulative projects (as identified in Table 4.1-1 and Figure 4.1-3) would be subject to similar analysis and (if applicable) similar avoidance, minimization, and mitigation requirements for paleontological resources (pursuant to applicable regulatory guidelines).

The importance of individual paleontological resources is related to the inherent scientific data and associated research value. Information gained from the paleontological monitoring program within the Revised Project Footprint and other locations having paleontological resource impacts would be presented in reports and filed with appropriate regulatory agencies and scientific institutions with permanent paleontological collections, such as the San Diego Natural History Museum. Any fossils collected during grading activities associated with the Revised Project or cumulative projects would be curated at such a scientific institution and would be available to other paleontologists for further study. Based on the required compliance of both the Revised Project and applicable cumulative projects with monitoring, collection, and analysis regulatory requirements for paleontological resources, the Revised Project would not contribute to adverse cumulative paleontological resource impacts.

Hazardous Waste/Materials

As described in Subchapter 4.5, *Hazardous Waste/Materials*, project-specific impacts to hazardous waste/materials associated with the Revised Project would be reduced through conformance with applicable regulatory requirements and implementation of appropriate avoidance, minimization, and mitigation measures. Similar measures would be required of other projects in the vicinity that contain or are adjacent to known hazardous materials sites. As a result, adverse Revised Project cumulative impacts related to the increased exposure of people to public health and safety risks from hazardous materials would not occur.

Biological Resources

As described in Subchapter 4.7, *Biological Resources*, impacts to sensitive biological habitat would be limited to 0.02 acre of disturbed wetland, which would occur only under the Ten-lane

Alternative of the Revised Project. No other impacts to sensitive biological habitat would occur. Compensatory mitigation would not result in a net loss of wetlands and therefore, would not cumulatively contribute to the loss of habitat region-wide. As with the Approved Project, the Revised Project has the potential to indirectly impact a small area of disturbed wetland (0.04 acre) during construction of the southbound roadway, but avoidance/minimization measures would prevent adverse indirect impacts. The Revised Project would directly impact a small area of non-wetland WUS (0.08 acre under the Six-lane Alternative and 0.07 acre under the Ten-lane Alternative and the No Action Alternative), but implementation of compensatory mitigation would ensure that the Revised Project's contribution would not result in adverse cumulative impacts to biological resources.

4.10.4 Avoidance, Minimization, and/or Mitigation Measures

Traffic and Transportation/Pedestrian and Bicycle Facilities

Action Alternatives

As described in Chapter 2.0, a primary Project goal in support of the Project purpose is to increase the processing capacity and efficiency of the LPOE in response to the need that is created by the current and projected demand for vehicles and persons to cross the border. Thus, the Action Alternatives would not directly generate a substantial volume of traffic, but would accommodate existing and projected border crossing demand. They would also modify the patterns of traffic flow in the project area. The purpose and need for the Revised Project do not include local roadway improvements; however, the SEIS considers all traffic impacts and identifies measures that would help avoid, minimize, or mitigate such impacts, as outlined below. NEPA requires the decision-maker to consider the impacts of the proposed action, but does not require the agency to adopt such measures. GSA will consider adopting and implementing measures that are determined to be feasible and consistent with existing laws, regulations, and authorities applicable to GSA, particularly with regard to the availability of, and authority to expend, funds. Authorized funds may not be available to implement all of the proposed mitigation measures. Any mitigation measures adopted by the agency will be identified in the ROD for the Revised Project.

Implementation of the following avoidance, minimization, and mitigation measures would avoid or reduce cumulative traffic impacts to roadway segments and intersections resulting from the Action Alternatives:

- Widening the segment of Camino de la Plaza, between Virginia Avenue and the I-5 southbound ramps, to Four-lane Collector standards.
- Widening the segment of Camino de la Plaza, between the I-5 southbound ramps and East San Ysidro Boulevard, to Four-lane Major standards.
- Widening of Camino de la Plaza to provide an additional dedicated right-turn lane onto East San Ysidro Boulevard.
- Installation of a traffic signal at the Camino de la Plaza/Virginia Avenue intersection.
- Re-striping of the northbound approach of Camino de la Plaza to provide one shared left-turn/through lane and a dedicated right-turn lane with an overlap phase, and widening the southbound approach to provide one exclusive left-turn lane and a shared through/right-turn lane.

Widening the segment of Camino de la Plaza between Virginia Avenue and the I-5 southbound ramps to Four-lane Collector standards would reduce this cumulative impact under long-term conditions. Improvements to the segment of Camino de la Plaza between the I-5 southbound ramps and East San Ysidro Boulevard to meet its classification of a Four-lane Major roadway would require the provision of a raised median along that portion of the roadway. While these segments would continue to operate at LOS F upon implementation of improvements, impacts from the Action Alternatives would be mitigated, as roadway operations would be better than No Action Alternative conditions. If the timing of these improvements is delayed prior to the approval of the Revised Project, impacts would remain adverse on a cumulative level.

Widening of Camino de la Plaza to provide an additional dedicated right-turn lane onto East San Ysidro Boulevard would improve the LOS of the East San Ysidro Boulevard/Camino de la Plaza/Beyer Boulevard intersection from F to D in long-term conditions. Installation of a traffic signal at the Camino de la Plaza/Virginia Avenue intersection would improve the LOS from F to D in long-term conditions. The approved Outlets at the Border project is conditioned to signalize this intersection. If the timing of the improvement is delayed prior to the approval of the Revised Project, a traffic signal would be installed as part of the Revised Project. Under long-term conditions, additional improvements would be necessary as identified above regarding re-striping and widening of Camino de la Plaza. If these improvements are not implemented, the impact would remain adverse on a cumulative level.

No Action Alternative

As stated in the Final EIS, implementation of the following avoidance, minimization, and mitigation measures would avoid or reduce cumulative traffic impacts to roadway segments and intersections resulting from the No Action Alternative:

- Widening of the segment of Camino de la Plaza, between Virginia Avenue and the I-5 southbound ramps to Four-lane Major standards.
- Installation of a traffic signal at the Camino de la Plaza/Virginia Avenue intersection.
- Re-striping of the I-5 southbound ramps at Camino de la Plaza to one southbound left-turn lane, one southbound right-turn lane, one southbound shared through/right-turn lane, and one westbound through lane.

As discussed in the Final EIS, the No Action Alternative would result in adverse traffic impacts to three northbound freeway segments under long-term conditions. No avoidance, minimization, or mitigation measures were identified to lessen these impacts; however, the benefits of reducing congestion (wait times and vehicle queues) for northbound vehicles crossing the border would offset these impacts.

Impacts to southbound freeway queuing would not be adverse, so no avoidance, minimization, or mitigation measures would be required.

Air Quality and Greenhouse Gas Emissions

Action Alternatives and No Action Alternative

Implementation of the following measures would help minimize cumulative construction-related air pollutant emissions and GHG emissions to the extent feasible:

- Suspend grading and earth moving when wind gusts exceed 25 mph unless the soil is wet enough to prevent dust plumes.
- Cover trucks when hauling loose material.
- Stabilize the surface of materials stockpiles if not removed immediately.
- Limit vehicular paths on unpaved surfaces and stabilize any temporary roads.
- Trucks should be washed off as they leave the construction site(s), as necessary, to control fugitive dust emissions.
- Track-out reduction measures such as gravel pads should be used at access points to minimize dust and mud deposits on roads affected by construction traffic.
- Construction equipment and vehicles should be properly tuned and maintained. Low sulfur fuel should be used in all construction equipment.
- Minimize unnecessary vehicular and machinery activities.
- Sweep paved streets at least once per day where there is evidence of dirt that has been carried on to the roadway.
- Revegetate disturbed land, including vehicular paths created during construction to avoid future off-road vehicular activities.
- Locate construction equipment and truck staging and maintenance areas as far as feasible and nominally downwind of schools, active recreation areas, and other areas of high population density.
- To the extent feasible, construction traffic should be routed and scheduled to reduce congestion and related air quality impacts caused by idling vehicles along local roads during peak travel times.
- Provide landscaping where possible, which reduces surface warming and decreases CO₂ through photosynthesis.
- Use lighter color surfaces, such as Portland cement, which helps to increase the albedo effect (i.e., surface reflectivity of the sun's radiation) and cool the surface.
- Use of energy efficient lighting.

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