

# San Ysidro Port of Entry Reconfiguration Mobility Study

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# Table of Contents

1.0	STUDY PURPOSE.....	1
2.0	PROJECT CONTEXT .....	5
2.1	EXISTING SETTING .....	5
2.1.1	Border Area Transportation Facilities and Services .....	7
2.1.2	Border Crossings .....	11
2.1.3	Area Traffic Analysis .....	13
2.1.4	Existing Conflicts and Deficiencies.....	17
2.2	PROJECTED 2030 SETTING.....	25
2.2.1	General Services Administration (GSA) Plans.....	25
2.2.2	Traffic and Circulation .....	27
2.2.3	Border Crossing Projected Growth.....	29
2.2.4	2030 Setting Implications for Conflicts and Deficiencies .....	30
3.0	PUBLIC INVOLVEMENT AND OUTREACH.....	33
3.1	PROJECT WORKING GROUP (PWG).....	33
3.1.1	San Ysidro Community Planning Group.....	34
3.1.2	San Ysidro Chamber of Commerce .....	34
3.1.3	San Ysidro Transportation Collaborative.....	34
3.1.4	City of San Diego.....	34
3.1.5	San Diego Association of Governments (SANDAG) .....	36
3.1.6	San Diego Metropolitan Transit System (MTS).....	36
3.1.7	California Department of Transportation (Caltrans).....	36
3.1.8	Federal General Services Administration (GSA).....	36
3.2	COMMUNITY AND GENERAL PUBLIC OUTREACH .....	36
3.3	TECHNICAL WORKING GROUP (TWG) .....	37
3.4	OTHER STUDY MEETINGS .....	38
4.0	COMMUNITY AND PROJECT GOALS .....	39
4.1	SAN YSIDRO COMMUNITY PLAN GOALS .....	39
4.1.1	Intermodal Transportation Center .....	41
4.2	PROJECT GOALS .....	41
4.3	GUIDING PRINCIPLES.....	42
4.4	OVERARCHING GOAL .....	45
5.0	SAN YSIDRO POE RECONFIGURATION MOBILITY CONCEPTS.....	49
5.1	FOCUSED STUDY AREA RECONFIGURATION CONCEPTS.....	50
5.1.1	Driving Factors for Concept Development.....	51
5.1.2	Reconfiguration Concepts .....	52
5.2	RECONFIGURATION CONCEPTS COMPARATIVE EVALUATION.....	61
5.2.1	Comparative Evaluation Summary.....	61
5.2.2	Input from Community.....	69
5.3	PREFERRED CONCEPT .....	72
6.0	PREFERRED RECONFIGURATION CONCEPTUAL SITE DESIGN.....	75
6.1	SITE DESIGN TRANSPORTATION FACILITY AND CAPACITY NEEDS .....	75
6.2	PREFERRED CONCEPT SITE DESIGN .....	76
6.3	CONCEPTUAL SITE DESIGN MOBILITY ASSESSMENT AND ANALYSIS.....	78
6.3.1	Traffic Volumes.....	78
6.3.2	Traffic Operations .....	83
6.3.3	Non-Auto Mobility and Circulation.....	87
6.4	PARKING IMPACT ANALYSIS.....	91
6.5	ANCILLARY CONCEPTUAL SITE DESIGN FEATURES (FULL STUDY AREA).....	93
6.6	CONCEPTUAL SITE DESIGN POTENTIAL ENVIRONMENTAL IMPACTS.....	94

6.7 CONCEPTUAL SITE DESIGN PRELIMINARY COST ESTIMATES.....95

6.8 CONCEPTUAL SITE DESIGN PRELIMINARY IMPLEMENTATION PHASING PLAN .....96

    6.8.1 Offsite Improvements.....97

    6.8.2 On-Site Improvements .....97

7.0 RECOMMENDATIONS, REMAINING ISSUES AND NEXT STEPS.....98

    7.1 STUDY RECOMMENDATIONS.....98

        7.1.1 Focused Study Area.....98

        7.1.2 Full Study Area .....101

        7.1.3 Phased Implementation.....102

    7.1 REMAINING ISSUES .....102

    7.2 NEXT STEPS .....103

APPENDIX A – PROJECT CONCEPT ALTERNATIVES CONSIDERED AND NOT PURSUED

APPENDIX B – TRAFFIC OPERATIONS DATA

## List of Figures

FIGURE 1:	VICINITY MAP .....	1
FIGURE 2:	GSA PREFERRED ALTERNATIVE .....	2
FIGURE 3:	FULL AND FOCUSED STUDY AREAS.....	3
FIGURE 4:	EXISTING SAN YSIDRO PORT OF ENTRY (POE).....	6
FIGURE 5:	PUBLIC AND PRIVATE TRANSPORTATION FACILITIES AND SERVICES .....	9
FIGURE 6:	SAN YSIDRO POE EXISTING PEDESTRIAN MODE OF ACCESS.....	13
FIGURE 7:	FOCUSED AREA STUDY INTERSECTIONS.....	16
FIGURE 8:	EXISTING CONFLICTS AND DEFICIENCIES IN STUDY AREA .....	19
FIGURE 9:	GSA PREFERRED ALTERNATIVE – PHASE 1 IMPROVEMENTS .....	26
FIGURE 10:	GSA PREFERRED ALTERNATIVE – PHASE 2 IMPROVEMENTS .....	26
FIGURE 11:	GSA PREFERRED ALTERNATIVE – PHASE 3 IMPROVEMENTS .....	27
FIGURE 12:	SAN YSIDRO COMMUNITY VISION .....	46
FIGURE 13:	LANDMARK INTERMODAL TRANSPORTATION CENTERS.....	47
FIGURE 14:	FULL AND FOCUSED STUDY AREAS.....	49
FIGURE 15:	INITIAL FULL STUDY AREA SCHEMATICS.....	50
FIGURE 16:	NR-A CONCEPT.....	54
FIGURE 17:	NR-B CONCEPT.....	55
FIGURE 18:	NR-C CONCEPT.....	56
FIGURE 19:	NR-D CONCEPT.....	57
FIGURE 20:	NR-E CONCEPT.....	58
FIGURE 21:	ER-A CONCEPT.....	59
FIGURE 22:	ER-B CONCEPT.....	60
FIGURE 23:	OPTION 1 RECONFIGURATION CONCEPT (FORMERLY ALTERNATIVE NR-A) .....	70
FIGURE 24:	OPTION 2 RECONFIGURATION CONCEPT (FORMERLY ALTERNATIVE NR-D).....	70
FIGURE 25:	OPTION 3 RECONFIGURATION CONCEPT (FORMERLY ALTERNATIVE ER-B) .....	71
FIGURE 26:	COMMUNITY DOT PREFERENCE EXERCISE .....	72
FIGURE 27:	PREFERRED CONCEPT SITE PLAN .....	79
FIGURE 28:	PREFERRED CONCEPT SITE DESIGN CROSS SECTION AT TRANSIT FACILITY (LOOKING NORTH) .....	81
FIGURE 29:	CONCEPTUAL LAYOUT OF PROPOSED CAMINO DE LA PLAZA/I-5 NORTHBOUND RAMPS .....	84
FIGURE 30:	PEDESTRIAN WALKSHED.....	92
FIGURE 31:	PREFERRED CONCEPT SITE PLAN .....	99
FIGURE 32:	PREFERRED CONCEPT SITE DESIGN CROSS SECTION AT TRANSIT FACILITY (LOOKING NORTH) .....	100

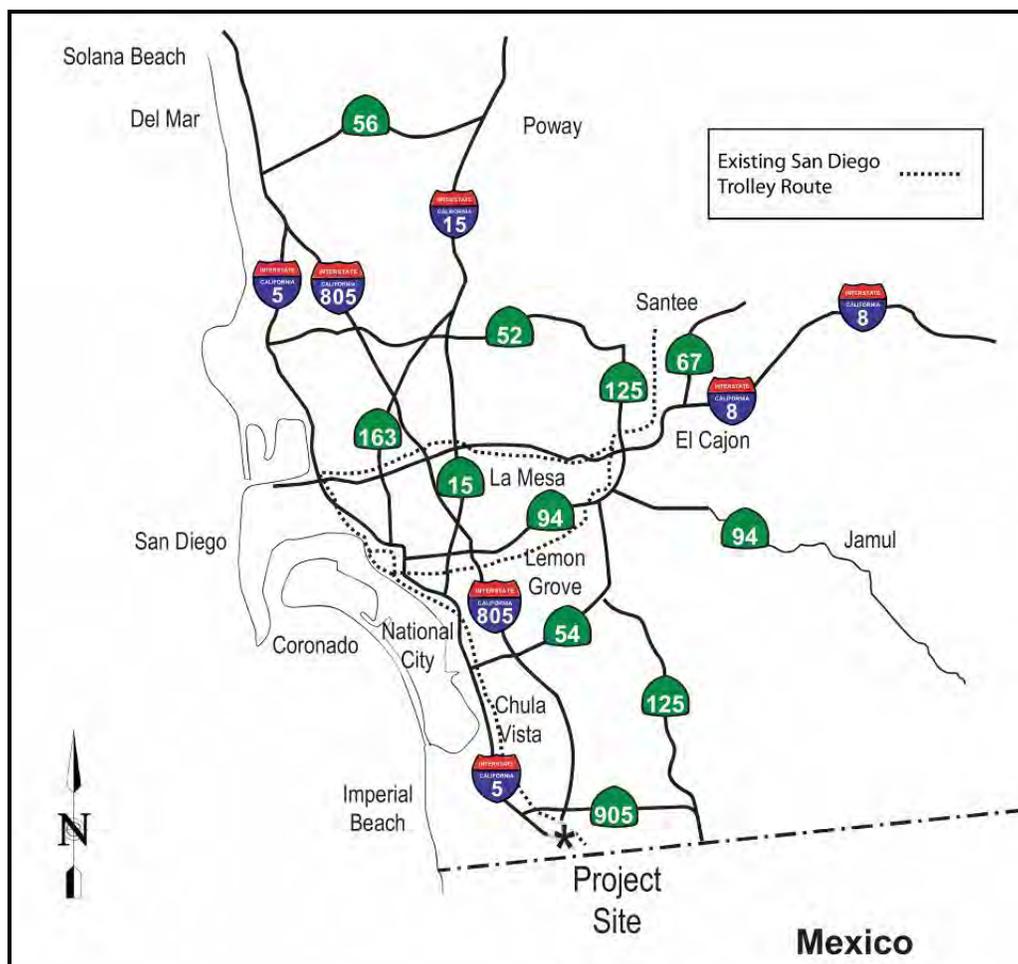
## List of Tables

TABLE 1:	SAN YSIDRO POE MTS BUS SERVICE.....	9
TABLE 2:	EXISTING TRAFFIC VOLUME SUMMARY AT STUDY INTERSECTIONS.....	14
TABLE 3:	LOS CRITERIA FOR INTERSECTIONS.....	15
TABLE 4:	EXISTING INTERSECTION LOS SUMMARY.....	16
TABLE 5:	YEAR 2030 PROJECTED TRAFFIC VOLUME SUMMARY AT STUDY AREA INTERSECTIONS.....	28
TABLE 6:	YEAR 2030 STUDY AREA PROJECTED INTERSECTION LOS SUMMARY.....	29
TABLE 7:	YEAR 2030 PROJECTED PEDESTRIAN BORDER CROSSINGS AT SAN YSIDRO POE.....	30
TABLE 8:	SAN YSIDRO POE RECONFIGURATION MOBILITY STUDY – PROJECT STAKEHOLDER MEETINGS.....	35
TABLE 9:	SAN YSIDRO POE RECONFIGURATION MOBILITY STUDY – SPECIFIC STUDY GOALS.....	43
TABLE 10:	SAN YSIDRO POE RECONFIGURATION MOBILITY STUDY – GUIDING PRINCIPLES.....	45
TABLE 11:	SUMMARY OF KEY FEATURES FOR ITC ALTERNATIVES.....	52
TABLE 12:	SAN YSIDRO POE RECONFIGURATION MOBILITY STUDY – SUMMARY OF CONCEPT ALTERNATIVES COMPARATIVE EVALUATION.....	62
TABLE 13:	FOCUSED STUDY AREA TRANSPORTATION FACILITY AND CAPACITY NEEDS.....	75
TABLE 14:	TRAFFIC VOLUME SUMMARY AT STUDY AREA INTERSECTIONS.....	78
TABLE 15:	LOS SUMMARY AT STUDY AREA INTERSECTIONS.....	83
TABLE 16:	QUEUING SUMMARY AT STUDY AREA INTERSECTIONS ALONG CAMINO DE LA PLAZA.....	86
TABLE 17:	RECONFIGURATION CONCEPT IMPACT ON EXISTING AND PROJECTED CONFLICTS AND DEFICIENCIES.....	89
TABLE 18:	PRELIMINARY COST ESTIMATES FOR THE PREFERRED CONCEPTUAL SITE DESIGN.....	96

## 1.0 STUDY PURPOSE

The San Ysidro Port of Entry (POE) is the busiest international land crossing along the United States-Mexico border, and among the busiest ports of entry in the world.<sup>1</sup> Each day, tens of thousands of people cross the border from Mexico to the United States on foot and in cars, buses, and shuttles. These border crossers are funneled through the U.S. General Services Administration (GSA) border inspection facilities and converge north of the border before dispersing throughout the San Ysidro and South Bay communities, the San Diego region, and even the state (Figure 1). Transportation facilities and services available to transport border crossers to their destinations include Interstates 5 (I-5) and 805 (I-805), local streets, the San Diego Trolley light rail (Trolley), local public buses, private intercity buses, shuttles, jitneys, and taxis. While there are many transportation options available, the large volumes of people and vehicles, and the configuration of transportation facilities and services at the border, has resulted in conflicts and inefficiencies in circulation, service provision, and mobility.

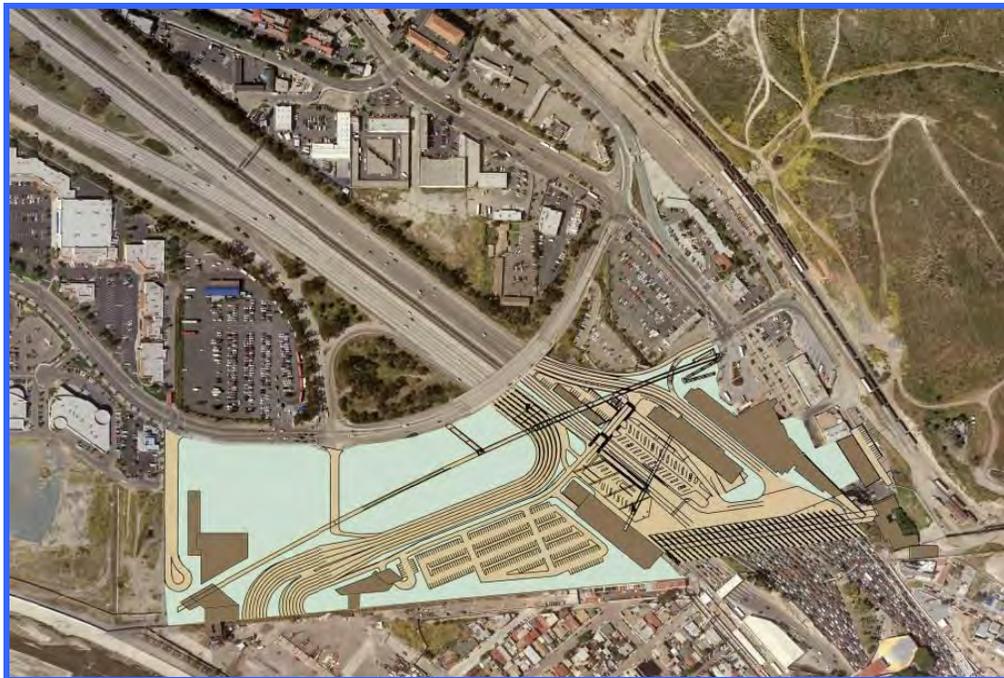
FIGURE 1: VICINITY MAP



<sup>1</sup> *Economic Impacts of Wait Times at the San Diego-Baja California Border, Final Report*, January 19, 2006, San Diego Association of Governments and Caltrans, District 11, Forward, p. v.

The GSA has plans to upgrade and expand both pedestrian and vehicular border inspection facilities at the San Ysidro POE (Figure 2). The three-phased plan extends on both the east and west sides of I-5, with the first two phases focused on the east. The GSA plans will accommodate higher volumes of people and vehicles and affect existing circulation and facilities, further exacerbating the transportation and mobility conflicts and deficiencies at the border. Pedestrian border crossings (including those who arrive at or depart from the border via public and private transit) are projected to increase by over 40 percent by 2014 to approximately 78,000 daily north- and southbound crossings.<sup>2</sup>

FIGURE 2: GSA PREFERRED ALTERNATIVE



The San Ysidro community has long been at the heart of border activity, yet has not fully benefited or capitalized on the large volumes of people crossing the border and traveling to and through the community. Community members and business and property owners have identified improved access to the community and economic development as key goals to support community enhancement and revitalization. They understand that better integrating transportation, land use, urban design, and economic opportunities at the border is critical to promoting successful linkages to the community and community-wide economic development.

In response to GSA border facility expansion plans and anticipated growth in border crossings, the City of San Diego applied for and received a Caltrans Planning Grant to evaluate border mobility issues and develop a transportation reconfiguration concept to address circulation, access, and community integration at the border. This study, funded through the planning grant:

- Identifies existing and future conflicts and deficiencies in transportation, circulation, and access at the border.

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<sup>2</sup> San Ysidro Land Port of Entry (LPOE) Expansion Mobility Study (KOA Corporation, April 30, 2009), page 55.

- Establishes transportation facility needs for autos, light rail, public buses, private buses, jitneys, shuttles, taxis, bicycles, and pedestrians.
- Addresses integration of border facilities, circulation, and access with the San Ysidro community.
- Creates a concept for reconfiguring border transportation facilities to address the conflicts, deficiencies, access, and needs.

The study builds on existing transportation infrastructure and services, and past transportation studies of the border area.<sup>3</sup> It also takes into account the relationship of border transportation, circulation, and access to community planning goals in an effort to support a future update of the San Ysidro Community Plan. While the GSA expansion plans span both sides of the freeway, the study focuses primarily on the implications of the first two phases for the transportation facilities and services on the east side of I-5. The study's border reconfiguration mobility concept concentrates on consolidating transportation services and facilities on the east side of I-5 into an Intermodal Transportation Center (ITC) to reduce conflicts; improve efficiencies and access; become a gateway to the community, region, state, and country; and act as a catalyst for community economic development in San Ysidro. The broader study area relative to GSA's three-phased expansion plans, and the east-side study focus area (where GSA Phase 1 and 2 plans will occur) are shown in **Figure 3**.

FIGURE 3: FULL AND FOCUSED STUDY AREAS



<sup>3</sup> San Ysidro Land Port of Entry (LPOE) Expansion Mobility Study (KOA Corporation, April 30, 2009) and San Ysidro Mobility Strategy (Kimley-Horn and Associates, Inc., January 2009)

The study mobility analysis and reconfiguration concept is the first step toward defining a new ITC for the San Ysidro POE, and will set the direction for future phases that will include more detailed site design, environmental analysis, community integration, funding strategies, and project implementation.

## 2.0 PROJECT CONTEXT

### 2.1 EXISTING SETTING

The San Ysidro POE is located at the southern end of the community of San Ysidro in the City of San Diego. According to the City of San Diego:

More than a century of settlement and development makes San Ysidro a changing, dynamic community with a village atmosphere. The architectural and cultural qualities from its evolving history have been retained and are captured in this village feel. San Ysidro began as an experiment to preserve rural America and has emerged as a multicultural area attempting to maintain its sense of community. Some neighborhoods are characterized by older homes with well-tended gardens where residents know their neighbors while newer, urban neighborhoods and infill development have recently added to the mix of housing stock. Commercial activity occurs along the historic San Ysidro Boulevard and in the new Las Americas Center on Camino de la Plaza. Cohesion of the community is fragmented by the Trolley system, and Interstates 5 and 805. In 1996, 776 acres in the community plan area [43%] were designated as a redevelopment project area. San Ysidro is a community that is both a small town and bustling city; a gateway to San Diego and the United States.<sup>4</sup>

The San Ysidro POE extends east-west along the international border from the freight railroad tracks on the east to the southbound pedestrian crossing adjacent to the west side of I-5 at Camiones Way (**Figure 4**). I-5 terminates at the border with vehicles required to pass through southbound and northbound vehicular crossing inspection facilities.

Currently 24 northbound GSA inspection lanes are provided for vehicles and one inspection lane is provided for buses entering the U.S. About two miles north of the border, I-805 splits from I-5. On the west side of I-5, at the southern end of Camiones Way, there is a southbound-only pedestrian border crossing. Adjacent to this crossing, at the Camiones Way cul-de-sac, there are curbside facilities for public and private bus access, taxis, jitneys, and private auto pick-up/drop-off. On the east side of I-5 immediately north of the POE pedestrian border crossing facilities, a variety of regional and inter-regional transportation facilities and services mix with the local street system and land uses. In this area, which is bounded by the border on the south, I-5 on the west, the freight railroad tracks on the east, and Camino de la Plaza on the north, there is currently a functioning commotion of transportation and commercial activity that accommodates pedestrian border crossers, including:

- GSA passenger border inspection facilities and offices
- San Diego Trolley light rail tracks and station
- A transportation “circle” that provides space for:
  - Metropolitan Transit System (MTS) local public buses
  - Taxis
  - Private jitneys
  - Private cross-border shuttles

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<sup>4</sup> San Diego Community Profile: San Ysidro, <http://www.sandiego.gov/planning/community/profiles/sanysidro/index.shtml>

- Private intercity bus facilities
- Informal private vehicle passenger drop-off/pick-up
- East San Ysidro Boulevard, including the Camino de la Plaza intersection and the I-5 northbound freeway ramps/Rail Court intersection
- Pedestrian plaza and sidewalks
- GSA employee and private parking lots
- Retail, restaurant, office, and motel land uses

The I-5 on- and off-ramps penetrate the center of this eastside site, providing the most direct access to and from the community and commercial areas along San Ysidro Boulevard. The following section describes the existing transportation context on both the east and west sides of I-5 in more detail.

FIGURE 4: EXISTING SAN YSIDRO PORT OF ENTRY (POE)



## 2.1.1 Border Area Transportation Facilities and Services

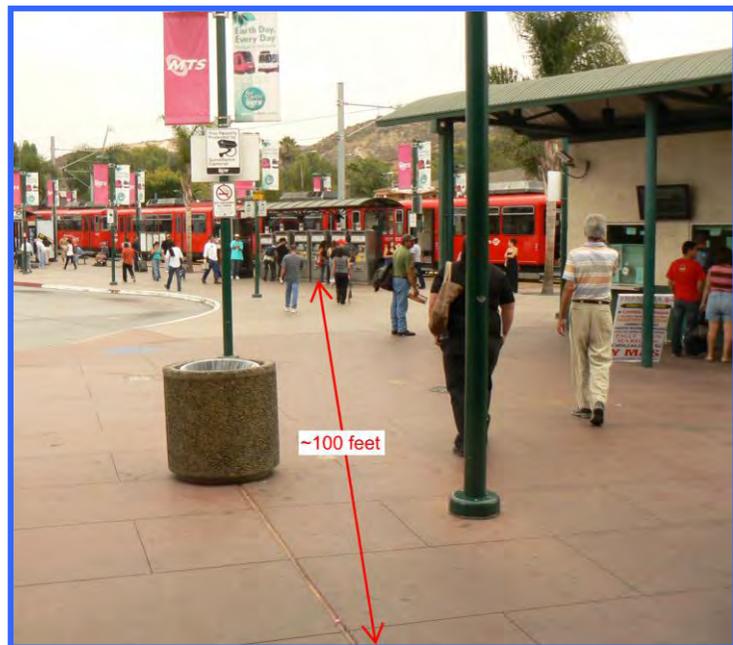
### 2.1.1.1 Freeways and Access Ramps

I-5 terminates at the San Ysidro POE. Five southbound lanes take autos, trucks, buses, and other vehicles to the border crossing facilities to enter Mexico. Approximately 500 feet north of the POE, the last southbound freeway on- and off-ramps connect to Camino de la Plaza at Camiones Way, providing access to and from the San Ysidro community. Northbound, all vehicles are funneled into five northbound freeway lanes after exiting one of the 24 border inspection stations. Immediately north of the POE facilities, the first northbound on- and off-ramps provide community access via a connection to the intersection of East San Ysidro Boulevard at Rail Court, which is also the entrance to the existing transportation center. Due to the configuration of the border crossing facilities, the northbound off-ramp is only accessible from the three easternmost lanes exiting the POE inspection facilities (see [Figure 4](#)).

Approximately one-half mile north of the border, I-805 splits from I-5. I-5 continues north along San Diego Bay toward Chula Vista, National City and downtown San Diego, while I-805 veers inland. I-5 on- and off-ramps provide additional access to the San Ysidro community at Via de San Ysidro and West San Ysidro Boulevard. I-805 provides access ramps to the north end of East San Ysidro Boulevard.

### 2.1.1.2 Street Network

East San Ysidro Boulevard, on the east side of I-5, is the primary north-south arterial street in the community and study area. It extends from the freeway ramps at Rail Court on the south, northward through the community's commercial core. After crossing under I-805, its name changes to West San Ysidro Boulevard to its terminal at State Route (SR) 905. South of Camino de la Plaza, East San Ysidro Boulevard is one lane in the northbound direction and two lanes in the southbound direction with no on-street parking. North of Camino de la Plaza, East San Ysidro Boulevard widens to two lanes northbound and three lanes southbound to Border Village



Road, then narrows again to one lane in each direction, with some segments containing dual-way center left-turn lanes. On-street parking is time restricted on the east side of the street. Development along the street is generally characterized by a mix of smaller-scale, older street frontage, strip commercial, and retail services. Sidewalks on both sides of the street provide pedestrian access to retail and other commercial uses. Between Camino de la Plaza and the freeway on- and off-ramps at Rail Court, the San Diego Trolley light rail parallels the east side of

the street. The entire street, including the segment with the Trolley, contains numerous driveway access points across the sidewalks and light rail tracks.

One block north of the I-5 northbound freeway ramps/Rail Court intersection, East San Ysidro Boulevard intersects with Camino de la Plaza. Camino de la Plaza is the primary east/west arterial street in the study area. It spans I-5 about a 1,000 feet north of the POE, connecting the east and west sides of the San Ysidro community. The first intersection west of the freeway is the southbound freeway on- and off-ramps at Camiones Way. Camiones Way leads to a large, private parking lot (that primarily serves border crossers) and ends in a cul-de-sac at a southbound-only pedestrian border crossing. Several curbside facilities for public and private bus access, taxis, jitneys, and private auto pick-up/drop-off are provided adjacent to the crossing on Camiones Way. Further west, Camino de la Plaza intersects with Virginia Avenue and continues westward to provide access to Las Americas shopping center. East of the freeway and East San Ysidro Boulevard, Camino de la Plaza turns into East Beyer Boulevard, although most traffic on Camino de la Plaza turns to and from East San Ysidro Boulevard to access the community's commercial core. Camino de la Plaza is generally two lanes in each direction with left-turn lanes at intersections. It is lined mostly with parking lots and driveway access points with little developed street frontage or pedestrian activity. On the segment spanning the freeway, taxis queue along the curb adjacent to the eastbound lanes to wait for open stalls at the transit center.

### 2.1.1.3 Public and Private Transit and Transportation Facilities and Services

#### I-5 Eastside

The area east of I-5 immediately north of the POE consists of a wide variety of transportation facilities and services aimed at the large volumes of pedestrians crossing the border in both north- and southbound directions. The San Diego Trolley and local buses provide public transit access to and from the POE at the San Ysidro/International Border Station and adjacent bus transit center (Rail Court). In addition to public transit, taxis, private jitneys, and shuttle buses use the transit center. Separate from the Trolley station and transit center but adjacent to these facilities, private intercity bus companies provide facilities and services for pedestrian border crossers. In addition to these transportation services, several private parking lots just north of the Trolley station, transit center, and intercity bus facilities serve those who wish to park near the border and walk across. Finally, informal auto passenger pick-up and drop-off also occurs in the vicinity of these public and private transportation facilities. A more detailed description of the public and private transportation facilities and services is included below ([Figure 5](#)).

**San Diego Trolley.** The San Diego Trolley San Ysidro/International Border Station is the southern terminal of the Trolley Blue Line. The Blue Line extends north through Chula Vista, National City, and downtown San Diego to its northern terminal at Old Town, and connects with the Orange and Green Lines in downtown San Diego and Old Town, respectively. The San Ysidro Station is the busiest station on the 53-mile Trolley light rail system with over 20,000 trip ends (ons and offs) a day in 2008. The Trolley operates with three- and four-car trains serving San Ysidro approximately every 7.5 minutes during the weekday peak periods and 15 minutes during weekday off-peak and weekends. The station consists of two tracks and three passenger platforms (side and center platforms), which are approximately 100 feet from the northbound pedestrian border crossing bridge exit, providing convenient access to Trolley services.

FIGURE 5: PUBLIC AND PRIVATE TRANSPORTATION FACILITIES AND SERVICES



**Public Transit Buses.** Two MTS bus routes serve the transit center adjacent to the Trolley station at the San Ysidro POE. Characteristics of these local bus routes are shown in [Table 1](#).

Table 1: San Ysidro POE MTS Bus Service

MTS Route	Weekday Vehicle Trips	Weekday Peak Frequency	Weekend Peak Frequency	Weekday Daily Ridership San Ysidro Blvd/Int'l Border		Weekday Daily Ridership Camiones Way/Int'l Border	
				Boardings	Alightings	Boardings	Alightings
929	63	15	30	922	593	11	517
932	66	15	20	784	658	N/A	528

Source: SANDAG 2008 Passenger Counting Program

There are three bus bays designated for these routes in the transit center, including one layover bay. Like the Trolley, the public transit bus bays are approximately 100 feet from the northbound pedestrian border crossing bridge exit, providing convenient access to local bus services.

**Taxis.** Privately operated taxis deliver and pick up passengers at the transit center. There are three designated spaces for taxis to wait for passengers within the transit center circle. Up to 30 additional taxis queue along the curb adjacent to the eastbound travel lanes of the Camino de la Plaza span over the freeway waiting for one of the three designated spaces in the transit center to become available. The taxi drivers can see the transit center from the bridge span. The first driver in the queue moves into an open space.



**Jitneys/Shuttles.** There are also three spaces available in the transit center for private, licensed jitneys and shuttle buses. The jitneys operate on quasi-fixed routes, primarily transporting passengers between the border crossing and swap meets located on the west side of the freeway. Shuttle buses include those operating within the community as well as cross-border shuttles that access I-5 via the freeway ramps to get to and from the vehicular border crossing.

**Intercity Buses.** Up to 15 intercity bus companies provide service to the POE using facilities east of the Trolley station and transit center behind retail storefronts that line the Trolley platform and southbound pedestrian crossing access. Several of these companies have ticketing offices on the site. Passengers wait at minimal facilities where 10 diagonal parking stalls for these buses line the back of the retail buildings. Pedestrian access to the waiting area is via indirect and incomplete pathways that conflict with circulating buses. One intercity company boards passengers at the far southern end of the site adjacent to the southbound pedestrian crossing. The intercity buses access the facilities via Rail Court through the intersection of East San Ysidro Boulevard/Rail Court/northbound freeway ramps. To depart, these buses must make a U-turn at the cul-de-sac adjacent to the bus parking stalls or circulate around the retail buildings and through the pedestrian area at the front of the stores and near the Trolley station and transit center.

**Kiss-and-Ride.** There is no formal designated area within the POE vicinity for private auto passenger drop-off and pick-up (kiss-and-ride). As a result, kiss-and-ride occurs in a somewhat chaotic manner, but most often along Rail Court and in the Jack in the Box parking lot, both just east of the Trolley tracks. Given the volume of pedestrians crossing the border, there is a high occurrence of kiss-and-ride activity.

**Bicycles.** Approximately 100 bicycle racks are located at the northwest corner of the East San Ysidro Boulevard/northbound freeway ramps/Rail Court intersection. Field observations indicate that there is very little demand for these bicycle facilities.

**Parking Lots.** Six parking areas exist between the POE and Camino de la Plaza. Three of these are GSA employee facilities not available to the public. The other three are privately operated fee lots with over 450 spaces, catering to people crossing the border. One is accessible from East San Ysidro Boulevard, and the other two from Rail Court.

**Other Activity.** In addition to the public bus, taxi, jitney, and shuttle use of the transit center, the center includes space for emergency vehicles, transit supervisor and maintenance vehicles, and public safety vehicles. Another, somewhat problematic use at and near the POE transportation facilities, is the presence of “wildcat” transportation operators. Wildcatters provide illegal

transportation services that compete with legal public and private providers. They often wait for passengers either in spaces designated for legal uses, or in areas that impact traffic circulation and create access conflicts.

All of these transportation services obtain access to their respective transportation facilities through the intersection of East San Ysidro Boulevard/northbound freeway ramps/Rail Court. This access activity, combined with auto access to and from the freeway, internal community circulation in the area, and the large number of pedestrians that continue their trips to San Ysidro on foot through the intersection and along East San Ysidro Boulevard, has resulted in multiple demands on limited space and a variety of conflict points.

Finally, limited commercial and retail uses are scattered throughout the area between the POE and Camino de la Plaza. These uses include retail, restaurant, and service businesses adjacent to and south of the Trolley platforms, and the Jack-in-the-Box and a motel on East San Ysidro Boulevard between the transit center and Camino de la Plaza. The community's core commercial area is north of Camino de la Plaza, a short distance away from the transient activity adjacent to the border.

### **I-5 Westside**

On the west side of I-5 at the southern end of Camiones Way, there is a southbound-only pedestrian border crossing. Public and private buses, taxis, jitneys, and kiss-and-ride provide access to this crossing. However, the primary access for southbound border crossers in this location is by driving and parking at a large private parking lot near the crossing.

**Public Transit Buses.** MTS Routes 929 and 932 have a stop at the southbound pedestrian border crossing along the cul-de-sac curb of Camiones Way. Both of these routes also serve the east side POE, travel north along East San Ysidro Boulevard and continue through Chula Vista and National City (Route 929 travels on Third Avenue and Highland Avenue, while Route 932 travels along Broadway and National City Boulevard). Route 932 terminates at the 8<sup>th</sup> Street Trolley Station in National City. Route 929 terminates in downtown San Diego. Frequencies and ridership are shown in **Table 1**.

**Taxis/Jitneys.** Taxis and jitneys also provide access to the southbound border crossing along the curb at the terminal of Camiones Way.

**Parking Lots.** Between the border and Camino de la Plaza, along Camiones Way, there is a privately owned 1,178-space parking lot adjacent to the southbound pedestrian border crossing. This fee lot serves as public parking for border crossers and customers of the Duty Free America store located adjacent to the lot. North of Camino de la Plaza, another 600 space commercial fee lot serves border crossers and adjacent commercial buildings.

### **2.1.2 Border Crossings**

**Vehicular.** In 2008, 13.7 million northbound vehicles crossed the border at the San Ysidro POE to enter the U.S., including almost 88,000 buses. These vehicles carried over 26.0 million people. Most likely as a result of the global economic crisis and security concerns in Mexico, the 2008 number is down from a high of 17.7 million vehicles carrying 34.4 million people in 2004.<sup>5</sup>

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<sup>5</sup> [www.sandag.org](http://www.sandag.org): U.S. Department of Transportation, Research and Innovation Technology Administration, Bureau of Transportation Statistics, Border Crossing/Entry Data, based on the U.S. Department of Homeland Security, Customs and Border Protection.

While southbound vehicular border crossing data for 2008 are not available, the general assumption can be made that a balanced travel demand exists and a similar number of vehicles cross southbound from the U.S. into Mexico on an annual basis. Vehicles crossing the border at the San Ysidro POE primarily use I-5 and I-805 to and from the region. Those with origins in the San Ysidro community access the border via the southbound ramps off Camino de la Plaza. Those with destinations in San Ysidro access the community via northbound ramps to East San Ysidro Boulevard.

**Pedestrian.** In addition to people crossing into the U.S. by car or bus, approximately 7.3 million northbound pedestrians walked across the border at the San Ysidro POE in 2008 (also down from the 9.4 million northbound pedestrian crossings in 2004), according to the U.S. Department of Transportation.<sup>6</sup> In January 2009, KOA Corporation (KOA) conducted on-site directional pedestrian counts over an 18-hour period (3:00 AM–9:00 PM)



and extrapolated the data to a 24-hour daily pedestrian count. According to the KOA data, 54,000 daily pedestrians (31,400 northbound and 22,700 southbound) cross the border each day, with 3,400 crossing during the morning peak hour and 3,900 crossing during the evening peak hour.<sup>7</sup> Work and shopping are the primary trip purposes for pedestrians crossing the border, comprising almost two-thirds of all pedestrian trips. Other trip purposes include tourism, school, business/social, and medical trips.<sup>8</sup>

**Pedestrian Mode of Access.** The San Diego Trolley is, by far, the primary mode of access to and from the San Ysidro POE for pedestrians crossing the border on foot, with almost 42 percent of border pedestrians using the Trolley (Figure 6).<sup>9</sup> Other access modes to and from the San Ysidro pedestrian POE include private vehicles (pick-up/drop-off) (22 percent), public and private buses (17 percent), and taxis (5 percent). Over 14 percent remain pedestrians walking to and from the San Ysidro community.<sup>10</sup> Extrapolating data from the numbers of northbound pedestrian border crossings in 2008, these pedestrians generate over 2.0 million walking trips, or an average of almost 6,000 pedestrian trips a day radiating from the border.<sup>11</sup>

<sup>6</sup> [www.sandag.org](http://www.sandag.org): U.S. Department of Transportation, Research and Innovation Technology Administration, Bureau of Transportation Statistics, Border Crossing/Entry Data, based on the U.S. Department of Homeland Security, Customs and Border Protection.

<sup>7</sup> *San Ysidro Land Port of Entry (LPOE) Expansion Mobility Study* (KOA Corporation, April 30, 2009), page 11.

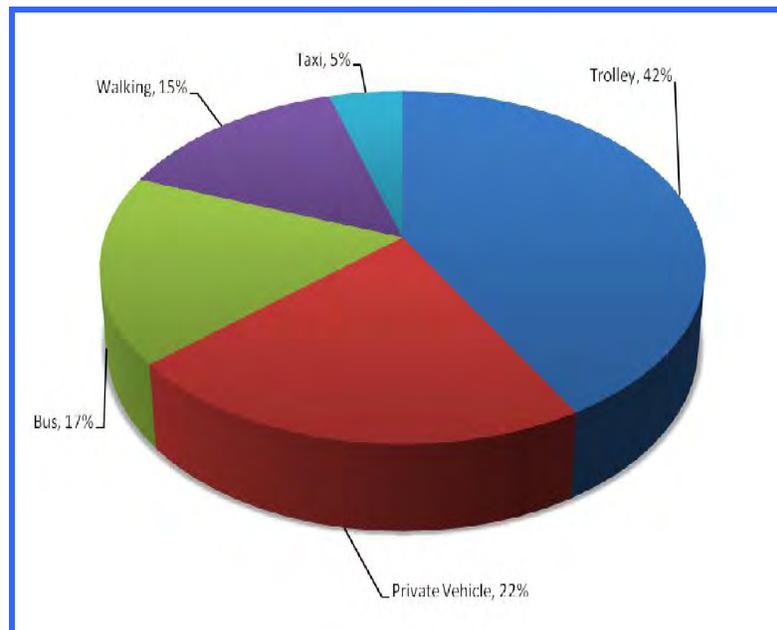
<sup>8</sup> *San Ysidro Land Port of Entry (LPOE) Expansion Mobility Study* (KOA Corporation, April 30, 2009), page 12.

<sup>9</sup> *San Ysidro Land Port of Entry (LPOE) Expansion Mobility Study* (KOA Corporation, April 30, 2009), page 13.

<sup>10</sup> *San Ysidro Land Port of Entry (LPOE) Expansion Mobility Study* (KOA Corporation, April 30, 2009), page 13.

<sup>11</sup> Assuming 7.3 million northbound pedestrian crossings X 2 (for return trips) X 14.5% pedestrian mode of access to border = 2.1 million walk access/365 days/year = 5,800 walking trips to and from the San Ysidro POE.

FIGURE 6: SAN YSIDRO POE EXISTING PEDESTRIAN MODE OF ACCESS



Source: San Ysidro Land Port of Entry (LPOE) Expansion Mobility Study (KOA Corporation, April 30, 2009)

**Public Transit Ridership:** As a result of high volumes of pedestrian border crossers accessing the POE via Trolley, Trolley trip ends (ons and offs) at the San Ysidro/International Border Station exceeded 20,000 each weekday (or over 6.4 million annually<sup>12</sup>) in 2008, making this station, by far, the highest volume station in the light rail system (serving over five times more passengers than the second highest volume station).<sup>13</sup> As shown in **Table 1**, ridership on MTS buses average approximately 3,000 passenger ons and offs each weekday at the two border crossing bus stops.



### 2.1.3 Area Traffic Analysis

The following section summarizes the existing mobility elements and primarily focuses on the area closest to the existing POE.

<sup>12</sup> Based on a 320 day annualization factor

<sup>13</sup> SANDAG Passenger Counting Program, [www.SANDAG.org](http://www.SANDAG.org)

### 2.1.3.1 Traffic Volumes

Traffic volumes at the study intersections during the weekday AM peak period (7:00 AM to 9:00 AM) and PM peak period (4:00 PM to 6:00 PM) were obtained in May 2008. These traffic volumes are shown in Figures 3-3 and 3-4 contained in the *San Ysidro Land Port of Entry (LPOE) Station Expansion Traffic Study* (KOA Corporation, April 30, 2009).

**Table 2** summarizes the total number of vehicles passing through each respective intersection during the peak hour. As shown in the table, the intersection of Camino de la Plaza and the I-5 southbound ramps has the highest peak-hour volume going through the intersection in both peak periods. It should also be noted that the majority of vehicles traveling during the peak periods pass through the study intersections during the PM peak hour.

Table 2: Existing Traffic Volume Summary at Study Intersections

		Peak Hour	Existing
1	Camino de la Plaza & Virginia Ave	AM	454
		PM	1,457
2	Camino de la Plaza & I-5 SB Ramps	AM	979
		PM	2,701
3	East San Ysidro Blvd & Camino de la Plaza/East Beyer Blvd	AM	950
		PM	1,952
4	East San Ysidro Blvd & I-5 NB Ramps	AM	817
		PM	1,083

Note: Traffic volumes represent the total number of vehicles passing through an intersection during the peak hour.

### 2.1.3.2 Traffic Operations

#### Intersections

The 2000 *Highway Capacity Manual (HCM)* published by the Transportation Research Board (TRB) establishes a system whereby highway facilities are rated for their ability to process traffic volumes. The terminology “level of service” is used to provide a “qualitative” evaluation based on certain “quantitative” calculations, which are related to empirical values.

Level of service (LOS) for signalized intersections is defined in terms of delay, which is a measure of driver discomfort, frustration, fuel consumption, and loss of travel time. Specifically, LOS criteria are stated in terms of the average control delay per vehicle for the peak 15-minute period within the hour analyzed. The average control delay includes initial deceleration delay, queue move-up time, and final acceleration time in addition to the stop delay. The LOS for unsignalized intersections is determined by the computed or measured control delay and is defined for each minor movement. At a one-way or two-way stop control intersection, the delay reported represents the worst movement, which is typically the left turns from the minor street approach. The criteria for the various LOS designations are provided in **Table 3**.

Table 3: LOS Criteria for Intersections

LOS	Signalized	Unsignalized	Description
	Control Delay (sec/veh) <sup>(a)</sup>	Average Control Delay (sec/veh) <sup>(b)</sup>	
A	≤10.0	≤10.0	Operations with very low delay and most vehicles do not stop.
B	>10.0 and ≤20.0	>10.0 and ≤15.0	Operations with good progression but with some restricted movement.
C	>20.0 and ≤35.0	>15.0 and ≤25.0	Operations where a significant number of vehicles are stopping with some backup and light congestion.
D	>35.0 and ≤55.0	>25.0 and ≤35.0	Operations where congestion is noticeable, longer delays occur, and many vehicles stop. The proportion of vehicles not stopping declines
E	>55.0 and ≤80.0	>35.0 and ≤50.0	Operations where there is significant delay, extensive queuing, and poor progression.
F	>80.0	>50.0	Operations that are unacceptable to most drivers, when the arrival rates exceed the capacity of the intersection.
Notes:			
(a) 2000 Highway Capacity Manual, Chapter 16, Page 2, Exhibit 16-2			
(b) 2000 Highway Capacity Manual, Chapter 17, Page 2, Exhibit 17-2			

As discussed earlier, the focused study area is located near the existing POE. The following four key intersections were identified in the focused study area:

1. Camino de la Plaza & Virginia Avenue
2. Camino de la Plaza & I-5 SB Ramps
3. East San Ysidro Boulevard & Camino de la Plaza/East Beyer Boulevard
4. East San Ysidro Boulevard & I-5 NB Ramps/Rail Court

All of these intersections are signalized except for the Virginia Avenue/Camino de la Plaza intersection, which is stop-controlled on Virginia Avenue. [Figure 7](#) illustrates the key intersections within the focused study area.

The LOS results for the study intersections are taken from the *San Ysidro Land Port of Entry (LPOE) Station Expansion Traffic Study* (KOA Corporation, April 30, 2009) and are summarized in [Table 4](#). As shown in the table, all intersections currently operate at an acceptable LOS C or better during both peak periods. However, field observations during the peak periods indicate much worse operations with queues occasionally extending back into adjacent intersections. The results shown in the table do not take into account the effects of queuing, and the actual delay and operations are slightly worse than what is reported.

FIGURE 7: FOCUSED AREA STUDY INTERSECTIONS

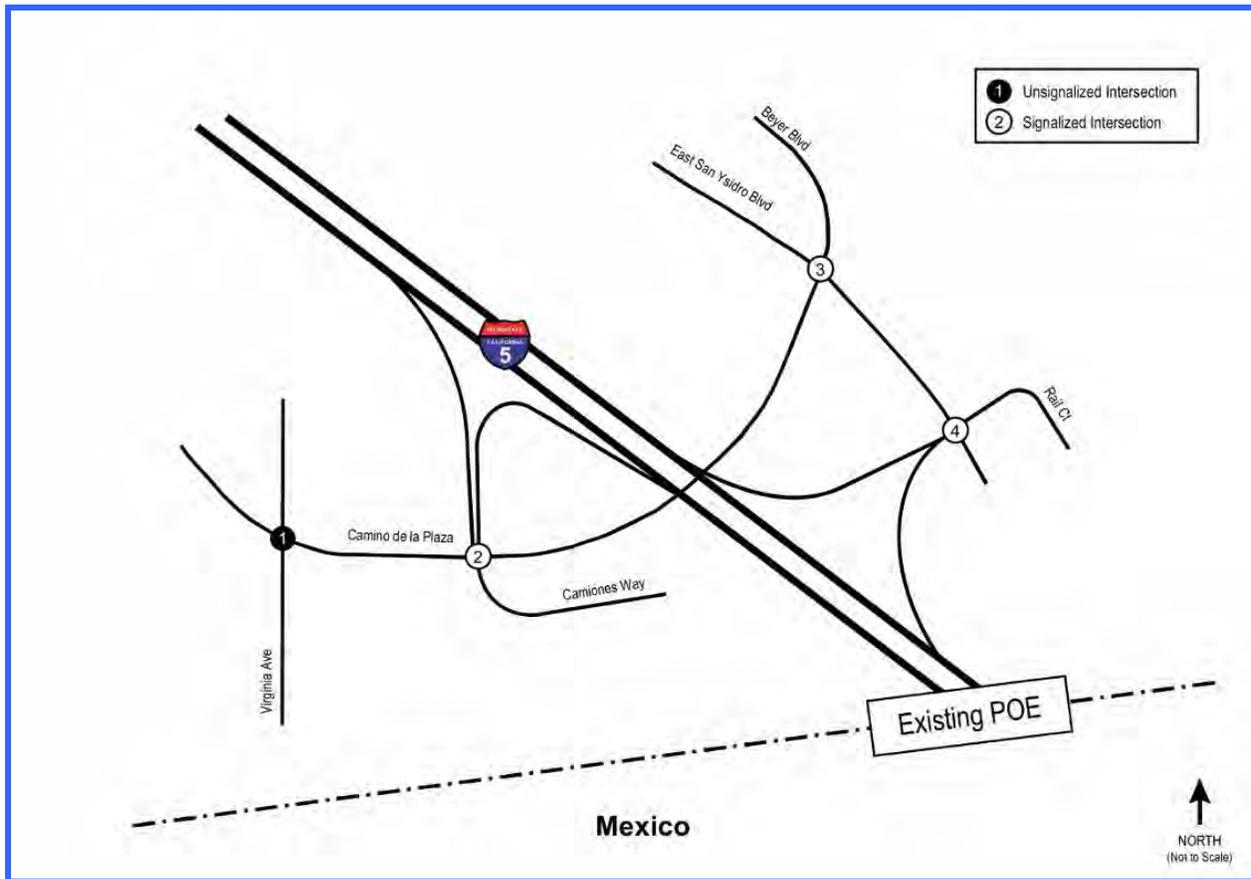


Table 4: Existing Intersection LOS Summary

Intersection	Peak Hour	Existing Conditions	
		Delay <sup>(a)</sup>	LOS <sup>(b)</sup>
1 Camino de la Plaza & Virginia Ave	AM	11.7	B
	PM	23.6	C
2 Camino de la Plaza & I-5 SB Ramps	AM	23.6	C
	PM	30.2	C
3 East San Ysidro Blvd & Camino de la Plaza/East Beyer Blvd	AM	16.4	B
	PM	8.4	A
4 East San Ysidro Blvd & I-5 NB Ramps	AM	21.3	C
	PM	19.5	B

Source: San Ysidro Land Port of Entry (LPOE) Station Expansion Traffic Impact Study (KOA Corporation, April 30, 2009), Table 3-3.

Notes:

(a) Delay refers to the average control delay for the entire intersection, measured in seconds per vehicle.

(b) LOS calculations are based on the methodology outlined in the 2000 Highway Capacity Manual and performed using Traffix 7.9/8.0

## Queuing

Queuing at intersections was not specifically addressed as part of the traffic analysis contained in the *San Ysidro Land Port of Entry (LPOE) Station Expansion Traffic Study* (KOA Corporation, April 30, 2009). The traffic analysis analyzed each intersection as an isolated intersection and did not take into account queues that spilled back into adjacent intersections.

### 2.1.4 Existing Conflicts and Deficiencies

The general mobility context of the area adjacent to the San Ysidro POE can be characterized by:

- Large volumes of pedestrian and vehicular border crossings.
- A high demand for transportation services.
- A wide variety of transportation modes and services converging on the area.

This unique situation at the San Ysidro POE strains and challenges the circulation system, infrastructure, and community. It both creates and results in conflicts, inefficiencies, and deficiencies for transportation access and community enhancement. Specific conflicts and deficiencies that exist at the San Ysidro POE are discussed below and shown in **Figure 8**.

#### 2.1.4.1 Circulation and Traffic

Traffic and circulation conflicts and deficiencies in the study area include:

- A. Competing Modes at Northbound I-5 Freeway Ramps/East San Ysidro Boulevard/Rail Court Intersection.** The northbound I-5 on- and off-ramps connect directly to East San Ysidro Boulevard at Rail Court and the entrance to the transit center. This requires auto and truck traffic traveling between the freeway and the San Ysidro community to travel through this multimodal intersection where buses, taxis, jitneys, shuttles, and the Trolley access the POE. While the traffic analysis indicates an acceptable LOS at this intersection, the variety of modes competing for access, combined with the large volumes of pedestrians crossing the intersection, and the Trolley crossing gates which lower 16 times an hour during peak periods to allow Trolley passage to the border station, result in ongoing conflicts throughout the day.
- B. Limited Access to Northbound I-5 Off-Ramp.** The exit from northbound I-5 to East San Ysidro Boulevard is located within a few hundred feet of the northbound vehicular POE. Due to the configuration of the POE inspection facilities, only the four easternmost crossing lanes (out of 24 lanes) can access the off-ramp, limiting the value of the off-ramp for northbound border crossers desiring to access the San Ysidro community.
- C. Indirect Freeway Access to Community Commercial Core.** The San Ysidro community and commercial core (and future pilot village) are primarily north of Camino de la Plaza. Camino de la Plaza provides the most direct arterial street access to the northern community. Funneling all northbound freeway traffic through the on- and off-ramps at East San Ysidro Boulevard and Rail Court creates an indirect route for traffic to and from the heart of the community and commercial core and compounds the vehicular conflicts at the ramp ingress/egress.
- D. Limited Capacity Along East San Ysidro Boulevard South of Camino de la Plaza.** East San Ysidro Boulevard north of Camino de la Plaza is three lanes southbound and two lanes northbound with additional left-turn lanes at the Camino de la Plaza

intersection. South of Camino de la Plaza, East San Ysidro Boulevard narrows to two lanes southbound and one lane northbound (with additional capacity at intersections). Given that this southern segment provides the only access to the transit center, freeway ramps, parking lots, and businesses, and accommodates many large buses, the narrower street segment imposes limits on efficient circulation and access.

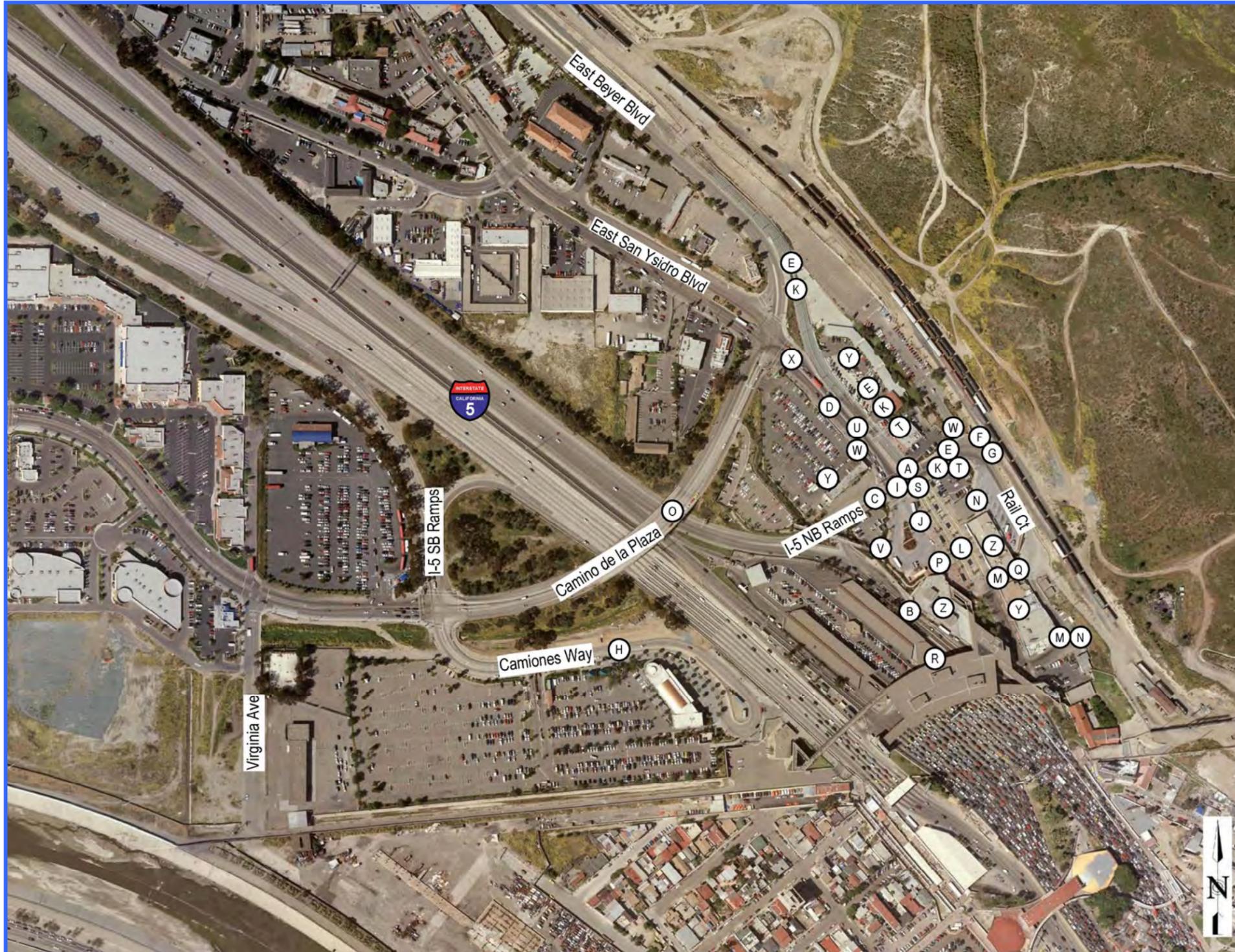
- E. Frequent Trolley Crossing Gate Closures that Impact Access.** The San Diego Trolley light rail tracks parallel the east side of East San Ysidro Boulevard from Camino de la Plaza to the transit center at the POE. The tracks cross Rail Court at-grade on the eastern leg of East San Ysidro Boulevard/Rail Court. They also cross two driveways to a motel and a Jack-in-the-Box restaurant. At 7.5-minute peak-period frequency in each direction, the grade crossing gates lower 16 times an hour, impeding access to Rail Court for intercity buses, businesses, and a commercial parking lot. These at-grade rail crossings aggravate the competing demands for access in the area.



- F. Lack of Kiss-and-Ride Facilities that Contribute to Circulation Conflicts.** There are no formal facilities at the transit center or in the vicinity of the POE for private auto pick-up and drop-off (kiss-and-ride) for pedestrians crossing the border. As a result, kiss-and-ride informally occurs in several locations, primarily in the Jack-in-the-Box parking lot on the northeast corner of East San Ysidro Boulevard and Rail Court and along Rail Court itself. Autos traveling through the area while drivers look for an available place to stop, and autos waiting in areas that impede traffic, result in circulation conflicts for other traffic in the area.
- G. Illegal Wildcatters that Contribute to Confusion and Disorder.** Licensed taxis, jitneys, and shuttles have legal access and designated passenger loading zones in the transit center. However, there are a number of illegal operators (“wildcatters”) that wait and load passengers throughout the area, including along Rail Court. Like kiss-and-ride activity, these wildcatters exacerbate the confusion and disorder associated with passenger pick-up and drop-off outside the formal transit center and intercity bus facilities.
- H. Camiones Way South of Camino de la Plaza Operates at LOS F.** Because Camiones Way, south of Camino de la Plaza is a two-lane street that provides access to both an 1,100-space parking lot and the southbound pedestrian crossing on the west side of I-5, it experiences high traffic volumes on a daily basis and functions at LOS F.<sup>14</sup>

<sup>14</sup> San Ysidro Land Port of Entry (LPOE) Expansion Mobility Study, Table 3-1 (KOA Corporation, April 30, 2009).

FIGURE 8: EXISTING CONFLICTS AND DEFICIENCIES IN STUDY AREA



- A. Competing Modes at Northbound I-5 Freeway Ramps/East San Ysidro Boulevard/Rail Court Intersection
- B. Limited Access to Northbound Off-Ramp
- C. Indirect Freeway Access to Community Commercial Core
- D. Limited Capacity along East San Ysidro Boulevard South of Camino de la Plaza
- E. Frequent Trolley Crossing Gate Closures that Impact Access
- F. Lack of Kiss-and-Ride Facilities that Contribute to Circulation Conflicts
- G. Illegal Wildcatters that Contribute to Confusion and Disorder
- H. Camiones Way South of Camino de la Plaza Operates at LOS F
- I. Competition with Multiple Users at Entrance to Transit Center
- J. Inadequate Facilities for Public Buses
- K. At-Grade Crossings that Impede Trolley Operations
- L. Inability to Increase Trolley Frequency
- M. Substandard Intercity Bus Circulation and Constrained Operating Space
- N. Inadequate Intercity Bus Facilities
- O. Lack of Staging Areas for Taxis
- P. Limited Pedestrian Plaza Area
- Q. Inadequate Pedestrian Walkways to Intercity Bus Waiting Facilities
- R. Undesirable Southbound Pedestrian Border Crossing Facilities
- S. Pedestrian Volumes that Exceed Crosswalk Capacity
- T. Pedestrian Conflicts at At-Grade Trolley Crossings
- U. Lack of Pedestrian-Friendly Sidewalks and Routes
- V. GSA Parking Access is through the Transit Center
- W. Encumbered Access to and from Private Parking Lots
- X. Weak Connections/Linkage between Border Area Businesses and Community
- Y. Minimal Investment in Property and Businesses
- Z. Border Lacks Image as Gateway

### 2.1.4.2 Transit (Bus and Rail), Taxis, Jitneys, Shuttles

Conflicts and deficiencies that affect transit, taxis, jitneys, and shuttles include:

**I. Competition with Multiple Users at the Entrance to Transit Center.**

As discussed in “A” above, the entrance and access to the transit center is located on the southern leg of the intersection of East San Ysidro Boulevard/Northbound freeway ramps/Rail Court. Buses, taxis, jitneys, shuttles, transit supervisor and maintenance vehicles, and public safety and emergency vehicles use the transit center facilities. In addition, GSA employees must travel through the transit center to access an approximate 20-space employee parking lot adjacent to the center. There is no transition for this volume and variety of trips between the transit center and the public intersection where these transit center vehicles compete for access through the intersection with freeway ramp traffic, intercity buses turning to/from Rail Court, private autos accessing parking and businesses or loading/unloading passengers, and pedestrians crossing the intersection. The entrance layout and multiple demands on the intersection create a challenging environment for transit center access.



There is no transition for this volume and variety of trips between the transit center and the public intersection where these transit center vehicles compete for access through the intersection with freeway ramp traffic, intercity buses turning to/from Rail Court, private autos accessing parking and businesses or loading/unloading passengers, and pedestrians crossing the intersection. The entrance layout and multiple demands on the intersection create a challenging environment for transit center access.

**J. Inadequate Facilities for Public Buses.** In addition to facilities for taxis, jitneys, and shuttles, there are two standard bus stops along the outside curb of the POE transit center, one bus layover zone in the median, and median curb space for two transit supervisor or maintenance vehicles. MTS would prefer to have three bus stops along the curb, including one for an articulated bus.

**K. At-Grade Crossings that Impede Trolley Operations.** As noted in “E” above, the Trolley has an at-grade crossing at Rail Court, two at-grade driveway crossings along East San Ysidro Boulevard and a third driveway crossing just east of East San Ysidro Boulevard on East Beyer Boulevard. These four at-grade crossings within a relatively short distance in this highly active area result in the potential for both vehicular and pedestrian conflicts. This operating environment requires slower Trolley speeds and can impede efficient operations as the Trolley approaches its terminal station.



- L. Inability to Increase Trolley Frequency.** The San Diego Trolley Blue Line between the international border and downtown San Diego is the heaviest traveled segment on the system, often reaching and exceeding passenger capacity at peak load points during peak periods. More frequent service (additional trips) would help accommodate passenger demand either now or in the future. However, increasing frequency would require a third track at the San Ysidro/International Border Station to accommodate end of line layovers and operations. There are currently only two tracks at the border station.

**M. Substandard Intercity Bus Circulation and Constrained Operating Space.**

Intercity buses access passenger loading areas via Rail Court. Because they enter and exit at the same location, these large buses must either make a U-turn just south of the ten diagonal intercity bus bays, or circulate around the retail facilities through a poorly defined access alley behind the businesses and continue along a substandard width roadway in front of the businesses. Inadequate roadway space



inhibits general operations and turning movements for these large buses, and is compounded by the fact that pedestrians share the narrow roadway to access waiting areas and businesses.

- N. Inadequate Intercity Bus Facilities.** Passenger waiting facilities for the intercity bus carriers lack standard passenger amenities for transit stations or stops such as sufficient waiting space off the parking and travel ways, benches, shelters, and signage. In particular, passenger loading for southernmost carriers occurs in the parking lot and driveway. Ticketing offices are not centralized for passenger convenience.

**O. Lack of Staging Areas for Taxis.**

The existing transit center has three stalls for taxis to wait for passengers. Up to 30 taxis queue on the Camino de la Plaza bridge to wait their turns to move into an available taxi stall in the transit center. This improvised staging area currently works because the taxi drivers have a line of sight from the bridge to the transit center, and there is sufficient curb lane space on the bridge for the queue. There is no dispatching or other communication to manage and control taxi access to the transit center. Should this informal approach break down (i.e., line-of-sight blocked or parking restrictions imposed on the bridge), the staging area would be lost.



### 2.1.4.3 Pedestrian

Pedestrian conflicts and deficiencies in the study area include:

- P. Limited Pedestrian Plaza Areas.** The northbound POE pedestrian bridge delivers pedestrians onto a relatively small plaza area between the GSA facilities, transit center, and Trolley station given the pedestrian volumes exiting the bridge. That plaza area also houses an intercity bus ticketing building, from which waiting lines often extend into the plaza area, and accommodates southbound pedestrian cross traffic. The limited space, high pedestrian volumes, and competing uses result in an often crowded plaza area.
- Q. Inadequate Pedestrian Walkways to Intercity Bus Waiting Facilities.** As discussed in “M” above, to access the intercity bus passenger waiting area off Rail Court, pedestrians must walk in the narrow roadway shared with buses and autos or along a substandard sidewalk past dumpsters and other obstructions, then follow a narrow pathway up a hill to the intercity bus loading area. For those passengers needing to walk between the northern and southern intercity bus loading areas, there are no pedestrian facilities along the alley access connecting the two.
- R. Undesirable Southbound Pedestrian Border Crossing Facilities.** Pedestrians crossing into Mexico from the east side of I-5 must access the southbound pedestrian crossing facilities located on the west side of I-5 via a pedestrian bridge over the freeway lanes. To access the bridge, pedestrians must walk up steep 8 percent grade ramps, which are not ADA (Americans with Disabilities Act) compliant. Approaches are also missing curb cuts and adequate lighting inside the passageways. On the bridge section over I-5, border crossers are exposed to sun and rain due to the lack of cover. In general, the bridge crossing lacks amenities and inhibits pedestrians.



- S. Pedestrian Volumes that Exceed Crosswalk Capacity.** The *San Ysidro Land Port of Entry (LPOE) Expansion Mobility Study* (KOA Corporation, April 30, 2009) identified insufficient sidewalk landing capacity for pedestrians at the East San Ysidro Boulevard/I-5 Northbound Freeway Ramps/Rail Court intersection. The high pedestrian volumes at this intersection currently result in pedestrian LOS D at the northwest and southeast intersection crosswalk landings and pedestrian LOS F at the northeast crosswalk landing, causing pedestrians to spill into the street at the corners and in the crosswalk.<sup>15</sup>

<sup>15</sup> San Ysidro Land Port of Entry (LPOE) Expansion Mobility Study, KOA Corporation, April 30, 2009, Table 2-5.



- T. Pedestrian Conflicts at At-Grade Trolley Crossings.** As identified in “K” above, the San Diego Trolley at-grade street and driveway crossings create conflicts with both vehicles and pedestrians. At the Rail Court at-grade crossing, pedestrians waiting at the intersection can get caught between the tracks and the down crossing gate. Pedestrians use the driveway at-grade crossings at access points between the sidewalk and the businesses.
- U. Lack of Pedestrian-Friendly Sidewalks and Routes.** The pedestrian pathway along East San Ysidro Boulevard, south of Camino de la Plaza leading from the border crossing to the San Ysidro commercial core, is generally not pedestrian friendly. It is lined with parking, driveways, rail tracks, and street traffic. Few businesses front the street to create a pleasant pedestrian environment. As a result, there is no physical draw or visual connection from the border to the community and commercial core. For pedestrians crossing between the east and west sides of I-5, the Camino de la Plaza bridge is also an isolated and unfriendly pedestrian pathway.

#### 2.1.4.4 Parking

Parking conflicts and deficiencies in the study area include:

- V. GSA Parking Access is Through the Transit Center.** The GSA has a small, approximately 20-space employee parking lot that is only accessible through the transit center. The introduction of autos and other GSA vehicles into the transit center circulation and loading activities creates an undesirable mixture of these vehicles with border transportation services.
- W. Encumbered Access to and from Private Parking Lots.** There are two private commercial parking lots that obtain access from Rail Court east of East San Ysidro Boulevard, and one that is accessed from southbound East San Ysidro Boulevard. These parking lots create a “destination” point for autos in a confined area that primarily serves as a connection point and pass-through for most other vehicles. These “destination” autos exacerbate the access and circulation conflicts with other transportation modes and pedestrians in the area. In addition, there are no left turns from the commercial lot and several business lots on East San Ysidro Boulevard requiring drivers accessing these lots to travel circular routes and make U-turns in the key intersection at the entrance to the transit center to access and exit these lots. Finally, the four points of access to all parking lots on the east side of East San Ysidro Boulevard (including the one on East Bayer Boulevard) requires vehicles to cross the Trolley tracks.

#### 2.1.4.5 Land Use and Economic Development

A few land use and development-related deficiencies can be identified in the study area, including:

- X. Weak Connections/Linkages Between Border Area Businesses and Community.** There is weak connection between the border area businesses and the community due to the traffic, circulation, access, and pedestrian conflicts and barriers from the border facilities along East San Ysidro Boulevard to Camino de la Plaza.
- Y. Minimal Investment in Property and Businesses.** Many properties and businesses between Camino de la Plaza and the border are either underdeveloped or candidates for reinvestment. Given the volume of people that pass through the border area on a daily basis, it appears that existing development at and near the border has yet to take full advantage of the market opportunities in the area.
- Z. Border Lacks Image as Gateway.** Given that the San Ysidro border is one of the busiest border crossings in the world, it lacks an image as a gateway to the community, region, and country. The facilities and businesses lack a unique architecture or iconic design that would announce to border crossers that they are entering or leaving the country. As a result, the community and region are not able to take advantage of the gateway to create a sense of place that would help support economic activity.

## 2.2 PROJECTED 2030 SETTING

Over the next 20 years, vehicular and pedestrian border crossings are projected to grow by almost two-thirds. The GSA has a three-phase plan to expand the existing San Ysidro POE to improve capacity, operational efficiency, security, and safety for cross-border travelers and federal agencies. And, there are several planned private developments that may also alter travel patterns in the border area, including the Las Americas – East Parcel Site Plan project on the west side of I-5, which proposes a 100,000–300,000 square-foot community shopping center.

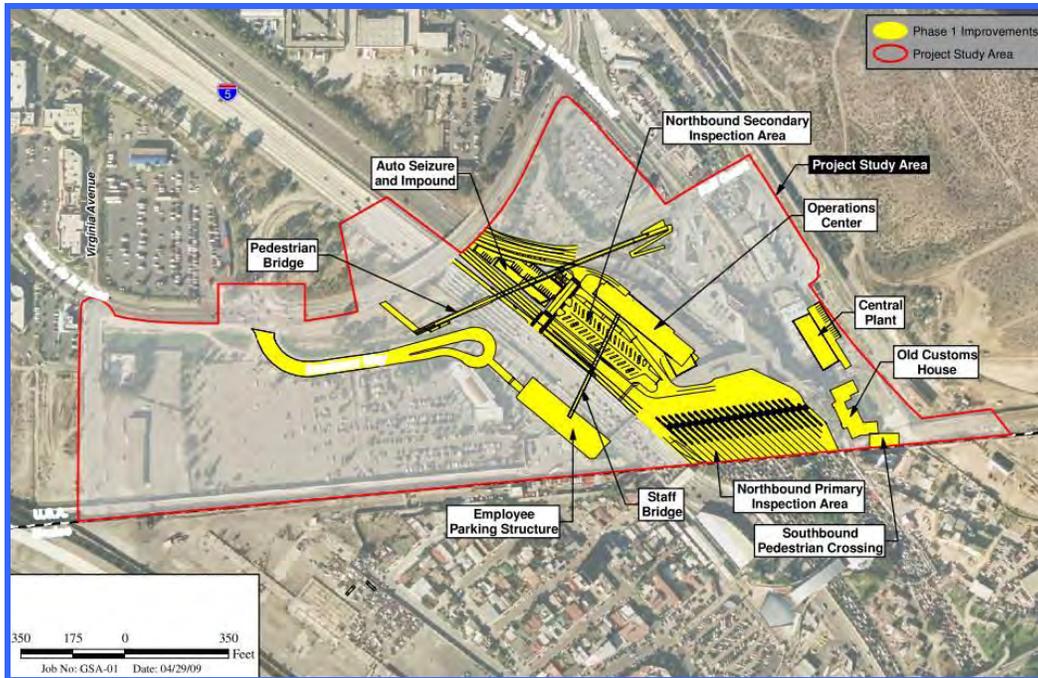
### 2.2.1 General Services Administration (GSA) Plans

The GSA expansion project would demolish most of the existing border inspection and support facilities and construct new facilities. The new facilities would include new primary and secondary inspection areas, an administration building, a pedestrian building, a central plant, one pedestrian bridge, a parking structure, and other support structures. The expansion would consist of approximately 210,000 gross square feet (gsf) of building space, 31 northbound inspection lanes, 6 southbound inspection lanes, 2 new southbound pedestrian crossings, and a new southbound roadway connecting with Mexico's planned El Chaparral POE facility.

**Phases 1 and 2.** The first two phases of the GSA expansion project primarily consist of improvements on the east side of I-5 (**Figure 9** and **Figure 10**). These east-side improvements include reconfiguration of the northbound vehicle facilities to increase inspection processing, operational efficiency, expansion of pedestrian facilities, reconfiguration of the eastern operational area, and construction of new support buildings. On the west side of I-5, Camiones Way would be truncated north of its existing terminal and a new GSA employee parking lot would be built between the new Camiones Way cul-de-sac and the border. A new pedestrian bridge would span the freeway lanes to provide connections between the southbound pedestrian crossing on the west and the northbound pedestrian crossing on the

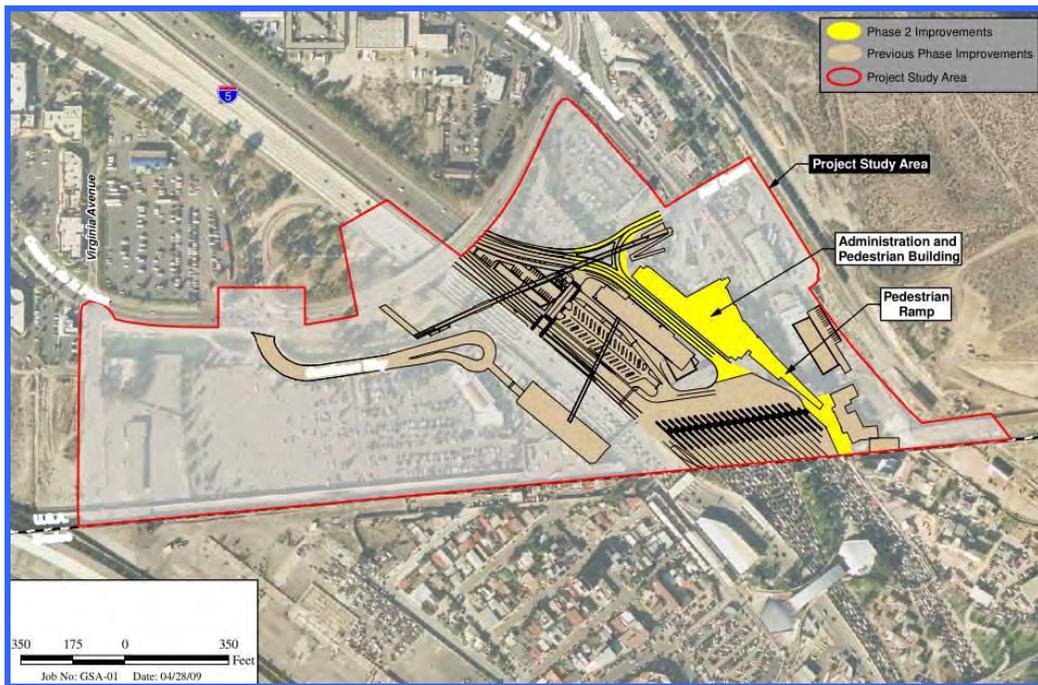
east. A second employee-only pedestrian bridge would connect the west-side employee parking lot to east-side GSA facilities.

FIGURE 9: GSA PREFERRED ALTERNATIVE – PHASE 1 IMPROVEMENTS



Source: San Ysidro Land Port of Entry Improvements Project Draft Environmental Impact Statement (GSA, May 2009)

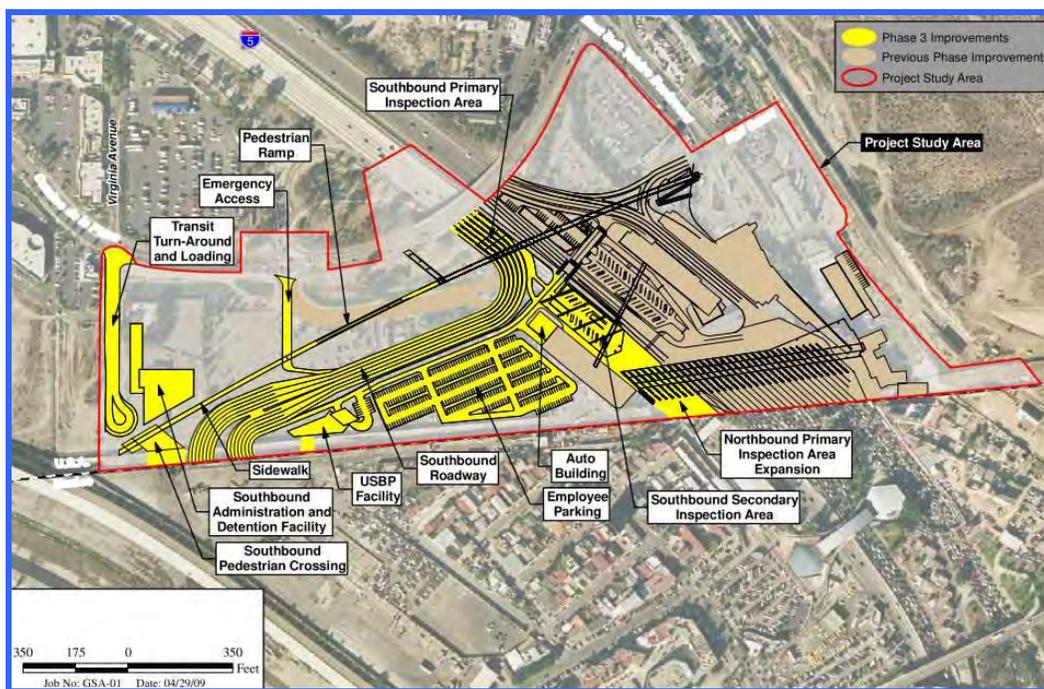
FIGURE 10: GSA PREFERRED ALTERNATIVE – PHASE 2 IMPROVEMENTS



Source: San Ysidro Land Port of Entry Improvements Project Draft Environmental Impact Statement (GSA, May 2009)

**Phase 3.** GSA Phase 3 would occur entirely on the west side of I-5. Phase 3 consists of the removal of Camiones Way and the large commercial border parking lot to accommodate a significant realignment of the southbound I-5 freeway lanes to the west. The realigned freeway lanes would connect with Mexico's planned El Chaparral POE facility just east of Virginia Avenue (**Figure 11**). Additional northbound vehicle inspection lanes would be constructed in the void left by the realigned southbound lanes. A new GSA employee parking lot would be located between the realigned freeway lanes and the border. Virginia Avenue would be enhanced and would include transit turn-around and loading areas near a new pedestrian crossing at its connection with the border. The pedestrian bridge over the freeway would be extended to Virginia Avenue. Phase 3 is a longer-term plan that is dependent on coordination with Mexico's new POE facilities and connecting roadways.

**FIGURE 11: GSA PREFERRED ALTERNATIVE – PHASE 3 IMPROVEMENTS**



Source: *San Ysidro Land Port of Entry Improvements Project Draft Environmental Impact Statement* (GSA, May 2009)

## 2.2.2 Traffic and Circulation

### 2.2.2.1 Traffic Volumes

**Table 5** summarizes the total number of vehicles passing through each respective intersection during the peak hour for the Year 2030 scenario and compares these traffic volumes with Existing Conditions. Year 2030 traffic volumes have been adjusted up by a 62.7 percent growth factor<sup>16</sup> as determined from a comparison of future year and existing San Diego Association of Governments (SANDAG) travel forecasts.

<sup>16</sup> *San Ysidro Land Port of Entry (LPOE) Expansion Mobility Study* (KOA Corporation, April 30, 2009).

Table 5: Year 2030 Projected Traffic Volume Summary at Study Area Intersections

		Peak Hour	Existing	Year 2030
1	Camino de la Plaza & Virginia Ave	AM	454	1,079
		PM	1,457	3,263
2	Camino de la Plaza & I-5 SB Ramps	AM	979	1,498
		PM	2,701	4,144
3	East San Ysidro Blvd & Camino de la Plaza/East Beyer Blvd	AM	950	1,701
		PM	1,952	3,656
4	East San Ysidro Blvd & I-5 NB Ramps	AM	817	1,460
		PM	1,083	2,049

Note: Traffic volumes represent the total number of vehicles passing through an intersection during the peak hour.

In addition, traffic volumes associated with a planned expansion of Las Americas (Las Americas – East Parcel Site Plan) were added to the intersections in the study area. This project is located south of Camino de la Plaza and west of Virginia Avenue. At the time of this study, the current project consists of approximately 147,000 square feet of gross leasable area, which corresponds to an estimated trip generation of 308 AM peak-hour trips (185 in, 123 out) and 1,027 PM peak-hour trips (514 in, 513 out). These project trips were distributed through the study intersections based on existing travel patterns in the area, which generally consisted of 60 percent of the trips traveling to/from the east and 40 percent of the trips traveling to/from the west.

As shown in [Table 5](#), the number of vehicles passing through each respective intersection is expected to increase between the Existing and Year 2030 scenarios. As is true in Existing Conditions, the majority of peak-hour trips would occur in the PM peak hour. Also, the intersection of Camino de la Plaza and the I-5 southbound ramps/Camiones Way would continue to be the most heavily used intersection.

#### 2.2.2.2 Traffic Operations

##### Intersections

[Table 6](#) summarizes the LOS for the study intersections under the Year 2030 scenario, which includes the project trips related to the GSA expansion project and the proposed Las Americas – East Parcel Site Plan project. In addition, the analysis included the improvements associated with several intersections as a result of impacts related to the GSA project. At the Camino de la Plaza and Virginia Avenue intersection, the identified improvements consisted of constructing a traffic signal at this location and widening Camino de la Plaza to include a second westbound through lane. At the Camino de la Plaza & I-5 SB Ramps intersection, the identified improvement consisted of restriping the I-5 SB Ramps to an exclusive left, shared-through-right, and exclusive right lanes.

As shown in the table, all intersections would operate at an acceptable LOS D or better except at the following locations:

- Camino de la Plaza & I-5 SB Ramps/Camiones Way (LOS F – PM Peak)
- East San Ysidro Boulevard & Camino de la Plaza/East Beyer Boulevard (LOS F – PM Peak)
- East San Ysidro Boulevard/I-5 NB Ramps/Rail Court (LOS E – PM Peak)

Table 6: Year 2030 Study Area Projected Intersection LOS Summary

Intersection		Peak-Hour	Year 2030 Conditions	
			Delay <sup>(a)</sup>	LOS <sup>(b)</sup>
1	Camino de la Plaza & Virginia Ave <sup>(c)</sup>	AM	17.8	B
		PM	26.5	C
2	Camino de la Plaza & I-5 SB Ramps <sup>(c)</sup>	AM	18.0	B
		PM	<b>94.5</b>	<b>F</b>
3	East San Ysidro Blvd & Camino de la Plaza/East Beyer Blvd	AM	38.0	D
		PM	<b>91.8</b>	<b>F</b>
4	East San Ysidro Blvd/NB Freeway Ramps/Rail Ct	AM	25.3	C
		PM	<b>65.0</b>	<b>E</b>

Notes:  
**Bold** and **Shaded** values indicate intersections operating at LOS E or F.  
(a) Delay refers to the average control delay for the entire intersection, measured in seconds per vehicle.  
(b) LOS calculations are based on the methodology outlined in the 2000 *Highway Capacity Manual* and performed using Synchro 7.  
(c) Improvements associated with the GSA's impacts have been assumed to be constructed and in operation.

Although the analysis already assumes improvements at the Camino de la Plaza & I-5 southbound ramps intersection, the additional traffic volumes from the Las Americas – East Parcel Site Plan project worsens the traffic conditions during the PM peak-hour at most of the study intersections.

### Queuing

As noted in the queuing discussion in Section 2.1.3.2, the analysis shown in the table does not take into account the effects of queues that would spill back into adjacent intersections. As a result, the delays could actually be worse than what is reported.

### 2.2.3 Border Crossing Projected Growth

The same 62.7 percent growth rate determined for vehicular border crossings (see Section 2.2.2) was applied to existing pedestrian border crossing data to estimate the Year 2030 pedestrian crossings at the POE facility.<sup>17</sup> This growth rate reflects growth used by GSA and SANDAG Series 10 forecast models developed specifically for the San Ysidro POE Expansion project.

**Table 7** summarizes the expected pedestrian crossings at the POE facility in the Year 2030. As shown in the table, there would be 88,000 daily projected pedestrian crossings and 5,500 and 6,000 projected pedestrian crossings during the AM and PM peaks, respectively.

<sup>17</sup> San Ysidro Land Port of Entry (LPOE) Expansion Mobility Study (KOA Corporation, April 30, 2009).

Table 7: Year 2030 Projected Pedestrian Border Crossings at San Ysidro POE

	Existing Pedestrian Crossings	Growth Factor	Year 2030 Pedestrian Crossings <sup>(a)</sup>
AM Peak	3,400 <sup>(a)</sup>	62.7%	5,500
PM Peak	3,900 <sup>(a)</sup>		6,000
Daily Total	54,100 <sup>(a)</sup>		88,000
Daily Northbound	31,400		51,100
Daily Southbound	22,700		36,900

Source: *San Ysidro Land Port of Entry (LPOE) Expansion Mobility Study* (KOA Corporation, April 30, 2009)

Note:  
(a) Includes the total pedestrians processed in both directions at the POE facility.

#### 2.2.4 2030 Setting Implications for Conflicts and Deficiencies

The GSA border inspection facility expansion plans and projected growth in border crossings by 2030 have implications for the existing circulation and mobility in the border area. In general, the projected 2030 condition will exacerbate the existing condition conflicts and deficiencies discussed in Section 2.1.4. More specifically:

- Projected growth in vehicular and pedestrian border crossings will contribute to the circulation and mobility conflicts and deficiencies discussed in Section 2.1.4 and shown in **Figure 8**.
- Projected growth in pedestrian border crossings will increase the demand for transportation services at the border, requiring more capacity for Trolley, bus and taxi/jitney/shuttle/kiss-and-ride facilities, and increases in transit and intercity bus service frequencies.
- Projected growth in pedestrian border crossings will result in pedestrian LOS E and F during the morning and afternoon peak periods at the northeast, northwest and southeast sidewalk landings at the intersection of East San Ysidro Boulevard/I-5 Northbound Ramps/Rail Court.<sup>18</sup>
- The GSA Phase 1 expansion plan (the central plant) encroaches onto the southernmost intercity bus ticketing, waiting, and loading areas, eliminating (without proposing replacement) of these facilities. This expansion also impacts existing retail and commercial businesses in this southern location on the site.
- The GSA Phase 1 expansion plan includes a new pedestrian bridge over I-5 to connect pedestrians to the southbound border crossing. The new bridge landings on both the west and east sides of the freeway lengthen the walking distance to the southbound crossing.
- The GSA Phase 1 expansion plan will add a southbound pedestrian crossing on the east side of I-5 (currently the only southbound pedestrian crossing is on the west side of I-5). This will create a new pedestrian circulation pattern on the east side of I-5 through an area that is currently somewhat isolated, constrained, and not pedestrian-friendly.
- The GSA Phase 1 expansion plan will truncate Camiones Way further from the southbound border crossing, removing bus, taxi, jitney, shuttle, and kiss-and-ride access further from the

<sup>18</sup> *San Ysidro Land Port of Entry (LPOE) Expansion Mobility Study* (KOA Corporation, April 30, 2009), Table 10-3.

border and increasing walking distance for travelers from transportation connections on Camiones Way to the border crossing.

- The GSA Phase 2 expansion plan extends the Administration and Pedestrian Building into the existing pedestrian plaza area, shrinking the space available for pedestrian circulation on the site even while increases in pedestrian border crossings are projected.
- The GSA Phase 3 expansion plan calls for realigning the southbound I-5 lanes to the west, eliminating the 1,178-space commercial parking lot and Camiones Way. Vehicular access to the new southbound crossing would be from Virginia Avenue, which will alter travel patterns and traffic volumes on the west side of the freeway, particularly at the Virginia Avenue/ Camino de la Plaza intersection.
- Elimination of the large parking lot on the west side of I-5 as part of GSA Phase 3 expansion plans could push demand for border parking into the community.
- The elimination of Camiones Way as part of GSA Phase 3 expansion plans shifts transit connections to the southbound border crossing to Virginia Avenue, which will require new passenger loading areas and result in a change in transit operations. Loading areas for taxis, jitneys, shuttles, and kiss-and-ride vehicles will also be required on Virginia Avenue.