

5.0 SAN YSIDRO POE RECONFIGURATION MOBILITY CONCEPTS

Study mobility analyses were conducted for the Full Study Area which, as defined in Section 1.1 and shown in **Figure 15**, encompasses the area on both the east and west sides of I-5 that would be impacted by all three phases of the GSA POE expansion plans. However, the reconfiguration concept alternatives were developed primarily for the Focused Study Area on the east side of I-5 because of the following:

- San Ysidro Community Plan goals and objectives, and project stakeholder goals and guiding principles coalesced into an overarching goal to consolidate transportation facilities and services into an International Gateway and Intermodal Transportation Center (ITC) (see Section 4).
- The majority of border transportation access, particularly the San Diego Trolley, is currently located on the east side of I-5.
- Phases 1 and 2 of the GSA POE expansion plans are concentrated on the east side of I-5; Phase 3 (west side of I-5) is a longer-term project.
- The highest volumes of pedestrian border crossings occur on the east side of I-5, and are projected to continue to occur on the east side of I-5 after implementation of the three-phased GSA expansion plans.
- Reconfiguration of the east side of I-5 can act as a catalyst for addressing mobility and community goals both west and north of the Focused Study Area.

FIGURE 15: FULL AND FOCUSED STUDY AREAS



While the reconfiguration concepts focus on the creation of an ITC on the east side of I-5, ancillary facilities for the Full Study Area that would be required to accommodate an ITC and study area traffic, circulation, and access goals are included in the study recommendations. Initial study activities included development of concept schematics that incorporated the Full Study Area as shown in **Figure 16**. These initial schematics can be used to supplement the Focused Study Area reconfiguration concept recommendations, particularly as they relate to proposals for addressing border area parking needs.

FIGURE 16: INITIAL FULL STUDY AREA SCHEMATICS



5.1 FOCUSED STUDY AREA RECONFIGURATION CONCEPTS

Once the study focused on the east side of I-5, a variety of general concepts was crafted in an effort to address the stakeholder goals and guiding principles. These general concepts are included in **Appendix A**. Most did not satisfactorily address the essential principles, nor did they fully speak to the complementary principles. Some failed to effectively concentrate transportation facilities and services into a coordinated and convenient Intermodal Transportation Center. Others shifted the Trolley away from the pedestrian POE facilities. None

of them fully eliminated the conflicts inherent with mixing auto traffic and circulation with large volumes of pedestrians. Most did not improve and, in some cases, degraded public and private transit operational conflicts. And, finally, most struggled to create an integrated connection with the San Ysidro community.

In crafting these general concepts, it soon became apparent that there were four factors driving the development of the reconfiguration concepts. By focusing on these factors, reconfiguration concepts could be developed that allowed for an assessment of trade-offs in the evaluation of the concept alternatives.

5.1.1 Driving Factors for Concept Development

The four factors deemed to be driving the development of concepts for the Focused Study Area are:

- **Location of Trolley Platform.** Because the Trolley serves over 42 percent of pedestrian border crossers, requires over 360 feet of linear platform space (and connecting tracks to approach the platform), calls for close proximity to both the north- and southbound pedestrian border facilities, and would be the centerpiece of transportation modes in an ITC, its location on the site drives the options for the other transportation, pedestrian, and commercial components. The existing Trolley platform is located in the southern half of the Focused Study Area, close to the northbound pedestrian crossing outlet. There are three general options for the Trolley platform location in the Focused Study Area:
 - Retain the platform in its existing location
 - Relocate the platform to the east
 - Relocate the platform to the north
- **Type of Intermodal Transportation Center (ITC).** Another driving factor affecting the reconfiguration concept relates to availability of space for the physical, operational, and circulation needs of the ITC. An ITC is an assembly of transportation facilities and services coordinated and integrated by proximity and purpose, and including common customer information, facilities and amenities, and pedestrian connections and spaces. An ITC can incorporate multiple transportation modes in one large facility, or it can include several facilities in proximity to each other that operate in a cohesive, interrelated and comprehensive manner. As a result, two primary options for incorporation of an ITC in the Focused Study Area exist:
 - An at-grade ITC
 - A vertical ITC

An at-grade facility would need to accommodate all transportation, pedestrian, and commercial components and circulation requirements at ground level, limiting the options for the accommodating facility needs. A vertical ITC would increase available acreage for components and circulation by creating a multi-level ITC, which would house some activities and facilities on the ground level and others on one of more upper levels of an ITC structure. The additional space would expand facility design options. It is possible that a hybrid ITC option would be developed that includes both vertical and at-grade components.
- **Location of Freeway Ramps.** A third factor that significantly affects the reconfiguration concept is the location of the northbound I-5 on- and off-ramps. These ramps extend into the center of the site and their presence significantly impacts site design. In addition, as

discussed in Section 2.1.4, one of the primary conflict points on the site is the intersection of the ramps with East San Ysidro Boulevard and Rail Court. Relocation of these ramps would dramatically change options for the reconfiguration concept. The driving factor is whether the:

- Northbound I-5 ramps remain in their existing location
- Northbound I-5 ramps relocate to the Camino de la Plaza bridge
- **Access to ITC.** The final driving factor affecting the reconfiguration concept relates to how public and private buses would access the ITC. Bus access routes to an ITC will affect how pedestrian and other vehicular circulation occurs on and near the site, and how well the site concept minimizes circulation conflicts. Access routes also impact bus operating efficiencies. In general, there are two options for bus access to and from the site and an ITC:
 - Bus access from the East San Ysidro Boulevard/Camino de la Plaza intersection
 - Bus access off East Beyer Boulevard via a new site access point
 - A third option would be access using the northbound I-5 freeway ramps, but this option has limited feasibility for bus routes that don't use the freeway.

5.1.2 Reconfiguration Concepts

Taking into account the driving factors for the reconfiguration concept, the TWG identified seven driving factor permutations as the basis for the concept alternatives. As shown in **Table 13**, alternatives include various combinations of Trolley platform locations, at-grade and vertical ITC facilities, freeway ramp locations, and bus access. In developing concept alternatives, it became apparent that the most significant driving factor was the location of the freeway ramps. As a result, the concepts were divided into two categories – those that relocated the freeway ramps (new ramps or “NR”) and those that retained the freeway ramps in their existing location (existing ramps or “ER”).

Table 13: Summary of Key Features for ITC Alternatives

Alternative	Location of Trolley Platform (a)			Type of ITC (b)		Freeway Ramps Location (c)		Access to ITC (d)	
	Existing	East	North	At-Grade	Vertical	Existing	New	Beyer Blvd	San Ysidro Blvd
NR-A		◆			◆		◆	◆	
NR-B		◆			◆		◆		◆
NR-C		◆		◆			◆		◆
NR-D	◆				◆		◆	◆	
NR-E			◆		◆		◆		◆
ER-A		◆			◆	◆			◆
ER-B	◆				◆	◆		◆	

Notes:
 NR = New freeway ramp location
 ER = Existing freeway ramp location
 ◆ Indicates feature included in alternative
 (a) The three options for the location of the Trolley platform include the existing location, moving the platform to the east, or moving the platform to the north.
 (b) The two options include an all at-grade ITC or a vertical ITC.
 (c) The two options include the existing I-5 NB Ramps location or a new ramp to/from Camino de la Plaza.
 (d) The two options for bus access to the ITC include access from Beyer Boulevard or from the East San Ysidro Boulevard/Camino del la Plaza intersection.

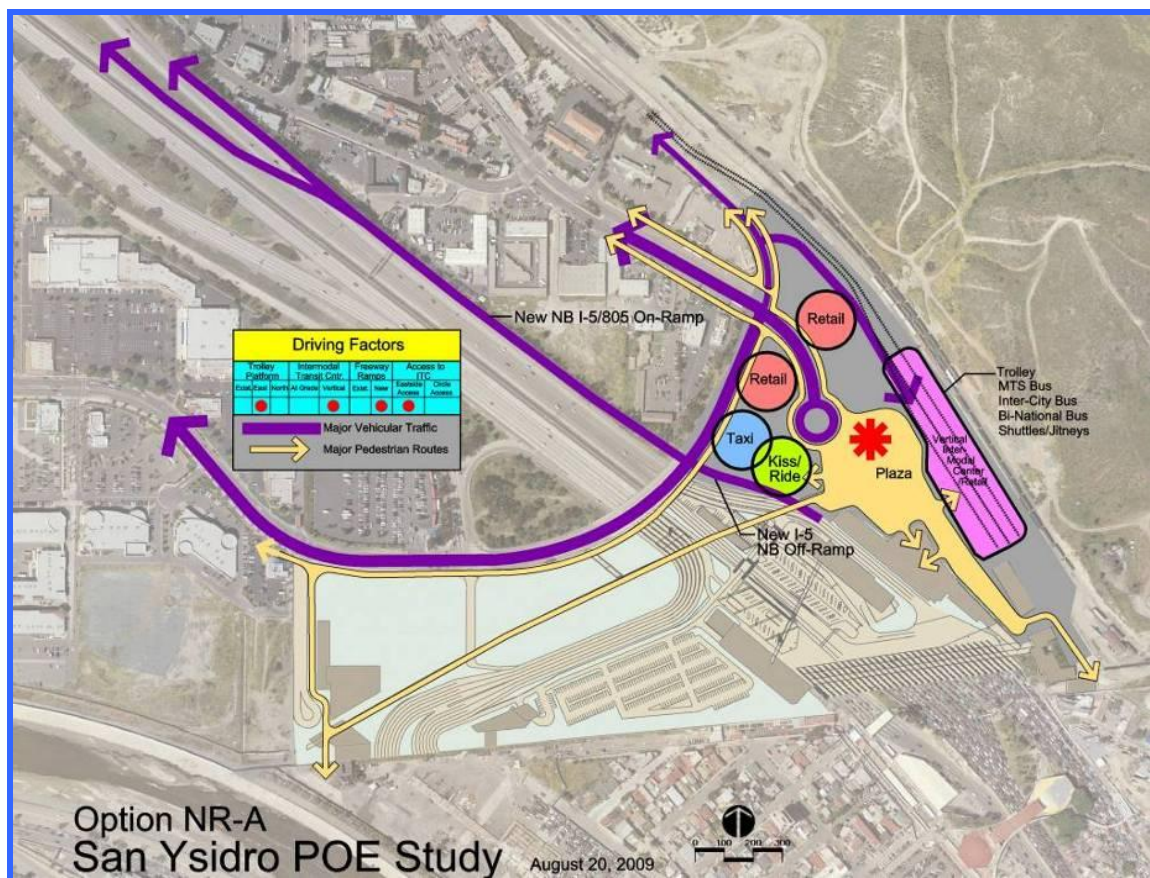
Development of the concept alternatives focused on general location, relative size, and inter-relationships of the ITC and other site features rather than specific site designs. This more abstract approach allowed for an evaluation of the options presented by the driving factors relative to the guiding principles and evaluation criteria discussed in Section 4, and a narrowing of concept alternatives for further consideration. More detailed conceptual design has been performed on the preferred alternative and is discussed in detail in Section 6.

5.1.2.1 New Ramps-A (NR-A) Concept

The NR-A concept (**Figure 17**) addresses the driving factors in the following ways:

- Relocates the Trolley platform to the east
- Includes a vertical ITC
- Relocates the I-5 northbound ramps to/from the Camino de la Plaza bridge
- Accesses the ITC from East Beyer Boulevard

FIGURE 17: NR-A CONCEPT



By shifting the Trolley platform to the eastern edge of the site, relocating the freeway ramps to connect with the Camino de la Plaza bridge, and placing local and intercity bus facilities above the Trolley platform, a large space in the middle of the site becomes available for a pedestrian plaza, and taxi, jitney, and kiss-and-ride facilities. The approaching Trolley tracks would also shift to the east providing room for a bus access ramp to the second level bus platform from East Beyer Boulevard. This configuration shifts the entrance to the ITC to East San Ysidro Boulevard at Camino de la Plaza. The new entrance leads to the internal access roadway and cul-de-sac “circle” for taxi, jitney, and kiss-and-ride access and facilities. This internal roadway is lined by a pedestrian pathway connecting the pedestrian plaza to the entrance intersection. Small-scale retail and commercial uses would be provided for on the site.

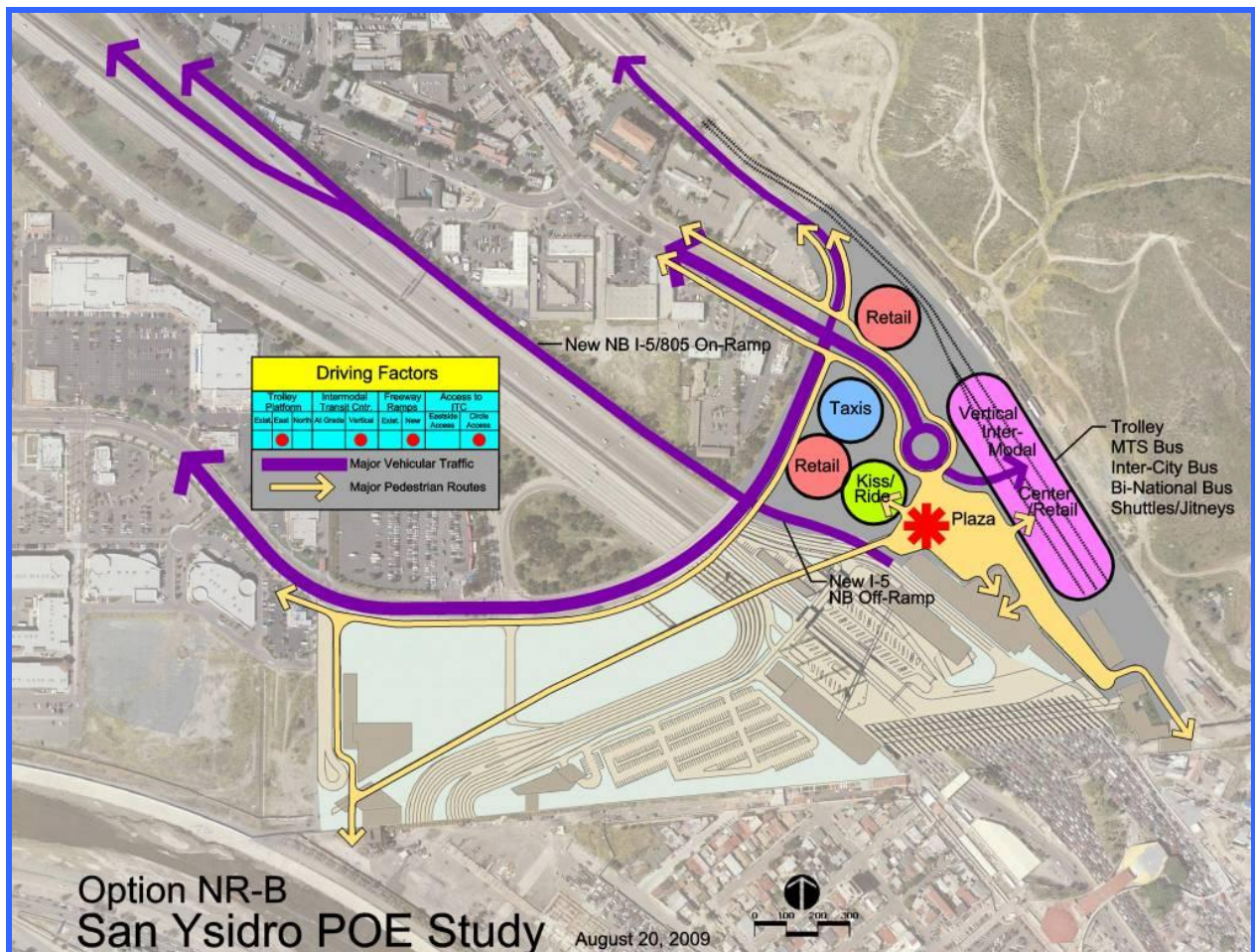
5.1.2.2 New Ramps-B (NR-B) Concept

The NR-B concept (**Figure 18**) addresses the driving factors in the following ways:

- Relocates the Trolley platform to the east
- Includes a vertical ITC
- Relocates the I-5 northbound Ramps to/from the Camino de la Plaza bridge
- Accesses the ITC from East San Ysidro Boulevard and the internal ITC circle

This concept includes the same features as Concept NR-A, except that local and intercity buses would access the second level bus platform via the East San Ysidro Boulevard/Camino de la Plaza intersection and through the taxi, jitney, kiss-and-ride internal road and circle. Because the buses need to reach the second story level, the bus access ramp would begin its ascent from the circle, encroaching on the pedestrian plaza, and possibly requiring a larger circle. Small-scale retail and commercial uses would be provided for on the site.

FIGURE 18: NR-B CONCEPT



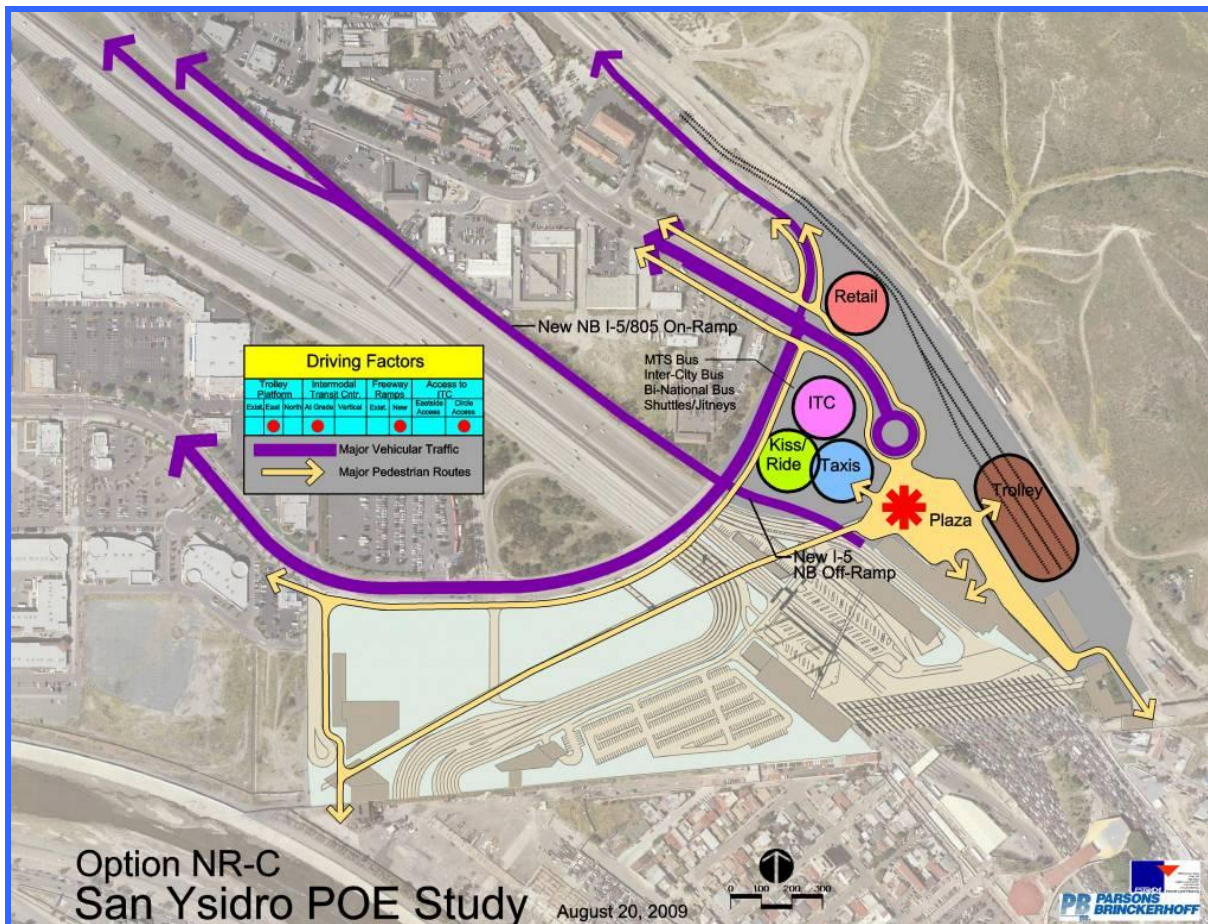
5.1.2.3 New Ramps-C (NR-C) Concept

The NR-C concept (**Figure 19**) addresses the driving factors in the following ways:

- Relocates the Trolley platform to the east
- Provides an at-grade ITC
- Relocates the I-5 northbound ramps to/from the Camino de la Plaza bridge
- Accesses the ITC from East San Ysidro Boulevard and the internal ITC circle road

This concept also shifts the Trolley tracks and platform to the east and relocates the freeway ramps to the Camino de la Plaza bridge, providing for a pedestrian plaza near the GSA pedestrian bridge outlet. The difference from the previous concepts is that all rail, bus, and other transportation facilities are at-grade. The bus platforms would be accessed from the East San Ysidro Boulevard/Camino de la Plaza intersection and internal circle road, sharing the access and space with taxis, jitneys, and shuttles in a manner similar to the existing transit center. Since the relocated freeway ramps allow for a larger contiguous site than the current transit center site, these shared facilities could be larger than the existing facilities but would also be farther from the Trolley platform. Small-scale retail and commercial uses would be provided for on the site.

FIGURE 19: NR-C CONCEPT



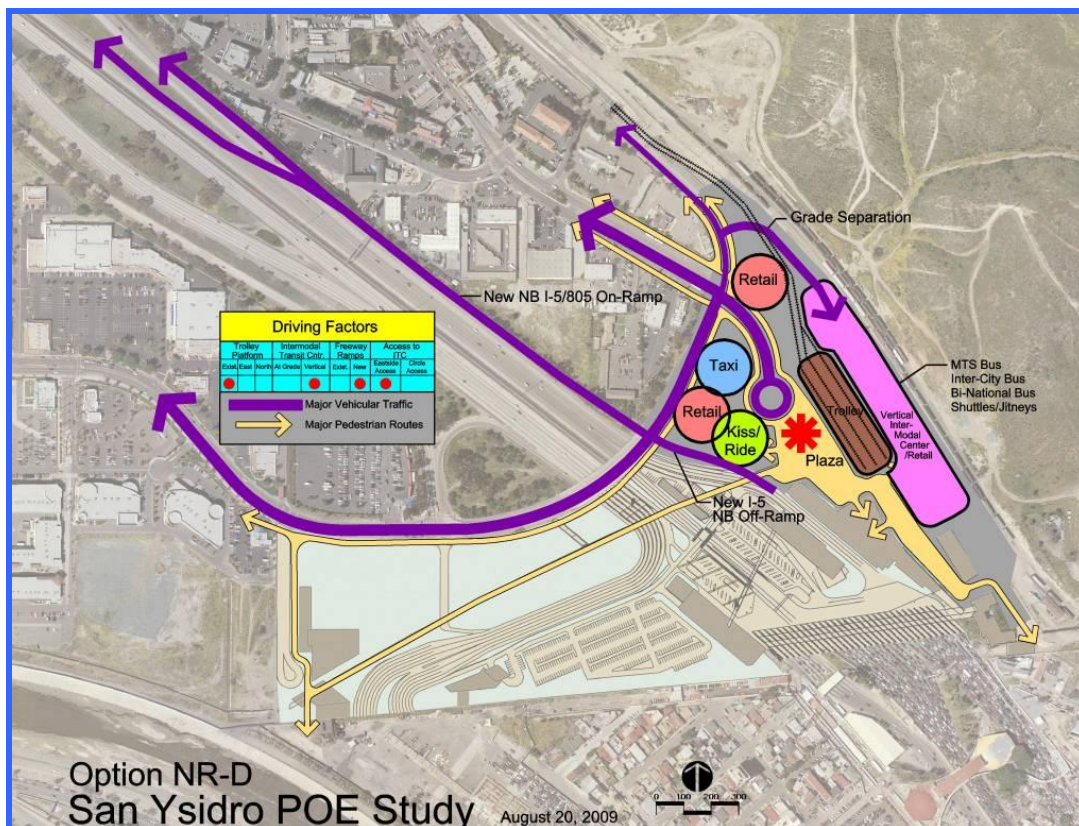
5.1.2.4 New Ramps-D (NR-D) Concept

The NR-D concept (**Figure 20**) addresses the driving factors in the following ways:

- Retains the Trolley platform in its existing location
- Provides a vertical ITC
- Relocates the I-5 northbound ramps to/from the Camino de la Plaza bridge
- Accesses the ITC from East Beyer Boulevard

This concept retains the Trolley platform (and approaching tracks) in its existing location close to the GSA northbound pedestrian crossing bridge outlet. The two-level local and intercity bus facility would be east of and adjacent to the Trolley platforms. The facility would house ticketing and retail facilities on the ground level and additional bus platforms on the second level. Access ramps to the bus facility second level would be from East Beyer Boulevard and would require grade separation from the Trolley tracks. Since the freeway ramps would be relocated, the pedestrian plaza would expand into the available space and be larger than the existing transit center pedestrian area, but not as large as in concepts NR-A, NR-B, and NR-C, in which the Trolley platform also shifts to the east. Taxi, jitney, shuttle, and kiss-and-ride facilities are provided along the internal circle road accessed from the East San Ysidro Boulevard/Camino de la Plaza intersection. Pedestrian pathways would line the circle road to connect the pedestrian plaza to the entrance intersection and community. Small-scale retail and commercial uses would be provided for on the site.

FIGURE 20: NR-D CONCEPT



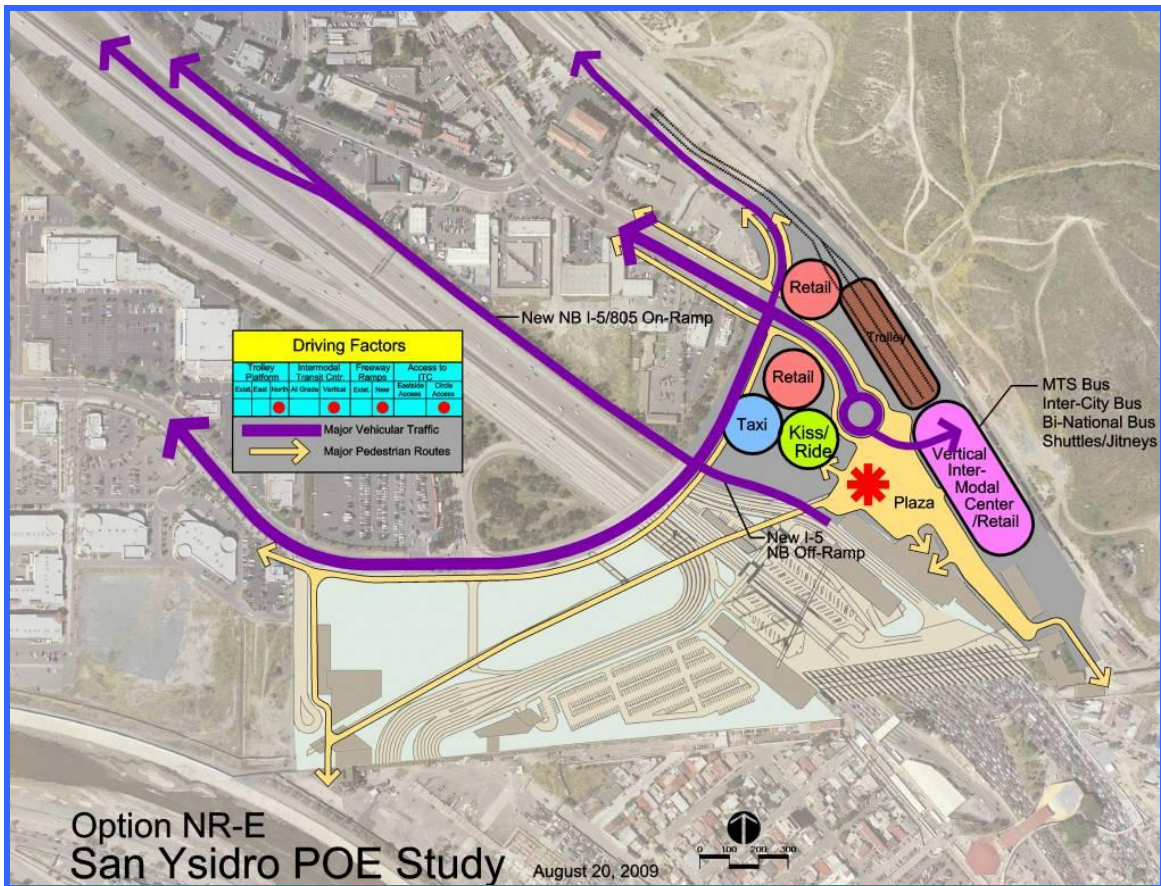
5.1.2.5 New Ramps-E (NR-E) Concept

The NR-E concept (Figure 21) addresses the driving factors in the following ways:

- Relocates the Trolley platform to the north
- Provides a vertical ITC
- Relocates the I-5 northbound ramps to/from the Camino de la Plaza bridge
- Accesses the ITC from East San Ysidro Boulevard and the internal ITC circle road

This concept relocates the Trolley platform to the north, closer to the community and further from the north- and southbound pedestrian border crossings. A two-level local and intercity bus facility would be located immediately south of the Trolley platforms. The facility would house ticketing and retail facilities on the ground level and additional bus platforms on the second level. Access ramps to the bus facility second level would be from the internal circle road and would need to begin its ascent at the circle, encroaching on the pedestrian plaza and possibly requiring a larger circle. Since the freeway ramps would be relocated, the pedestrian plaza would expand into the available space and be larger than the existing transit center pedestrian area. Taxi, jitney, shuttle, and kiss-and-ride facilities are provided along the internal circle road accessed from the East San Ysidro Boulevard/Camino de la Plaza intersection. Small-scale retail and commercial uses would be provided for on the site.

FIGURE 21: NR-E CONCEPT



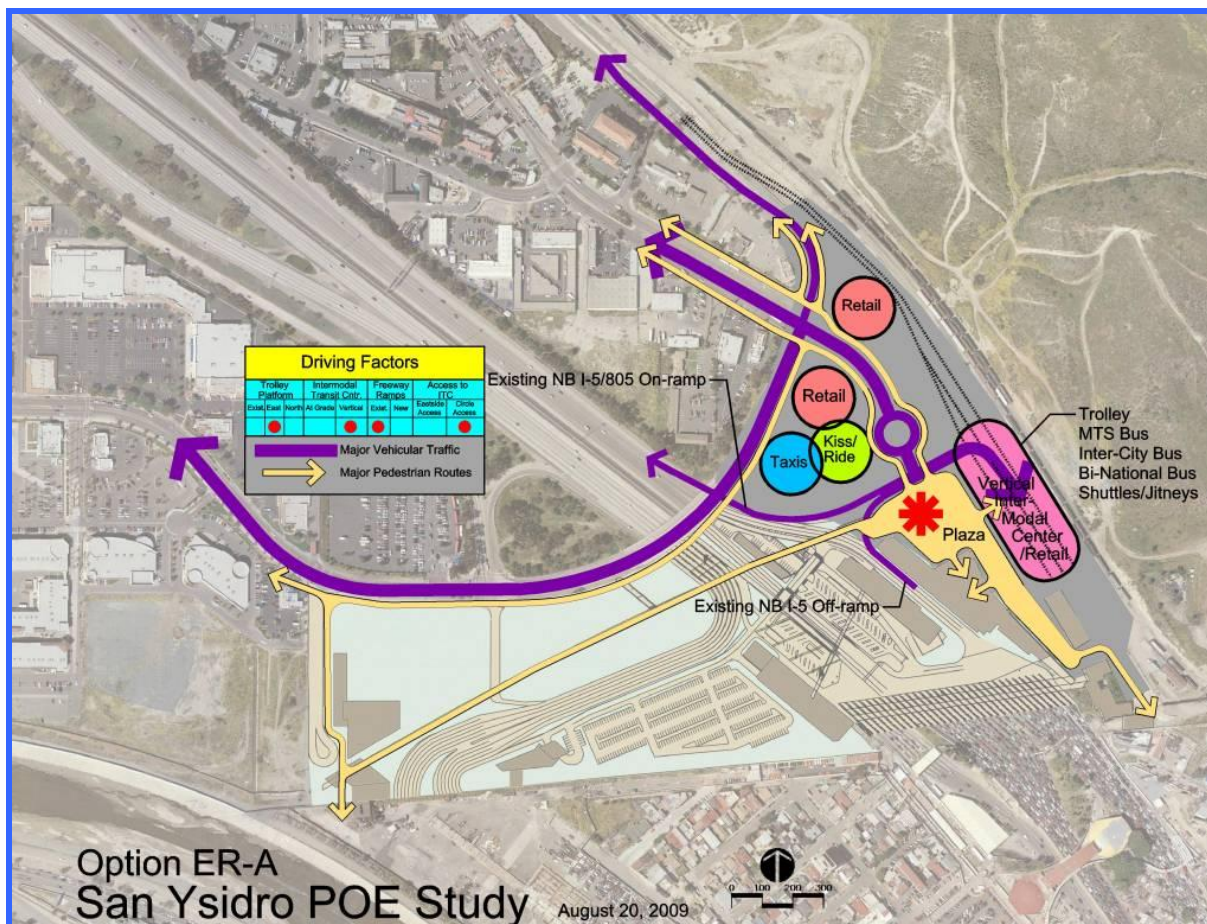
5.1.2.6 Existing Ramps-A (ER-A) Concept

The ER-A concept (**Figure 22**) addresses the driving factors in the following ways:

- Relocates the Trolley platform to the east
- Provides a vertical ITC
- Retains the I-5 northbound ramps in their existing location
- Accesses the ITC from Rail Court via the East San Ysidro Boulevard/I-5 Ramp/Rail Court intersection

This concept assumes that the freeway ramps cannot or will not be relocated and will continue to penetrate the middle of the site. East San Ysidro Boulevard would connect into the ramps to provide access. The Trolley platform (and approaching tracks) would be relocated to the east, and local and intercity bus facilities would be located above the Trolley platform providing for a larger pedestrian plaza area than exists today. Access ramps to the second-level bus facility would be through the intersection of East San Ysidro Boulevard and the freeway ramps. The taxi, jitney, shuttle, and kiss-and-ride facilities would be located in the northwest quadrant of the intersection, separated from the transit facilities by the street and freeway ramps. Small-scale retail and commercial uses would be provided for on the site.

FIGURE 22: ER-A CONCEPT



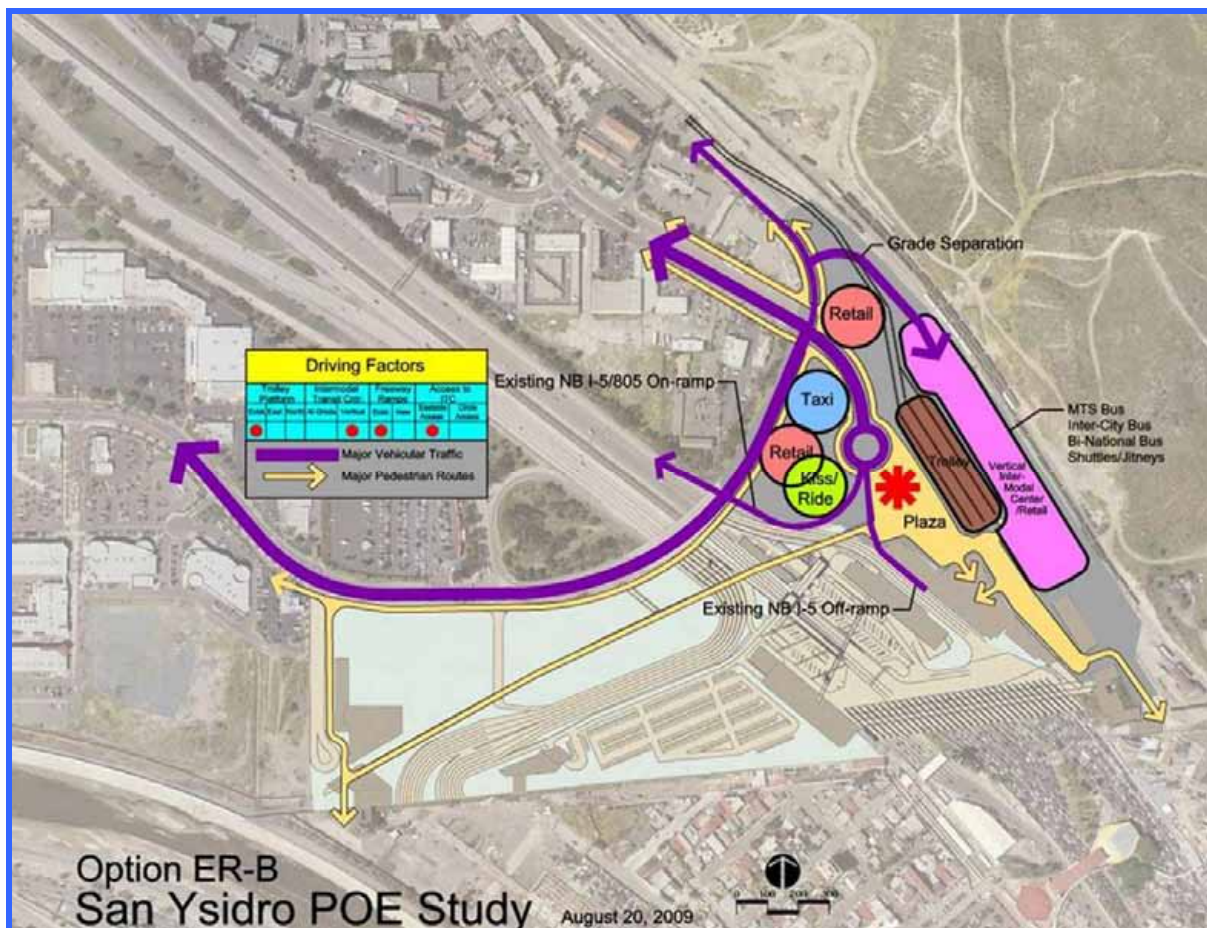
5.1.2.7 Existing Ramps-B (ER-B) Concept

The ER-B concept (**Figure 23**) addresses the driving factors in the following ways:

- Retains the Trolley platform in its existing location
- Provides a vertical ITC
- Retains the I-5 northbound ramps in their existing location
- Accesses the ITC from East Beyer Boulevard

This concept assumes that the freeway ramps cannot or will not be relocated and will continue to penetrate the site, but will be modified slightly. East San Ysidro Boulevard would connect into the ramps to provide access. It also assumes that the Trolley platform (and approaching tracks) will remain in their existing locations. A two-level local and intercity bus facility would be located east of the Trolley platforms. The facility would house ticketing and retail facilities on the ground level and additional bus platforms on the second level. Access ramps to the bus facility second level would be from East Beyer Boulevard, and would require grade separation from the Trolley tracks. The taxi, jitney, shuttle, and kiss-and-ride facilities would be located in the northwest quadrant of the intersection, separated from the transit facilities by the street and freeway ramps. Small-scale retail and commercial uses would be provided for on the site.

FIGURE 23: ER-B CONCEPT



5.2 RECONFIGURATION CONCEPTS COMPARATIVE EVALUATION

A comparative evaluation of the seven reconfiguration concept alternatives discussed in Section 5.1.2 was conducted using the principles (criteria) defined in Section 4.2 and listed in [Table 12](#). Each reconfiguration concept was assigned a relative rating (as compared to other alternatives) for each principle using a rating scale from “1” to “5,” in which “1” is worst and “5” is best. Scores were subtotaled separately for the essential principles and complementary principles to allow an assessment of how well each concept alternative fared within the essential and complementary categories relative to the other alternatives. Total scores for all essential and complementary principles provide the comprehensive comparative evaluation results. For both subtotals and totals, a higher score indicates that the concept alternative better addresses the project principles. [Table 14](#) summarizes the comparative evaluation results. Reconfiguration concepts NR-A and NR-D ranked highest by a significant margin.

5.2.1 Comparative Evaluation Summary

The following section discusses the characteristics of each concept alternative that provided the basis for the relative ratings and comparative evaluation results. The discussion highlights benefits and issues for each alternative relative to the existing condition and considers the existing condition conflicts and deficiencies identified in Section 2.1.4.

5.2.1.1 New Ramps-A (NR-A) Concept

Benefits

- Eliminates vehicular conflicts at East San Ysidro Boulevard/I-5 Northbound Ramps/Rail Court by relocating freeway ramps and eliminating the intersection
- Gives transit priority access to/from the ITC
- Shifts local and intercity bus access to and from ITC away from major intersections
- Improves intercity bus circulation
- Eliminates street and driveway at-grade vehicular crossings of Trolley tracks by shifting tracks to the east
- Enhances general traffic circulation
- Retains Trolley platforms in close proximity to pedestrian border crossing ingress/egress
- Consolidates Trolley, local bus, and intercity bus facilities and services
- Vertical ITC provides an opportunity to create an architectural landmark
- Separates taxi, jitney, shuttle, and kiss-and-ride circulation and access from conflicts with bus circulation and access
- Provides a more direct northbound freeway access to and from the community core and planned Pilot Village
- Creates an “entry” intersection to the community at East San Ysidro Boulevard and Camino de la Plaza for travelers from the border and the freeway
- Provides a large pedestrian plaza in the center of the ITC with direct access to the new GSA-planned southbound crossing pedestrian bridge over the freeway
- Eliminates pedestrian crossings of Trolley tracks

Table 14: San Ysidro POE Reconfiguration Mobility Study – Summary of Concept Alternatives Comparative Evaluation

Concept Description		New Ramps				Existing Ramps		
		Trolley East			Existing Trolley	Trolley North	Trolley East	Existing Trolley
		Vertical		At-Grade	Vertical		Vertical	
		Eastside ITC Access	Circle ITC Access		Eastside ITC Access	Circle ITC Access	Circle ITC Access	Eastside ITC Access
Concept	NR-A	NR-B	NR-C	NR-D	NR-E	ER-A	ER-B	
Principles								
Essential Principles								
Pink	Resolve/Eliminate Deficiencies and Conflicts	5	2	2	5	2	1	2
Light Green	Increase Public Transit Use / Give Transit Priority	4	4	3	5	1	3	5
Yellow	Improve Traffic Circulation	5	3	3	5	3	1	2
Gold	Enhance Pedestrian Walkability, Connectivity, Access	5	2	5	5	1	1	1
Lavender	Accommodate Demand and Future Expansion	4	3	1	5	3	2	3
Green	Maximize Operating Efficiencies / Minimize Operating Cost	2	2	3	2	2	1	2
Subtotal		25	16	17	27	12	9	15
Complementary Principles								
Sky	Create a Gateway/Landmark	4	2	1	5	2	1	4
Seafoam	Promote Revitalization/Economic Development	3	2	1	3	2	1	2
Salmon	Create Phasable Plan that Minimizes Disruption	3	2	3	4	2	2	3
Rust	Minimize Capital Costs	3	3	5	3	2	2	3
Teal	Provide Opportunities for Public / Private Partnerships	3	3	2	3	3	3	3
Gray	Eliminate Illegal Use of Facility	NA	NA	NA	NA	NA	NA	NA
Turquoise	Specific Independent Goals	NA	NA	NA	NA	NA	NA	NA
Subtotal		16	12	12	18	11	9	15
TOTAL		41	28	29	45	23	18	30
Relative Ranking		Color coding relates to the Guiding Principles discussed in Section 4.3 and Table 9.						
5	Best							
4	↑ ↓							
3								
2								
1		Worst						

- Creates a pedestrian promenade and view corridor between the ITC plaza and Camino de la Plaza, improving access for border crossers to/from the community
- Creates opportunities to incorporate small-scale retail and commercial activities into the site
- Provides opportunities for public/private partnerships and/or joint development with retail/commercial developers and/or intercity bus carriers

Issues

- Slightly increases bus travel distance from Camino de la Plaza to the bus facilities, increasing travel time and operating costs
- Requires widening the Camino de la Plaza bridge to incorporate left-turn pockets to accommodate northbound freeway ramp traffic
- Eliminates private commercial parking lots on the site
- Requires acquisition and/or relocation of private property and businesses on the site
- Results potentially in relatively higher capital costs due to incorporation of a vertical facility and relocation of freeway ramps

5.2.1.2 New Ramps-B (NR-B) Concept

Benefits

- Eliminates vehicular conflicts at East San Ysidro Boulevard/I-5 Northbound Ramps/Rail Court by relocating freeway ramps and eliminating the intersection
- Eliminates street and driveway at-grade vehicular crossings of Trolley tracks by shifting tracks to the east
- Enhances general traffic circulation
- Improves intercity bus circulation
- Retains Trolley platforms in close proximity to pedestrian border crossing ingress/egress
- Consolidates Trolley, local bus, and intercity bus facilities and services
- Vertical ITC provides an opportunity to create an architectural landmark
- Provides a more direct northbound freeway access to and from the community core and planned Pilot Village
- Creates an “entry” intersection to the community at East San Ysidro Boulevard and Camino de la Plaza for travelers from the border and the freeway
- Provides a large pedestrian plaza in the center of the ITC with direct access to the new GSA-planned southbound pedestrian bridge over the freeway
- Eliminates pedestrian crossings of Trolley tracks
- Creates opportunities to incorporate small-scale retail and commercial activities into the site
- Provides opportunities for public/private partnerships and/or joint development with retail/commercial developers and/or intercity bus carriers

Issues

- Slightly increases bus travel distance from Camino de la Plaza to the bus facilities, increasing travel time and operating costs
- Mixes local and intercity bus access to/from ITC with taxis, jitneys, shuttles, and kiss-and-ride access
- Requires local and intercity buses to cross pedestrian walkway between the plaza and East San Ysidro Boulevard/Camino de la Plaza intersection, creating conflicts with pedestrians and inhibiting pedestrian access to the community
- Requires ascending ramp from “circle” access to second level of ITC, creating a physical intrusion and visual barrier between the plaza and community
- Requires widening the Camino de la Plaza bridge to incorporate left-turn pockets to accommodate northbound freeway ramp traffic
- Eliminates private commercial parking lots on the site
- Requires acquisition and/or relocation of private property and businesses on the site
- Results potentially in relatively higher capital costs due to incorporation of a vertical facility and relocation of freeway ramps

5.2.1.3 New Ramps-C (NR-C) Concept

Benefits

- Eliminates vehicular conflicts at East San Ysidro Boulevard/I-5 Northbound Ramps/Rail Court by relocating freeway ramps and eliminating the intersection
- Eliminates street and driveway at-grade vehicular crossings of Trolley tracks by shifting tracks to the east
- Enhances general traffic circulation
- Retains Trolley platforms in close proximity to pedestrian border crossing ingress/egress
- Slightly reduces bus route distance to bus facilities, decreasing travel time and operating cost
- Provides a more direct northbound freeway access to and from the community core and planned Pilot Village
- Creates an “entry” intersection to the community at East San Ysidro Boulevard and Camino de la Plaza for travelers from the border and the freeway
- Provides a large pedestrian plaza in the center of the ITC with direct access to the new GSA-planned southbound pedestrian bridge over the freeway
- Eliminates pedestrian crossings of Trolley tracks
- Provides a potentially relatively lower cost alternative because all facilities are at-grade

Issues

- Separates Trolley, local bus, and intercity bus facilities and services
- Increases distance from pedestrian border crossing ingress/egress to local and intercity bus facilities

- Minimizes opportunities for public/private partnerships and/or joint development with retail/commercial developers and/or intercity bus carriers without vertical ITC facility and because more land is required for transportation facilities
- Mixes local and intercity bus access with taxis, jitneys, shuttles, and kiss-and-ride access
- Requires local and intercity buses to cross pedestrian walkway to access bus facilities, creating conflicts with pedestrians and inhibiting pedestrian access to the community
- Requires widening the Camino de la Plaza bridge to incorporate left-turn pockets to accommodate northbound freeway ramp traffic
- Eliminates private commercial parking lots on the site
- Requires acquisition and/or relocation of private property and businesses on the site
- Makes it more challenging to create an architectural landmark or gateway without consolidated vertical facilities

5.2.1.4 New Ramps-D (NR-D) Concept

Benefits

- Eliminates vehicular conflicts at East San Ysidro Boulevard/I-5 Northbound Ramps/Rail Court by relocating freeway ramps and eliminating the intersection
- Gives transit priority access to/from the ITC
- Shifts local and intercity bus access to/from ITC away from major intersections
- Improves intercity bus circulation
- Eliminates street and driveway at-grade vehicular crossings of Trolley tracks by realigning tracks and access road
- Enhances general traffic circulation
- Retains Trolley platforms in close proximity to pedestrian border crossing ingress/egress
- Retains Trolley platforms in existing location, which reduces need to completely rebuild station
- Consolidates Trolley, local bus, and intercity bus facilities and services
- Vertical ITC provides an opportunity to create an architectural landmark
- Separates taxi, jitney, shuttle, and kiss-and-ride circulation and access from conflicts with bus circulation and access
- Provides a more direct northbound freeway access to and from the community core and planned Pilot Village
- Creates an “entry” intersection to the community at East San Ysidro Boulevard and Camino de la Plaza for travelers from the border and the freeway
- Provides a pedestrian plaza in the center of the ITC with direct access to the new GSA-planned southbound pedestrian bridge over the freeway
- Eliminates pedestrian crossings of Trolley tracks

- Creates a pedestrian promenade between the ITC plaza and Camino de la Plaza, improving access for border crossers to/from the community
- Creates opportunities to incorporate small-scale retail and commercial activities into the site
- Provides opportunities for public/private partnerships and/or joint development with retail/commercial developers and/or intercity bus carriers

Issues

- Slightly increases bus travel distance from Camino de la Plaza to the bus facilities, increasing travel time and operating costs
- Requires ITC bus access ramp to be grade-separated over Trolley tracks
- Requires widening the Camino de la Plaza bridge to incorporate left-turn pockets to accommodate northbound freeway ramp traffic
- Eliminates private commercial parking lots on the site
- Requires acquisition and/or relocation of private property and businesses on the site
- Results potentially in relatively higher capital costs due to incorporation of a vertical facility and relocation of freeway ramps

5.2.1.5 New Ramps-E (NR-E) Concept

Benefits

- Eliminates vehicular conflicts at East San Ysidro Boulevard/I-5 Northbound Ramps/Rail Court by relocating freeway ramps and eliminating the intersection
- Eliminates street and driveway at-grade vehicular crossings of Trolley tracks by shifting tracks to the east
- Enhances general traffic circulation
- Improves intercity bus circulation
- Vertical ITC provides an opportunity to create an architectural landmark
- Provides a more direct northbound freeway access to and from the community core and planned Pilot Village
- Creates an “entry” intersection to the community at East San Ysidro Boulevard and Camino de la Plaza for travelers from the border and the freeway
- Provides a large pedestrian plaza in the center of the ITC with direct access to the new GSA-planned southbound pedestrian bridge over the freeway
- Eliminates pedestrian crossings of Trolley tracks
- Creates opportunities to incorporate small-scale retail and commercial activities into the site
- Provides opportunities for public/private partnerships and/or joint development with retail/commercial developers and/or intercity bus carriers

Issues

- Shifts Trolley platforms farther from pedestrian border crossing ingress/egress
- Separates Trolley, local bus, and intercity bus facilities and services

- Slightly increases bus travel distance from Camino de la Plaza to the bus facilities, increasing travel time and operating costs
- Mixes local and intercity bus access to/from ITC with taxis, jitneys, shuttles, and kiss-and-ride access
- Requires local and intercity buses to cross pedestrian walkway between the plaza and East San Ysidro Boulevard/Camino de la Plaza intersection, creating conflicts with pedestrians and inhibiting pedestrian access to the community
- Requires ascending ramp from “circle” access to second level of ITC, creating a physical intrusion and visual barrier between the plaza and Trolley station, and between the plaza and community
- Requires widening the Camino de la Plaza bridge to incorporate left-turn pockets to accommodate northbound freeway ramp traffic
- Eliminates private commercial parking lots on the site
- Requires acquisition and/or relocation of private property and businesses on the site
- Results potentially in relatively higher capital costs due to incorporation of a vertical facility and relocation of freeway ramps

5.2.1.6 Existing Ramps-A (ER-A) Concept

Benefits

- Retains Trolley platforms in close proximity to pedestrian border crossing ingress/egress
- Eliminates street and driveway at-grade vehicular crossings of Trolley tracks by realigning tracks and access road
- Consolidates Trolley, local bus, and intercity bus facilities and services
- Vertical ITC provides an opportunity to create an architectural landmark
- Separates taxi, jitney, shuttle, and kiss-and-ride circulation and access from conflicts with bus circulation and access
- Provides a pedestrian plaza in the center of the ITC with direct access to the new GSA-planned southbound pedestrian bridge over the freeway
- Eliminates pedestrian crossings of Trolley tracks
- Creates opportunities to incorporate small-scale retail and commercial activities into the site
- Provides opportunities for public/private partnerships and/or joint development with retail/commercial developers and/or intercity bus carriers

Issues

- Continues conflicts at East San Ysidro Boulevard/I-5 northbound freeway ramp intersection with autos, buses, and pedestrians
- Mixes local and intercity bus access to/from ITC with taxis, jitneys, shuttles, and kiss-and-ride access
- Creates a barrier between taxi, jitney, shuttle, kiss-and-ride facilities and pedestrian border crossers by requiring access across the freeway ramps and/or ITC bus access ramp

- Creates a freeway ramp/bus ramp pedestrian barrier between the plaza and community
- Slightly increases bus travel distance from Camino de la Plaza to the bus facilities, increasing travel time and operating costs
- Requires ascending ramp from East San Ysidro Boulevard “circle” area to second level of ITC, creating a physical intrusion and visual barrier between the plaza and community, and possibly conflicts with freeway ramps
- Requires all freeway ramp traffic to circulate through the site to get to/from the community
- Eliminates private commercial parking lots on the site
- Requires acquisition and/or relocation of private property and businesses on the site
- Results potentially in relatively higher capital costs due to incorporation of a vertical facility and relocation of freeway ramps

5.2.1.7 Existing Ramps-B (ER-B) Concept

Benefits

- Retains Trolley platforms in close proximity to pedestrian border crossing ingress/egress
- Eliminates street and driveway at-grade vehicular crossings of Trolley tracks by realigning tracks and East San Ysidro Boulevard
- Retains Trolley platforms in close proximity to pedestrian border crossing ingress/egress
- Consolidates Trolley, local bus, and intercity bus facilities and services
- Gives transit priority access to/from the ITC
- Shifts local and intercity bus access to/from ITC away from major intersections
- Improves intercity bus circulation
- Retains Trolley platforms in existing location which reduces need to completely rebuild station
- Separates taxi, jitney, shuttle, and kiss-and-ride circulation and access from conflicts with bus circulation and access
- Vertical ITC provides an opportunity to create an architectural landmark
- Provides a pedestrian plaza in the center of the ITC with direct access to the new GSA-planned southbound pedestrian bridge over the freeway
- Eliminates pedestrian crossings of Trolley tracks
- Creates opportunities to incorporate small-scale retail and commercial activities into the site
- Provides opportunities for public/private partnerships and/or joint development with retail/commercial developers and/or intercity bus carriers

Issues

- Continues conflicts at East San Ysidro Boulevard/I-5 northbound freeway ramp intersection with autos, buses, and pedestrians
- Mixes local and intercity bus access to/from ITC with taxis, jitneys, shuttles, and kiss-and-ride access

- Creates a barrier between taxi, jitney, shuttle, kiss-and-ride facilities and pedestrian border crossers by requiring access across the freeway ramps and/or ITC bus access ramp
- Creates a freeway ramp/bus ramp pedestrian barrier between the plaza and community
- Slightly increases bus travel distance from Camino de la Plaza to the bus facilities, increasing travel time and operating costs
- Requires ascending ramp from East San Ysidro Boulevard “circle” area to second level of ITC, creating a physical intrusion and visual barrier between the plaza and community, and possibly conflicts with freeway ramps
- Requires all freeway ramp traffic to circulate through the site to get to/from the community
- Eliminates private commercial parking lots on the site
- Requires acquisition and/or relocation of private property and businesses on the site
- Results potentially in relatively higher capital costs due to incorporation of a vertical facility and relocation of freeway ramps

5.2.2 Input from Community

After review of the comparative evaluation results by the TWG, three selected reconfiguration concept alternatives were presented to the PWG for input and guidance on taking the concept alternatives to the broader community. The PWG recommended that the three selected alternatives be presented to the community at a meeting of the San Ysidro Community Planning Group to obtain further input. Two of the presented alternatives, NR-A (renamed Option 1) and NR-D (renamed Option 2), were the two top-rated reconfiguration concepts in the comparative evaluation. Both of these concept alternatives include relocation of the I-5 northbound freeway ramps. A third concept, ER-B (renamed Option 3), was presented to retain an alternative that would not relocate the freeway ramps. Options 1, 2 and 3, as presented to the PWG and community are shown in [Figure 24](#), [Figure 25](#), and [Figure 26](#), respectively.

At the planning group meeting, community members provided input and comments during the presentation and discussion. Community members were asked to formalize their comments by submitting them in writing on comment cards. In addition, meeting attendees were asked to indicate their preferences for one of the options presented by placing a sticker on their preferred option. A summary of the comment cards and outcome of the preference exercise is included below.

5.2.2.1 General Comments from Comment Cards

Thirteen comment cards were received from members of the public at the San Ysidro Planning Group public meeting. In general, most of the comments highlighted the benefits of Option 1 for addressing existing circulation conflicts and deficiencies. Many comments also identified Option 1 as the best option for supporting redevelopment and economic development opportunities on the site and in the larger community. Several comments specifically supported relocating the Trolley tracks to the east and incorporating the Trolley station into a multi-level ITC to allow for retail and commercial activities on the ground floor. Comments on Options 2 and 3 indicated that these options would not effectively address the current conflicts, and do not take all of the community needs into consideration.

FIGURE 24: OPTION 1 RECONFIGURATION CONCEPT (FORMERLY ALTERNATIVE NR-A)



FIGURE 25: OPTION 2 RECONFIGURATION CONCEPT (FORMERLY ALTERNATIVE NR-D)

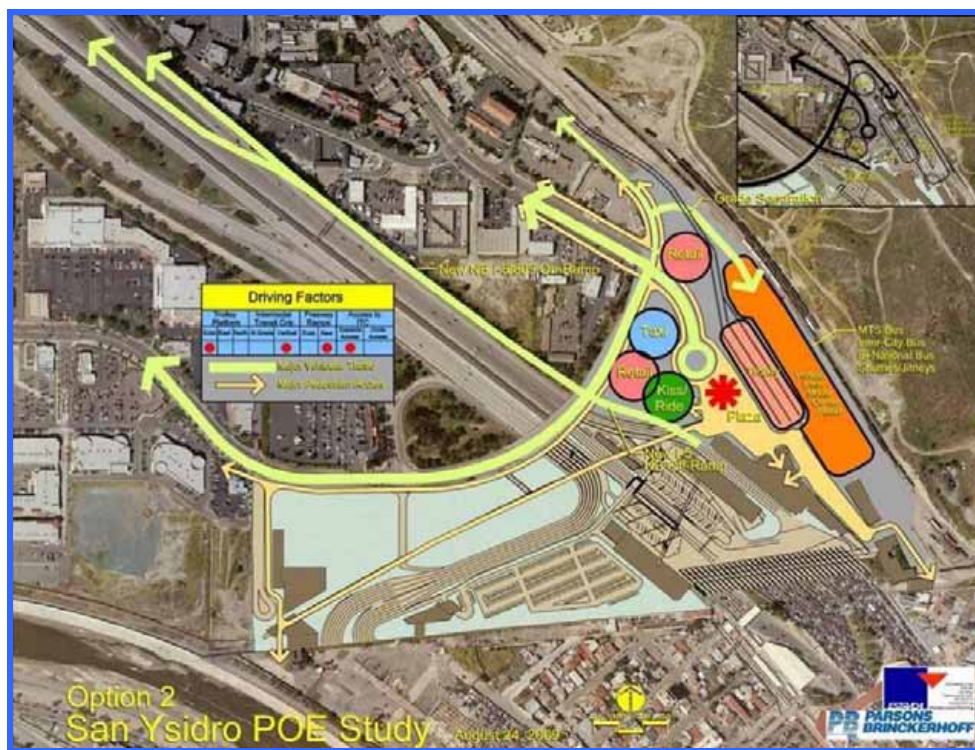


FIGURE 26: OPTION 3 RECONFIGURATION CONCEPT (FORMERLY ALTERNATIVE ER-B)

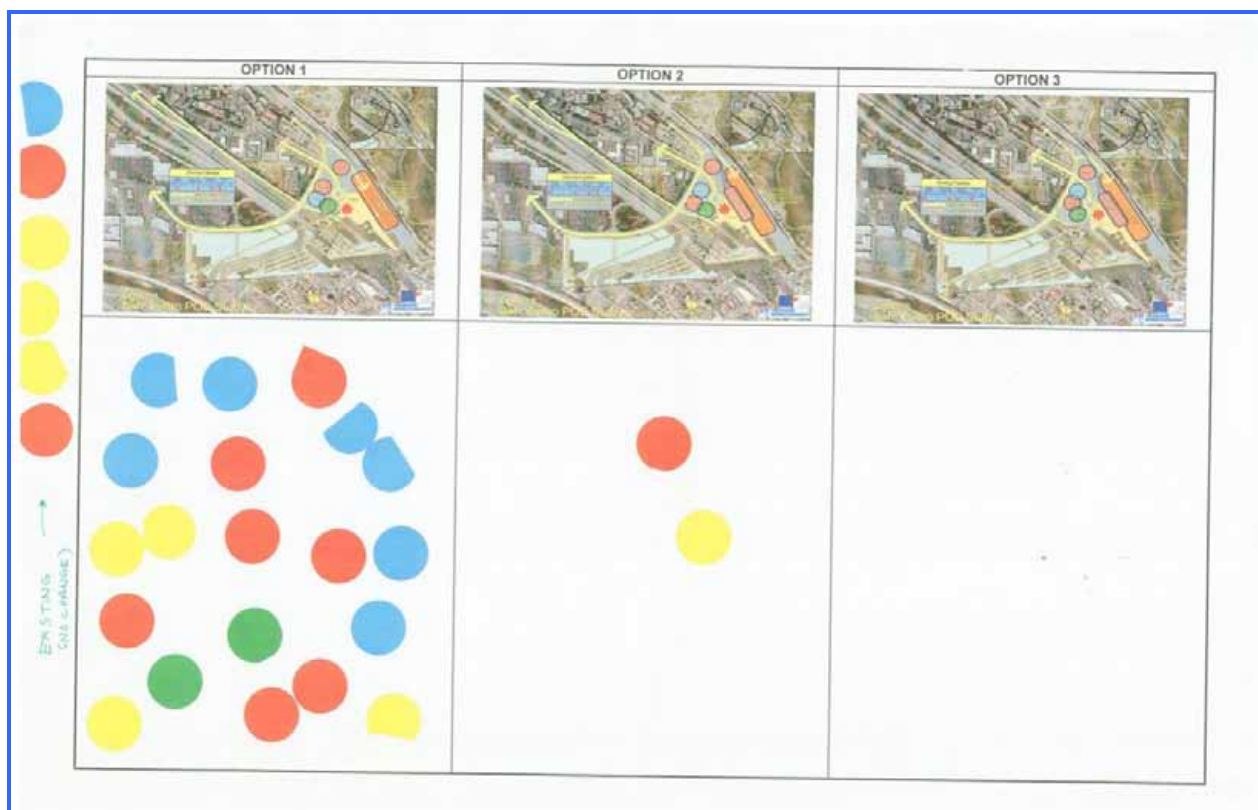


5.2.2.2 Results of Dot Preference Exercise

In addition to the comment cards, each person attending the San Ysidro Planning Group public meeting was given a sticker dot and asked to place the dot adjacent to one of the three options presented at the meeting to register their preference for an option concept. Meeting attendees were informed that their input and preferences would be considered in selecting a preferred study option for further refinement.

Figure 27 shows the results of the dot exercise. As shown in the figure, Option 1 was the clear favorite at this meeting, receiving approximately 70 percent of the preference dots. Two meeting attendees preferred Option 2 and no one indicated a preference for Option 3. The six dots on the left side of the graphics (just over 20 percent of the total) represent those who prefer none of the options and desire that existing conditions remain unchanged.

FIGURE 27: COMMUNITY DOT PREFERENCE EXERCISE



5.3 PREFERRED CONCEPT

Based on the comparative evaluation, and input from the TWG, PWG, and community, reconfiguration concept Option 1 (formerly NR-A) was deemed the preferred concept for further planning and concept development. In general, Option 1 is preferred because it:

- Eliminates most of the existing and projected 2030 circulation and mobility conflicts and deficiencies in the Focused Study Area;

- Consolidates transit into an Intermodal Transportation Center in close proximity to the border;
- Creates a pedestrian plaza, and pedestrian and view promenade linking the border and community;
- Improves vehicular and pedestrian access to the border and community;
- Incorporates retail and commercial facilities on the site;
- Can create an iconic landmark and gateway to the community and region; and
- Has the potential to be a catalyst for community revitalization and economic development beyond the site.

Option 1 was advanced for more detailed conceptual site design and further analysis on traffic, mobility, cost, and related issues.

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6.0 PREFERRED RECONFIGURATION CONCEPTUAL SITE DESIGN

To advance the preferred reconfiguration concept, a conceptual site design was developed to understand how the proposed elements can be arranged on the site to meet the project goals and principles.

6.1 SITE DESIGN TRANSPORTATION FACILITY AND CAPACITY NEEDS

The conceptual site design needs to accommodate the capacity needs and facility requirements for the Intermodal Transportation Center and site. **Table 15** identifies the existing transportation facilities located in the Focused Study Area and displays the goals for transportation facilities and capacity in the conceptual site design.

Table 15: Focused Study Area Transportation Facility and Capacity Needs

Transportation Facility	Existing	Need / Goal
San Diego Trolley		
# of tracks	2	3
Length of platform (ft)	330	330
Number of platforms	2	3
MTS Public Transit Buses		
# of routes	2 (Rts. 929, 932)	4 (Rts. 929, 932, 640 BRT)
# of bus bays	3	6 (including 1 articulated)
# of bus layover spaces	1	1
# of MTS maintenance/supervisor spaces	2-3	3
# of MTS paratransit spaces	1	1
Private Intercity Buses		
# of bus bays	10 (+3 in south end parking area)	15
Cross-Border/Shuttle Buses		
# of shuttle bays	1	2
Taxis		
# of stalls on site	3	3
# off-site staging stalls	25	25
Jitneys		
# of stalls on site	2	3
# of off-site staging stalls	0	10
Private Commercial Parking		
# parking spaces	450	0-25

Some highlights of the goals for the conceptual site design include:

- Adding a third Trolley track and passenger platform which would allow the Trolley to increase service frequency by providing additional terminal station capacity;
- Increasing the number of public transit bus bays from three to four, including one for longer articulated buses, to accommodate potential increases in bus service and the planned Route 640 bus rapid transit service;

- Increasing the number of intercity bus bays to accommodate the various operators and projected demand; and
- Increasing capacity for jitneys and shuttles.

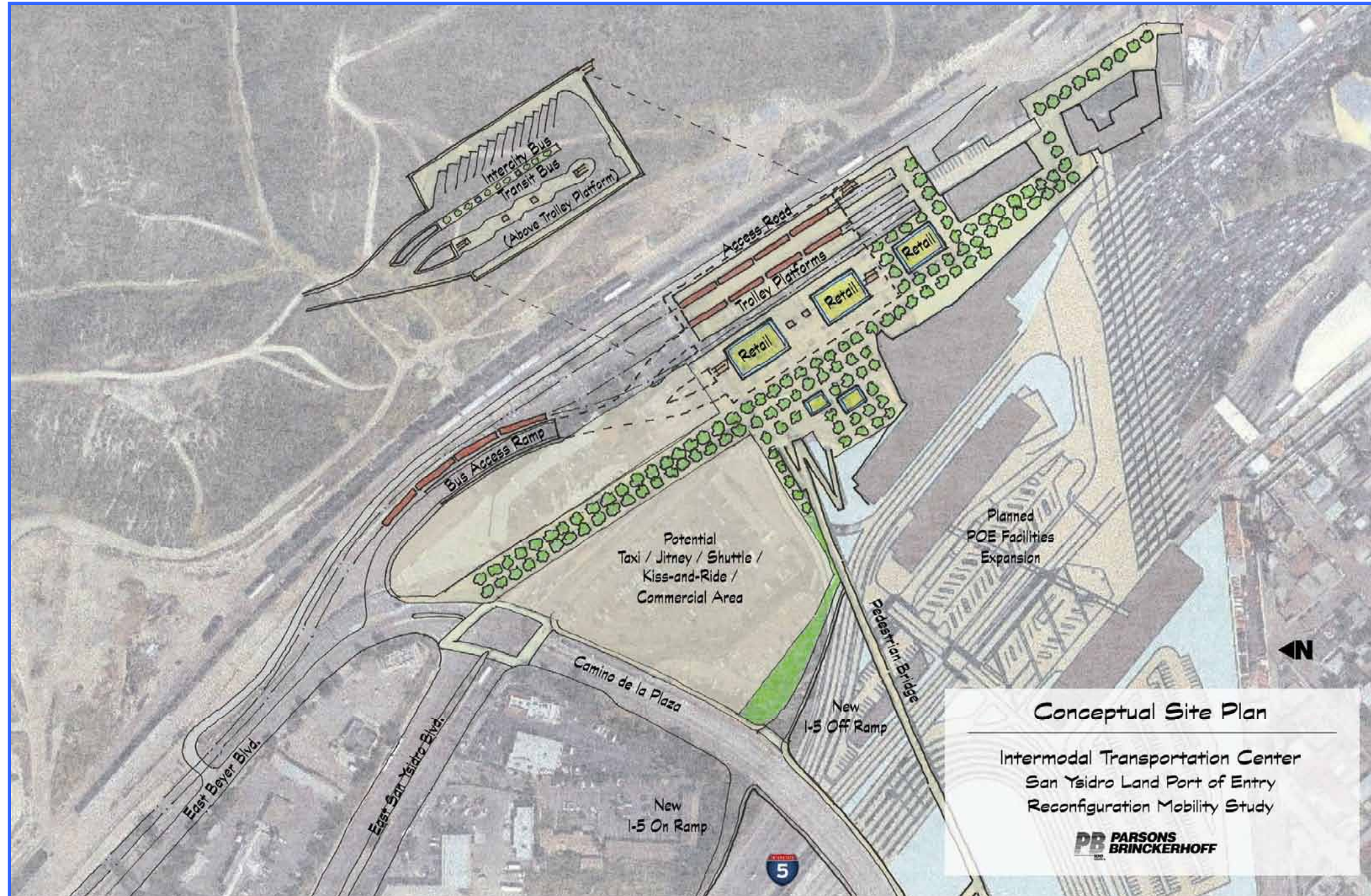
In addition to facilities for public and private transportation, the ITC needs to provide access and space for emergency vehicles, including police, fire, and medical. The site plan goals do not include replacing the existing commercial parking on the site. The three existing commercial parking lots primarily serve people driving to the area and crossing the border on foot (although they also provide some short-term parking for customers of businesses at or near the site). They do not generally serve as parking access to the transportation services at the border. Providing sizable amounts of long-term parking on the site would result in a large number of auto trips to the area with occupants who do not have a final destination there (their destination is across the border). This would lead to unnecessary traffic and mobility conflicts on the site, which is inconsistent with the project principles to enhance pedestrian activity and revitalize the site. Parking for cross-border travelers and community businesses is better provided outside the Focused Study Area as discussed in Section 5.5.

6.2 PREFERRED CONCEPT SITE DESIGN

Guided by the preferred concept (Option 1), the transportation facility and capacity needs, and the project principles, a conceptual site plan was prepared for the Focused Study Area. The site plan, shown in [Figure 28](#), portrays the relationships of the required physical facilities, vehicular and pedestrian access and circulation, incorporation of retail/commercial development, and connections to the community. Key features of the site plan include the following:

- **Freeway Ramps Relocation.** The site plan relocates the northbound I-5 freeway on- and off-ramps from the center of the site to connect with Camino de la Plaza. The ramp relocation eliminates through traffic from the center of the site, which eliminates major circulation conflicts and allows for the creation of a transit and pedestrian-friendly environment at the border. Shifting northbound freeway access to Camino de la Plaza provides a more direct route between the freeway and community, improving access to the commercial core and planned Pilot Village. The new circulation pattern provides an opportunity to create a symbolic vehicular entrance to the community at the intersection of Camino de la Plaza/East San Ysidro Boulevard/East Beyer Boulevard. It also greatly improves northbound freeway access to and from the community on the west side of I-5.
- **Trolley Platform.** The Trolley station platforms are placed along the eastern edge of the site, further expanding the space available for a pedestrian plaza and small-scale retail/commercial businesses. The Trolley platform would still be in close proximity to the northbound pedestrian border crossing egress and the southbound pedestrian crossing bridge access. The Trolley station would include three tracks (there are currently just two tracks) and loading platforms to accommodate the projected need for increased service frequencies to accommodate border crossing growth. Approaching tracks would also shift to the east, removing them from interference with other site features, and eliminating all of the at-grade street, driveway, and pedestrian crossing conflicts that exist today.

FIGURE 28: PREFERRED CONCEPT SITE PLAN



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- **Multi-Modal Bus and Trolley Facility.** Public transit and intercity bus facilities would be provided on a second level deck directly above the Trolley platforms. The multi-level transit facility consolidates local bus, intercity bus, and trolley services and facilities into a single facility located in close proximity to the northbound pedestrian border crossing egress and the southbound pedestrian crossing bridge access. It also opens up ground level space for other uses including the pedestrian plaza and retail/commercial businesses. The site plan demonstrates how retail and commercial facilities could be incorporated into the multi-level structure. Ticketing and waiting rooms for intercity bus passengers could also be part of the transit facility. Combining public and private uses into this facility provides opportunities for joint development and public-private partnerships in the development of the site. Bus access to the upper level would be from East Beyer Boulevard via an ascending ramp generally parallel to the trolley tracks. This approach removes bus circulation from the center of the site, which eliminates conflicts and enhances the pedestrian access, circulation, and ambience. It also splits the access to the site transportation facility by removing it from the taxi, jitney, shuttle, and kiss-and-ride access point. **Figure 29** provides a cross-section of the conceptual site plan that displays the potential layout of the multi-modal transit facility and its relationship to the pedestrian plaza, retail space, and border crossing facilities.
- **Pick-Up/Drop-Off Area.** The site plan includes creation of an at-grade facility or area for taxi, jitney, shuttle, and kiss-and-ride pick-up and drop-off. This area would provide sufficient space for access to these transportation modes away from street traffic and bus and Trolley conflicts, enhancing operational safety and the passenger environment. The location is in close proximity to the pedestrian plaza, the northbound pedestrian border crossing egress, and southbound pedestrian crossing bridge access. The site plan indicates that this area could incorporate retail/commercial business as part of a public-private partnership or joint development project which would activate the area. Parking serving the commercial and retail businesses could be incorporated into the area to provide for short-term customer parking and commercial loading zones.
- **Pedestrian Plaza and Pathways.** The site plan incorporates a pedestrian plaza at the heart of the site providing a central activity zone that extends to the multi-modal transit facility to the east, the pedestrian border crossings to the south and west, and the taxi/jitney/kiss-and-ride area to the north. Pedestrian pathways radiate out from the plaza linking to the various transportation services and extending to the community at Camino de la Plaza/East San Ysidro Boulevard. A pedestrian promenade extends the entire length of the site creating a view corridor that draws pedestrians to the community from the border area.
- **Retail and Commercial Space.** The site plan provides opportunities to fully integrate retail and commercial space into the site design. To create an active, pedestrian-friendly space, provide goods and services to thousands of border crossers traversing the area, create a link to the community, and support economic development, the site design allows for integration of retail and commercial space with the transit, taxi/jitney/kiss-and-ride area, and pedestrian promenade. Businesses could be incorporated into the transit facility, taxi area, and line the pedestrian promenade. Businesses could cater to the transitory clientele passing through the area similar to the way airport businesses serve traveling passengers. They could act as a catalyst for economic development in the adjacent community. Consistent with the community vision (see **Figure 13**), potential retail/commercial activity along the pedestrian and view corridor on the site could be extended north into the community along East San Ysidro Boulevard, creating a seamless connection between the border area and the community. In addition, a potential retail/commercial building on the

north side of the taxi/jitney/kiss-and-ride area could be a two-story structure in which the lower floor opens onto the circle and the upper floor opens onto Camino de la Plaza. The upper floor access on Camino de la Plaza could be the first in a continuation of business storefronts located on a bridge deck over the freeway as proposed by the community.

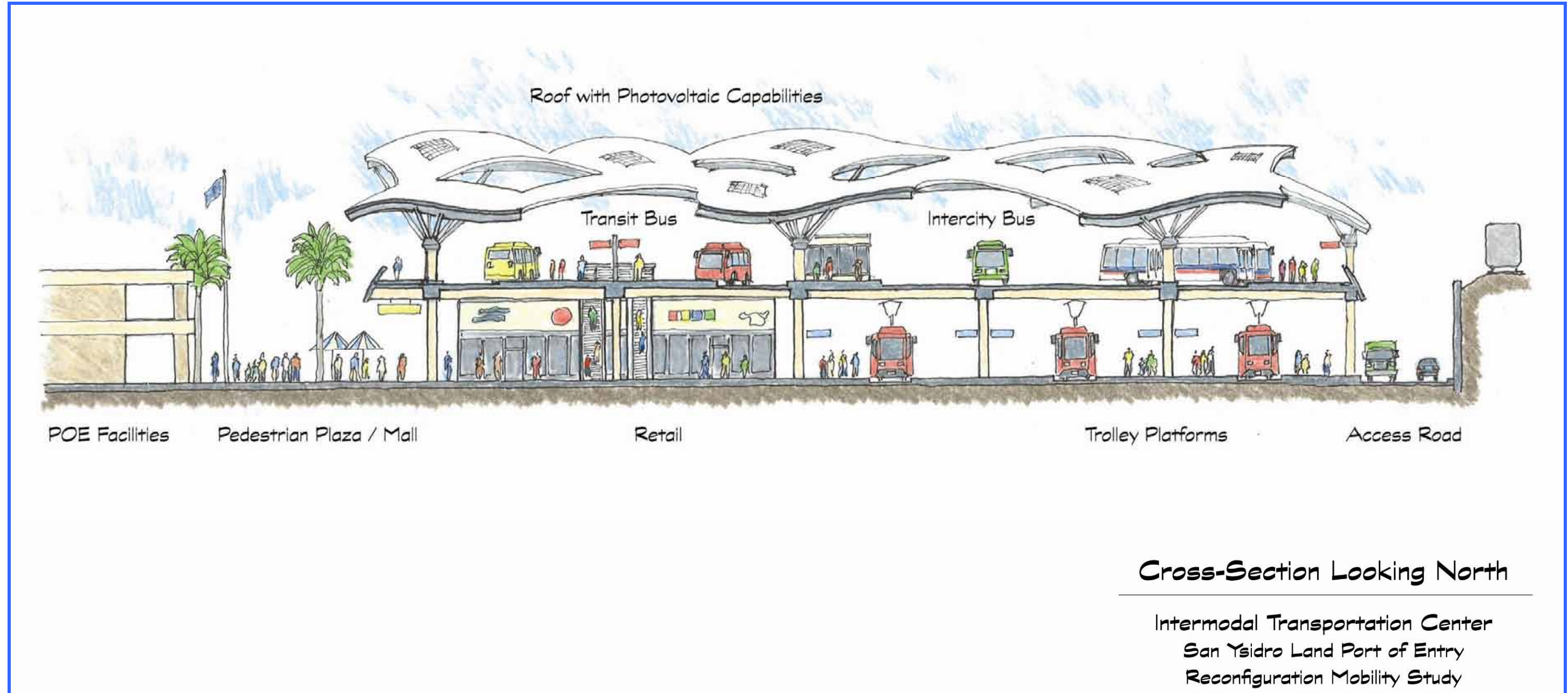
- **Architectural Landmark/Gateway Potential.** The site plan presents an opportunity to create a gateway to the community and region, which would further promote broader community revitalization and economic development. By creating an active, vibrant pedestrian place for people passing through, the site becomes a landmark in the region. This landmark can be reinforced through unique or iconic architectural and urban design incorporated into the multi-modal transit facility and entire site. **Figure 29** shows how an architectural feature such as a photovoltaic roof over the transit structure can generate a landmark and create a sense of place for the site and community. Incorporation of other urban design features throughout the site would integrate all components of the site into a multi-faceted Intermodal Transportation Center.
- **Access Road.** A perimeter access road from East Beyer Boulevard would provide access for emergency and transit maintenance vehicles and to GSA and railroad employee facilities at the south end of the site. The access road requires an at-grade crossing of the trolley tracks but since it would not be open to the general public, it would have limited use. In general, emergency access to the transit center and along the access road would be improved over existing conditions due to the elimination of traffic and circulation conflicts in the area.

6.3 CONCEPTUAL SITE DESIGN MOBILITY ASSESSMENT AND ANALYSIS

6.3.1 Traffic Volumes

Table 16 summarizes the total number of vehicles passing through each intersection during the peak-hours in Year 2030 and along the roadway segments with the preferred ITC concept compared to the Existing and Year 2030 baseline (without ITC) scenarios. The main difference between the preferred ITC concept and the baseline scenarios is the reconfiguration of the I-5 NB ramps. The preferred ITC concept contains the new on- and off-ramps with Camino de la Plaza, which results in redistributed traffic volumes within the study area. Traffic diversion and a shift in travel patterns would most likely occur with the new ramps with Camino de la Plaza, but this was not factored into the analysis. The redistributed traffic volumes with the preferred ITC concept was based on existing travel patterns in the study area. The peak-hour volumes at each intersection would increase under the preferred ITC concept except at East San Ysidro Boulevard/Camino de la Plaza/East Beyer Boulevard (volumes would decrease during both peak periods). A 15 percent increase was assumed to adjust the ADT volumes along Camino de la Plaza to account for the additional traffic with the proposed I-5 northbound ramps.

FIGURE 29: PREFERRED CONCEPT SITE DESIGN CROSS SECTION AT TRANSIT FACILITY (LOOKING NORTH)



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Table 16: Traffic Volume Summary

		Peak Hour/Daily ^(a)	Existing	Year 2030 w/o ITC	Year 2030 with ITC
INTERSECTIONS ^(b)					
1	Camino de la Plaza & Virginia Ave	AM	454	1,079	1,197
		PM	1,457	3,263	3,629
2	Camino de la Plaza & I-5 Southbound Ramps	AM	979	1,498	1,732
		PM	2,701	4,144	4,804
3	East San Ysidro Blvd & Camino de la Plaza/East Beyer Blvd	AM	950	1,701	1,363
		PM	1,952	3,656	2,924
4	East San Ysidro Blvd & I-5 Northbound Ramps	AM	817	1,460	N/A
		PM	1,083	2,049	N/A
5	Camino de la Plaza & I-5 Northbound Ramps ^(a)	AM	N/A	N/A	1,614
		PM	N/A	N/A	3,525
ROADWAY SEGMENTS ^(c)					
Camino de la Plaza between Virginia Ave and I-5 Southbound Ramps		ADT	17,205	28,638	32,934
Camino de la Plaza between I-5 Southbound Ramps and East San Ysidro Blvd		ADT	17,300	27,248	31,335
Camiones Way south of Camino de la Plaza		ADT	11,599	N/A	N/A

Note:

a) Peak-Hour traffic volumes represent the conditions at the intersections and daily traffic volumes represent the conditions along the roadway segments

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

c) Traffic volumes represent the daily (24-hour) volumes along each respective roadway segment.

6.3.2 Traffic Operations

Intersections and Roadway Segments

Table 17 summarizes the LOS at the study intersections in the Year 2030 scenario with the preferred ITC concept and compares the results to the Existing and Year 2030 baseline scenario (without ITC). As part of the Year 2030 scenario with the preferred ITC concept, the following assumptions were included as part of the analysis:

- All cycle lengths and signal timings along Camino de la Plaza were optimized and assumed to be coordinated.
- All improvements associated with GSA's impacts resulting from the expansion at the border have been assumed to be constructed and in operation. At the Camino de la Plaza/Virginia Avenue intersection, improvements consisted of signaling the intersection and adding a second westbound through lane. At the Camino de la Plaza/I-5 southbound ramps intersection, improvements consisted of restriping the southbound approach to include a left, through-right, and right-turn only lane and adding a second westbound through lane.
- Camino de la Plaza would be widened to accommodate two through lanes in each direction and the addition of dual eastbound left-turn lanes at the new I-5 northbound ramps/Camino de la Plaza intersection. Also, a third receiving lane along Camino de la Plaza in the westbound direction would be required to accommodate the queues at the downstream intersection (I-5 southbound ramps). See **Figure 30** for a conceptual sketch of the new I-5 (and I-805) northbound ramps/Camino de la Plaza intersection and the widening that would occur along Camino de la Plaza (northbound I-805 splits from I-5 a few hundred feet north of Camino de la Plaza).

Table 17: LOS Summary at Study Area Intersections

		Peak-Hour	Delay (a)/LOS (b)		
			Existing	Year 2030 w/o ITC	Year 2030 with ITC
1	Camino de la Plaza & Virginia Ave	AM	11.7 / B	17.8 / B	18.8 / B
		PM	23.6 / C	26.5 / C	33.1 / C
2	Camino de la Plaza & I-5 Southbound Ramps	AM	23.6 / C	18.0 / B	15.9 / B
		PM	30.2 / C	94.5 / F	59.9 / E
3	East San Ysidro Blvd & Camino de la Plaza/ East Beyer Blvd	AM	16.4 / B	38.0 / D	18.3 / C
		PM	8.4 / A	91.8 / F	27.3 / C
4	East San Ysidro Blvd & I-5 Northbound Ramps	AM	21.3 / C	25.3 / C	N/A
		PM	19.5 / B	65.0 / E	N/A
5	Camino de la Plaza & I-5 Northbound Ramps	AM	N/A	N/A	10.4 / B
		PM	N/A	N/A	21.8 / C

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 Traffix 7.9/8.0 (Existing Conditions) and using Synchro 7 (Year 2030 w/o ITC and Year 2030 with ITC).

As shown in the table, all intersections would operate at an acceptable LOS D or better in the Year 2030 with ITC scenario except at the following location:

- Camino de la Plaza & I-5 southbound ramps (LOS E – PM Peak)

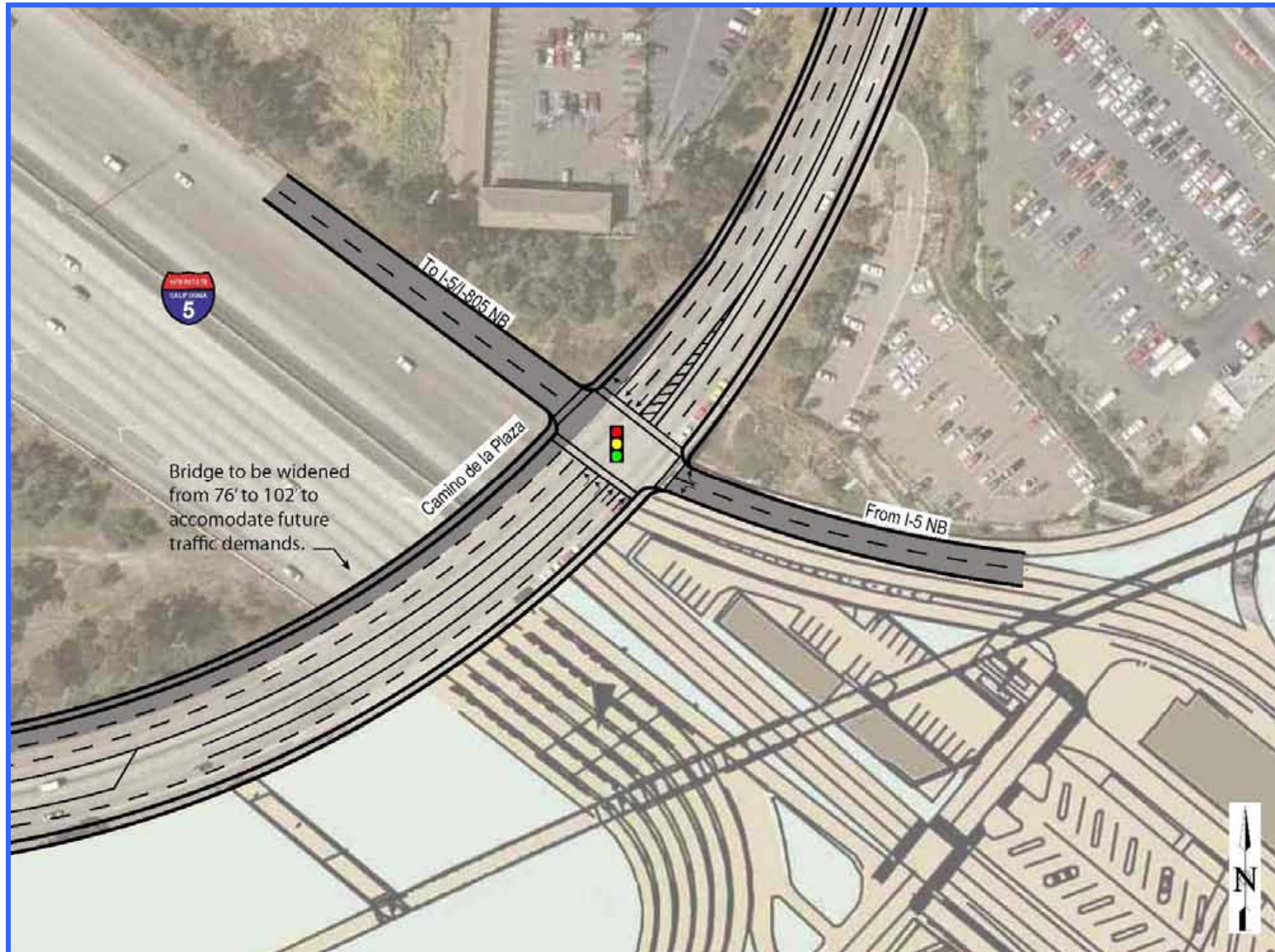
Table 18 summarizes the LOS along the roadway segments in the Year 2030 scenario with the preferred ITC concept and compares the results to the Existing and Year 2030 baseline scenario (without ITC). The segment of Camino de la Plaza between Virginia Avenue and I-5 southbound ramps would continue to function at LOS F, but the segment between I-5 southbound ramps and East San Ysidro Boulevard would worsen to LOS D.

Table 18: LOS Summary along Roadway Segments

Roadway Segment	Classification	ADT / LOS		
		Existing	Year 2030 w/o ITC	Year 2030 with ITC
Camino de la Plaza				
Virginia Ave to I-5 Southbound Ramps	3-lane Collector	17,205 / D	28,638 / F	32,934 / F
I-5 Southbound Ramps to East San Ysidro Blvd	3-lane Major	17,300 / B	N/A	N/A
	4-lane Major	N/A	27,248 / C	31,335 / D
Camiones Way				
South of Camino de la Plaza	2-lane Collector (commercial/industrial fronting property)	11,599 / F	N/A	N/A

Note:
N/A represents conditions where the roadway segment was not evaluated.

FIGURE 30: CONCEPTUAL LAYOUT OF PROPOSED CAMINO DE LA PLAZA/I-5 NORTHBOUND RAMPS



Although most of the intersections as a whole operate at an acceptable LOS, the following movements at each respective intersection would operate at LOS E or F with the deficient peak period shown in parenthesis:

- Camino de la Plaza & Virginia Avenue: eastbound left-turn (PM Peak) and northbound left-turn (PM Peak)
- Camino de la Plaza & I-5 southbound ramps: eastbound left-turn (PM Peak), westbound left-turn (PM Peak), westbound through (PM Peak), northbound left-turn (PM Peak), southbound left-turn (PM Peak), and southbound through (PM Peak)
- East San Ysidro Boulevard & Camino de la Plaza/East Beyer Boulevard: westbound left-through (PM Peak), northbound left-turn (AM Peak), southbound left-turn (AM and PM Peak)

Appendix B contains the LOS worksheets (including traffic volumes, lane configurations, and other default values used for the analysis) and a conceptual sketch showing the improvements associated with GSA's impacts.

This analysis differs from the April 2009 KOA *San Ysidro Land Port of Entry Expansion Mobility Study*, which found that the Virginia Avenue and I-5 southbound ramp intersections along Camino de la Plaza would operate at an unacceptable LOS. The difference is that this Reconfiguration Mobility Study analysis assumes all proposed GSA roadway improvements are implemented as described in the bulleted list above and also shown in **Appendix B**.

In addition, the I-5 northbound freeway on- and off-ramps are relocated to Camino de la Plaza, resulting in a new intersection, which is assumed to be signalized and contain dual eastbound left-turn lanes to accommodate the projected high demand. With these improvements, the operations at the intersections along Camino de la Plaza and at the East San Ysidro Boulevard/I-5 northbound ramps/Rail Court intersection are improved when compared to the results shown in the KOA *San Ysidro Land Port of Entry Expansion Mobility Study*. Traffic operations are improved with the redistributed traffic volumes as a result of the new I-5 northbound ramps. If none of these assumptions occur, the LOS identified in **Table 15** will revert to those identified in the KOA report.

Queuing

As part of the preferred ITC concept plan, there would be four intersections along Camino de la Plaza between Virginia Avenue and East San Ysidro Boulevard in the study area. The addition of the new northbound I-5 ramp intersection with Camino de la Plaza results in closely spaced intersections and queuing could be an issue.

To assess the queuing along Camino de la Plaza, SimTraffic was the software that was selected for the analysis. SimTraffic is a traffic simulation software application that models and displays individual vehicles traversing through a network. In situations where there are closely spaced intersections, SimTraffic does a good job at producing more accurate results when compared to Synchro, since it takes into account the potential queue spillback into adjacent intersections.

Table 19 summarizes the projected queues at the intersections along Camino de la Plaza in 2030. As shown in the table, all intersections would experience several movements that would have queues exceeding the available storage length during the PM peak-hour only except at the Camino de la Plaza/I-5 northbound ramps intersection. These queues could potentially worsen

the actual traffic operations along the corridor as queues could spill back into adjacent intersections and block through traffic in adjacent lanes. No queue lengths would exceed the available storage length during the AM peak-hour.

Figure 30 depicts the proposed layout of the new Camino de la Plaza & I-5 northbound ramps intersection. As shown in the figure, the proposed new intersection would consist of dual left-turn lanes from Camino de la Plaza to I-5 northbound, and consist of two through lanes in each direction along Camino de la Plaza. Assuming that the sidewalks would be widened to approximately eight feet on both sides of Camino de la Plaza to accommodate the increased pedestrian demands, the bridge would need to be widened to the north by approximately 26 feet.

6.3.3 Non-Auto Mobility and Circulation

The preferred concept site design changes non-auto circulation mobility and circulation from both the existing condition and the 2030 context. In the case of both pedestrians and transit, the preferred concept site design improves circulation and mobility.

6.3.3.1 Pedestrian Circulation

Daily pedestrian border crossings are projected to grow from approximately 54,000 today to 88,000 by 2030. The conceptual site plan was developed to provide sufficient pedestrian space to accommodate the projected increase in pedestrian demand, to address the pedestrian circulation and access needs to transportation and the community, and to eliminate pedestrian and vehicular conflicts throughout the site. The site plan incorporates a pedestrian plaza at the heart of the site providing a central activity zone that extends to the multi-modal transit facility to the east, the pedestrian border crossings to the south and west, and the taxi circle to the north. In particular, the site plan provides an enhanced pedestrian pathway from the plaza to the new southbound border pedestrian crossing that will be located on the east side of I-5 under Phase 1 of the GSA expansion plans. Pedestrian pathways also radiate out from the plaza linking to the various transportation services and extending to the community at Camino de la Plaza/East San Ysidro Boulevard. A pedestrian promenade extends the entire length of the site creating a view corridor that draws pedestrians to the community from the border area.

b. Public and Private Transit Circulation

Under the 2030 conditions (GSA facility expansion and increased border crossings), greater demands will be put on border transportation services and facilities. According to the 2009 KOA Corporation mobility study of the San Ysidro POE expansion, which assumes that the Trolley mode split remains at the existing 40 percent into the future, Trolley passenger demand will exceed seated capacity in the morning northbound peak and evening southbound peak, and will exceed crush (seated and standing) capacity in the morning northbound peak in 2030 with an expansion of service.²⁵ The conceptual site plan accommodates four-car trains and provides for a third track at the Trolley platform to allow for higher Trolley service frequencies. Implementing either or both of these capacity-enhancing measures will address the future Trolley capacity demand at the border.

²⁵ San Ysidro Land Port of Entry Expansion Mobility Study (KOA Corporation, April 30, 2009), page 83.

Table 19: 2030 Queuing Summary at Study Area Intersections along Camino de la Plaza

		Movement ^(a)	Available Storage	95% Queue Length ^(b)	
				AM Peak	PM Peak
1	Camino de la Plaza & Virginia Ave	EB L	150 ft		0 ft
		EB T	900 ft	100 ft	325 ft
		EB TR	900 ft	100 ft	400 ft
		WB L	125 ft	125 ft	125 ft
		WB T	475 ft	150 ft	500 ft
		WB TR	475 ft	125 ft	475 ft
		NB L	125 ft	50 ft	100 ft
		NB TR	125 ft	50 ft	100 ft
		SB LR	375 ft	25 ft	25 ft
2	Camino de la Plaza & I-5 Southbound On/Off-Ramps	EB L	150 ft	100 ft	200 ft
		EB T	475 ft	75 ft	525 ft
		EB TR	475 ft	50 ft	475 ft
		WB L	175 ft	25 ft	175 ft
		WB T	800 ft	50 ft	725 ft
		WB T	800 ft	75 ft	700 ft
		WB R	800 ft		475 ft
		NB L	100 ft	25 ft	125 ft
		NB TR	1,050 ft	25 ft	175 ft
		NB R	100 ft	50 ft	100 ft
		SB L	600 ft	425 ft	1,150 ft
		SB TR	600 ft	300 ft	1,150 ft
		SB R	175 ft	75 ft	225 ft
3	East San Ysidro Blvd & Camino de la Plaza/East Beyer Blvd	EB L	675 ft	100 ft	175 ft
		EB LT	675 ft	150 ft	225 ft
		EB R	150 ft	125 ft	75 ft
		WB LT	500 ft	100 ft	250 ft
		NB L	100 ft	50 ft	125 ft
		NB T	500 ft	25 ft	100 ft
		NB TR	50 ft	25 ft	50 ft
		SB L	150 ft	50 ft	75 ft
		SB T	850 ft	25 ft	250 ft
		SB T	850 ft	50 ft	1,150 ft
		SB R	850 ft	75 ft	1,100 ft
SB R	850 ft	50 ft	1,025 ft		
5	Camino de la Plaza & I-5 Northbound Ramps	EB L	500 ft	100 ft	200 ft
		EB L	500 ft	100 ft	225 ft
		EB T	700 ft	25 ft	75 ft
		EB T	700 ft	75 ft	100 ft
		WB T	500 ft	75 ft	300 ft
		WB T	500 ft	100 ft	400 ft
		WB R	500 ft	50 ft	175 ft
		NB L	300 ft	75 ft	125 ft
		NB R	300 ft	125 ft	125 ft

Notes:

Bold and Shaded values indicate where queues would exceed the available capacity.

(a) EB: Eastbound, WB: Westbound, NB: Northbound, SB: Southbound, L: Left, T: Through, R: Right, LT: Left-Through, TR: Through-Right

(b) The 95th percentile queue lengths are the average of three SimTraffic simulation runs and rounded up to the nearest 25 feet.

SANDAG's Regional Transportation Plan calls for implementation of a new Bus Rapid Transit (BRT) route between the San Ysidro International Border and Kearny Mesa through downtown San Diego. The conceptual site plan includes additional bus bays to accommodate new planned services.

For public and intercity buses, route distances will increase by about a tenth of a mile (each way) to access the new second level bus facilities on the site. At the current 63 one-way trips for Route 929 and 66 one-way trips for Route 932, the total additional one-way mileage is approximately 13 miles a day, or 26 miles in both directions. Using an annualization factor of 320, the route extension would add more than 8,000 miles a year to transit operations. Based on an operating cost per service mile of \$5.45 (MTS 2008 actual), the additional mileage could add \$45,000 a year to public transit operations. Similar impacts could occur for private intercity buses.

Most significantly, however, the conceptual site plan addresses the existing and potential 2030 circulation conflicts and deficiencies that could reduce bus transit travel time through the area, possibly off-setting potential additional per mile cost calculations by reducing vehicle hours of operation. By separating circulation routes and access to transportation facilities on the site from pedestrians, and eliminating inter-modal conflict points, bus transit services should be able to access the multi-modal transit facility proposed in the conceptual site plan without delay (see [Table 14](#)). The dispersal of access and circulation will contribute to better mobility in and around the site.

6.3.3.2 Addressing the Conflicts and Deficiencies

Section 2.1.4 and Figure 8 identify existing conflicts and deficiencies in the Full and Focused Study Areas that the reconfiguration mobility study aimed to address. Section 2.2.4 discusses how planned and projected growth and changes by the year 2030 will exacerbate the conflicts and deficiencies without a reconfiguration of the study area. [Table 20](#) summarizes the existing and projected conflicts and deficiencies and assesses whether the preferred concept alternative would address these. Of the 26 identified conflicts and deficiencies, all but three would be addressed under the reconfiguration concept, as follows:

- **Conflict/Deficiency B - Limited access to northbound I-5 Ramp.** Currently only the four easternmost travel northbound vehicular border crossing lanes can access the off-ramp. Reconfiguration of the I-5 northbound freeway off-ramp to Camino de la Plaza would not change this access limitation.
- **Conflict/Deficiency G – Illegal Wildcatters that Contribute to Confusion and Disorder.** unlicensed passenger jitneys and shuttles illegally pick-up pedestrian border crossers at haphazard locations, contributing to the confusion and disorder throughout the area. Reconfiguration design would inhibit the ability of these services to compete in close proximity with legal taxis, jitneys and shuttles, but enforcement would be required to eliminate wildcatting completely.
- **Conflict/Deficiency O – Lack of Staging Areas for Taxis.** Taxis currently park along the Camino de la Plaza bridge to wait for available stalls in the transit center. The line of sight from the bridge to the transit center allows the first taxi driver in the queue to see when a stall opens. The reconfiguration concept would both block the line of sight and possibly restrict taxi staging on the bridge, requiring identification of a new staging area and possibly remote dispatching for taxis.

6.4 PARKING IMPACT ANALYSIS

With the GSA Phases 1 and 2 expansion project and the preferred alternative site plan concept, most commercial parking in the Focused Study area site would be reduced. Alternative parking needs to be provided in sites outside the study area. Large reservoirs of long-term and destination parking is not proposed for the site so that pedestrian serving transportation and commercial uses can be provided within a vibrant activity center. The introduction of large numbers of autos onto the site carrying people whose destinations are across the border would counteract the ability to create a vibrant gateway and development catalyst. Long-term and commercial parking would need to be located outside the Focused Study Area. With the GSA Phase 3 expansion, relocation of the large commercial parking lot on the west side of the freeway will also be required.

A parking analysis was performed to identify locations where new parking with walkable access to border crossings and the Focused Study Area facilities could be located. For this analysis, a half-mile radius was used to represent a pedestrian walkshed, which represents an 11 minute walk assuming a standard walking rate of four feet per second. **Figure 31** identifies the half-mile walk sheds from the northbound/future southbound (east side) and southbound (west side) pedestrian border crossings.

The pedestrian walkshed for the east side northbound/future southbound pedestrian crossing (shown in green) extends well north of Camino de la Plaza. Providing commercial parking within the half-mile area would provide appropriate access to the border crossing for the long-term parking market. The creation of a pedestrian-friendly environment via implementation of the site plan concept would minimize the perception of walk distance. Providing parking north of Camino de la Plaza would also place parking in proximity to the San Ysidro commercial core as well as any commercial uses in the Focused Study Area. It would also draw people from the parking reservoirs beyond the study area through the Focused Study Area site, past the potential commercial establishments, to the border crossing access/egress points. Providing long-term and commercial parking north of Camino de la Plaza would also provide a “bridge” between the Focused Study Area and the community core area by providing access to both.

Two possible locations for parking just outside the half-mile walkshed include the site at the northwest quadrant of Camino de la Plaza and East San Ysidro Boulevard (**Figure 31**, location A), and the City of San Diego-owned site on East San Ysidro Boulevard (**Figure 31**, location B). Location A, in particular, appears to be a good candidate for mixed-use and joint development and may be able to accommodate a commercial parking structure catering to a cross-border market as well as parking and commercial uses focused on a community market.

The pedestrian walkshed for the southbound (west side) pedestrian crossing (shown in yellow) also extends well north of Camino de la Plaza. The existing surface parking lot located to the northeast of the Camino de la Plaza and Virginia Avenue intersection could be a potential location for additional parking via a parking structure, either independently or integrated into redevelopment on this site (**Figure 31**, location C). Also, the area west of Virginia Avenue identified with the proposed Las Americas – East Parcel Site Plan project (**Figure 31**, location D) could incorporate additional parking to satisfy the long-term and business parking demands.

Table 20: Reconfiguration Concept Impact on Existing and Projected Conflicts and Deficiencies

Figure 8 Ref.	Existing Study Area Conflicts and Deficiencies (Section 2.1.4)	Additional Conflicts and Deficiencies Projected in 2030 (Section 2.2.4)									Does Preferred Reconfiguration Concept Resolve Conflicts and Deficiencies?
		Projected growth in vehicular & pedestrian border crossings will contribute to circulation & mobility conflicts & deficiencies	Projected growth in pedestrian border crossings will increase demand for transportation services & facilities	GSA Phase 1 encroaches into the southernmost intercity bus facilities	GSA Phases 1 & 3 truncate & eliminate Camiones Way, increasing distances to border, shifting transit to Virginia Ave, & requiring new facilities	GSA Phase 1 includes a new pedestrian bridge over I-5 lengthening the walking distance to the southbound border crossing	GSA Phase 2 extends border crossing facilities into the existing pedestrian plaza, shrinking space available for pedestrian circulation	GSA Phase 3 realigns SB I-5, altering travel patterns on the west side of the freeway	GSA Phase 3 eliminates large parking on west side of freeway possibly pushing demand for border parking into the community	GSA plans include a new southbound eastside pedestrian crossing creating an access route through isolated & constrained areas	
A	Competing modes at northbound I-5 freeway ramps/East San Ysidro Blvd./Rail Ct. intersections	✓									Yes
B	Limited access to northbound I-5 off-ramp										No
C	Indirect freeway access to community commercial core										Yes
D	Limited capacity along East San Ysidro Blvd south of Camino de la Plaza	✓									Yes
E	Frequent Trolley crossing gate closures that impact access	✓									Yes
F	Lack of kiss-and-ride facilities that contribute to circulation conflicts		✓								Yes
G	Illegal wildcatters that contribute to confusion and disorder	✓									No
H	Camiones Way south of Camino de la Plaza operates at LOS F	✓						✓			Yes
I	Competition with multiple users at entrance to transit center	✓	✓								Yes
J	Inadequate facilities for public buses		✓		✓						Yes
K	At-grade crossings that impede Trolley operations	✓									Yes
L	Inability to increase Trolley frequency		✓								Yes
M	Substandard intercity bus circulation and constrained operating space			✓							Yes

Table 17: Reconfiguration Concept Impact on Existing and Projected Conflicts and Deficiencies (cont'd)

Figure 8 Ref.	Existing Study Area Conflicts and Deficiencies (Section 2.1.4)	Additional Conflicts and Deficiencies Projected in 2030 (Section 2.2.4)									Does Preferred Reconfiguration Concept Resolve Conflicts and Deficiencies?
		Projected growth in vehicular & pedestrian border crossings will contribute to circulation & mobility conflicts & deficiencies	Projected growth in pedestrian border crossings will increase demand for transportation services & facilities	GSA Phase 1 encroaches into the southernmost intercity bus facilities	GSA Phases 1 & 3 truncate & eliminate Camiones Way, increasing distances to border, shifting transit to Virginia Ave, & requiring new facilities	GSA Phase 1 includes a new pedestrian bridge over I-5 lengthening the walking distance to the southbound border crossing	GSA Phase 2 extends border crossing facilities into the existing pedestrian plaza, shrinking space available for pedestrian circulation	GSA Phase 3 realigns SB I-5, altering travel patterns on the west side of the freeway	GSA Phase 3 eliminates large parking on west side of freeway possibly pushing demand for border parking into the community	GSA plans include a new southbound eastside pedestrian crossing creating an access route through isolated & constrained areas	
N	Inadequate intercity bus facilities		✓	✓	✓						Yes
O	Lack of staging areas for taxis		✓					✓			No
P	Limited pedestrian plaza area	✓					✓				Yes
Q	Inadequate pedestrian walkways to intercity bus waiting facilities	✓									Yes
R	Undesirable southbound pedestrian border crossing facilities					✓			✓		No
S	Pedestrian volumes that exceed crosswalk capacity	✓									Yes
T	Pedestrian conflicts at at-grade Trolley crossings	✓									Yes
U	Lack of pedestrian-friendly sidewalks and routes				✓				✓		Yes
V	GSA parking access is through the transit center										Yes
W	Encumbered access to and from private parking lots								✓		Yes
X	Weak connections/linkage between border area businesses and community								✓		Yes
Y	Minimal investment in property and business										Yes
Z	Border lacks image as gateway										Yes

FIGURE 31: PEDESTRIAN WALKSHED



6.5 ANCILLARY CONCEPTUAL SITE DESIGN FEATURES (FULL STUDY AREA)

Based on the mobility assessment and analysis discussed in Section 6.3, there are several ancillary or “off-site” improvements that would support the Focused Study Area conceptual site plan and improve circulation, mobility, and the community vision in the Full Study Area:

- **Camino de la Plaza Bridge Widening and Left Turn Lanes** – Relocation of the northbound freeway on- and off-ramps to intersect with Camino de la Plaza will reroute all northbound access to Camino de la Plaza. As identified in **Table 19**, the 2030 traffic analysis with the preferred concept site design would result in excessive eastbound queuing on Camino de la Plaza to access the northbound freeway on-ramp. The queuing occurs on the freeway bridge section of Camino de la Plaza. As a result, Camino de la Plaza bridge would need to be widened and modified to accommodate the queuing. **Figure 30** depicts the proposed layout of the new Camino de la Plaza & I-5 northbound ramps intersection to accommodate the projected queuing. As shown in the figure, the proposed new intersection would consist of dual left-turn lanes from eastbound Camino de la Plaza to northbound I-5 on-ramps. Camino de la Plaza would also consist of two through lanes in each direction at the intersection. Assuming the sidewalks would be widened to approximately eight feet on both sides of Camino de la Plaza to accommodate the increased pedestrian demands, the bridge would need to be widened by approximately 26 feet.
- **New Transportation Facilities at Virginia Avenue** – With the proposed elimination of Camiones Way as part of the GSA Phase 3 expansion plans, new public and private transit and taxi facilities will need to be developed at Virginia Avenue, south of Camino de la Plaza, adjacent to the new southbound border crossing.
- **Virginia Avenue/Camino de la Plaza Intersection Improvements** – As part of the mitigation for the GSA expansion project, the Camino de la Plaza & Virginia Avenue intersection would be signalized and the north side of Camino de la Plaza would be widened to include an extra westbound through lane to accommodate projected growth in traffic volumes (even without the Focused Study Area concept plan). These improvements will allow this intersection to function properly during the peak periods. The improvements are triggered by auto and transit vehicle traffic to the new southbound pedestrian crossing proposed at the south end of Virginia Avenue in the GSA Phase 3 expansion. Also, the proposed Las Americas – East Site Parcel project would add a significant amount of vehicular trips through this intersection. There would likely be two westbound left-turn lanes from Camino de la Plaza to southbound Virginia Avenue, which would require additional widening of Camino de la Plaza.
- **Remote Taxi Dispatching** – Under current conditions, taxis stage on the Camino de la Plaza bridge to wait for an available taxi stall at the San Ysidro transit center. Taxi drivers can see the transit center from the bridge and quickly move into an open space when it becomes available. The retail development identified on the preferred alternative conceptual site plan would block lines of sight from the bridge to the new taxi/jitney/shuttle/kiss-and-ride circle. As a result, an electronic signal or dispatching system would be required to notify taxi drivers when spaces are available at the circle. Additionally, it may no longer be desirable for taxis to stage on the Camino de la Plaza bridge. Removing taxi staging from the bridge may allow for a narrower expansion of the bridge to accommodate the westbound left turn lanes (discussed above) and/or facilitate creation of a more pedestrian friendly environment across the bridge, particularly if the community vision for commercial buildings on a bridge

deck comes to fruition. A new off-street location for taxi staging may be necessary and could be incorporated into new parking structures (that would offset loss of commercial parking).

- **New Commercial Parking Facilities** – As discussed in Section 6.4, new long-term border parking (for cross-border travelers) will need to be provided by the private sector, public sector or a public/private partnership. Potential sites include the northwest quadrant of Camino de la Plaza and East San Ysidro Boulevard, the City of San Diego site on East San Ysidro Boulevard, and expansion of the existing surface parking north of Camino de la Plaza at Virginia Avenue. This parking could integrate with commercial and/or mixed-use development to provide parking for cross-border and community uses and promote good pedestrian-friendly urban design and economic development opportunities.

6.6 CONCEPTUAL SITE DESIGN POTENTIAL ENVIRONMENTAL IMPACTS

The preferred alternative conceptual site plan (**Figure 28**) would significantly modify the Focused Study Area from its existing condition. These changes could potentially impact existing characteristics and/or qualities on and near the site. As the conceptual site plan moves into more detailed planning and conceptual engineering, these impacts should be evaluated to determine their significance, and associated mitigation, in accordance with California Environmental Quality Act (CEQA) and possibly National Environmental Policy Act (NEPA) environmental processes and requirements. While the conceptual site plan would not significantly change the general uses that currently exist in the Focused Study Area, the reconfiguration, changes in circulation, and incorporation of privately-owned property would necessitate an environmental analysis of most, if not all, of the following:

- **Transportation, Traffic and Circulation** – Analyses would refine the concept level traffic and transportation impacts and benefit assessment for an updated site plan.
- **Land Use** – Analyses of changes to land uses on the site would help establish the effects these changes have on the site and land use plans, policies, laws and regulations, including how the proposed project addresses the vision and goals in the future update of the San Ysidro Community Plan.
- **Acquisitions and Displacements** – Analyses would identify the property acquisitions and business displacements that would be required to implement the proposed project, as well as the potential for incorporation of existing businesses into the project design.
- **Socioeconomics, Cultural, Historic, Demographics and Neighborhoods** – Analyses of the conceptual site plan would assess its potential impacts and benefits on various population groups, the economic base of the community and region, the labor pool, housing stock, public services and facilities, and cultural and historic resources.
- **Visual and Aesthetics** – Analyses would reveal the extent that reconfiguration and new development on the site would change the visual and aesthetic landscape and environment from surrounding properties, neighborhoods, and viewsheds.
- **Noise** – Technical analyses would determine whether the proposed project would increase ambient noise levels at sensitive receptors.
- **Geologic, Seismic, Hazardous Materials** – Analyses would indicate if there are any geologic or seismic risks on the site, or the potential to encounter hazardous materials that would need to be addressed prior to site development.

- **Water Resources** – Analyses would assess the impacts of the project on surface and ground water hydrology, water use and water quality.
- **Air Quality** – Analyses would indicate the extent to which the proposed project creates specific pollutants, degrades localized and regional air quality or increases greenhouse gas emissions.
- **Safety and Security** – Analyses would assess how the project might affect safety for the people and transportation system using the site, and for areas adjacent to the site, as well as general security at the border.
- **Ecosystems** – Analyses would indicate whether, and to what extent, the propose project would impact the natural environment, including threatened and endangered species and habitats.
- **Environmental Justice** – Analysis would assess whether the proposed project would have a disproportionately high and adverse impact on minority and low-income populations.
- **Construction** – Analysis would identify the temporary impacts from construction of the proposed project on the surrounding population, circulation and mobility, and land uses.
- **Cumulative Effects** – Analysis would encompass all effects from past, present, and reasonably foreseeable future actions at and near the site.

6.7 CONCEPTUAL SITE DESIGN PRELIMINARY COST ESTIMATES

Conceptual level capital cost estimates have been developed for the Preferred Reconfiguration Concept Site Plan. The conceptual plan formed the basis for the quantity estimates and was used to identify the various infrastructure elements of the project. Rough order of magnitude (ROM) unit costs and quantities were used as plans at this stage lack sufficient detail to generate more robust quantity estimates. The ROM unit costs provide a uniform means of comparing various components of the plan. As more detailed plans become available during the Preliminary Engineering (PE) stage of the project, quantity estimates will need to be verified and the ROM unit costs will need to be updated. The updated unit costs may include items of work that did not originally appear in the ROM unit costs.

Cost data has been developed using generally available historical cost data where historical data from Caltrans, City of San Diego, or other cost commercially sources area available. The cost estimate is based on 2008 construction costs and adjustments for future years can be made through Construction Cost Index (CCI) value published by the *Engineering News Record* (ENR). Other factors such as the Producer Price Index (PPI), Consumer Price Index (CPI), Inflation Index, and RSMeans Location Factor may be considered in adjusting unit costs to reflect construction economics conditions. All unit costs include the contractor's direct construction costs, plus all taxes, general expenses, overhead, and profit.

The unit costs for items of construction do not include items such as engineering, construction management, and owner's administrative costs. These project development costs have been included as percentage add-ons to the construction cost estimate. The percentage add-on estimate ranges from 25 percent to 45 percent of the construction cost estimate to provide for a range in the estimate reflective of the conceptual nature of the project and its delivery methods. The lower 25 percent project development cost could be achieved if the project does not require preparation of a full environmental document (i.e., obtains environmental clearance through an Environmental Assessment or Negative Declaration). The 45 percent project development cost is

consistent with past experience on regional transit and highway infrastructure projects at this phase of cost estimation. Finally, due to the many unknown elements of the project at this stage of development, an overall project contingency ranging from 25 percent to 40 percent has been used. **Table 21** summarizes the conceptual level ROM cost estimates for the Preferred Conceptual Site Design. As shown in the table, the total ROM construction cost estimate ranges from approximately \$254 million to \$320 million.

Table 21: Preliminary Cost Estimates for the Preferred Conceptual Site Design

Item	Cost Estimate (\$Mil) ^(a)
Freeway On- and Off-Ramps	\$24
Widening of Camino de la Plaza	\$6
Tracks and Systems	\$16
Transit Center	\$66
Demolition, Clearing, Earthwork	\$2
Miscellaneous (Utility Relocation, Environmental Mitigation, etc.)	\$3
Transit Access Road	\$4
Easterly Access Road	\$4
Temporary Facilities/Indirect Costs During Construction	\$18
<i>Construction Costs</i>	\$143
Professional Services: 25%–45% of Construction Costs	\$36 – \$64
<i>Subtotal</i>	\$179 – \$207
Contingency: 25%–40%	\$45 – \$83
<i>Total Project Construction and Development Costs</i>	\$224 – \$290
Estimated Right-of-Way Costs (Land, Existing Improvements, and Relocation Costs)	\$30
TOTAL PROJECT COST	\$254 – \$320
Notes:	
(a) The cost estimate is based on Year 2008 construction costs and adjustments for future years can be made through the Construction Cost Index (CCI) value. Cost estimates for each item have been rounded up to the nearest \$1,000,000.	

6.8 CONCEPTUAL SITE DESIGN PRELIMINARY IMPLEMENTATION PHASING PLAN

Implementation plans should serve to minimize disruption to existing services and facilities and take into account financing of the project and its impact on cash flow. During the conceptual development of a project, when the financial details are not yet in place, the implementation plans generally focus on impacts to existing facilities without regard to any adverse impact to the cash flow.

The San Ysidro Port of Entry is the busiest international border in the world and as such, impact to any segment of the existing multimodal transportation facilities may cause significant delay to commuters who cross the border every day. The objective of the implementation plan discussed in this report is to show that the conceptual plan can be realized without significant impact and disruption to existing facilities. It is anticipated that the commercial districts will be purchased for redevelopment. The short-term impact of removing the existing commercial district is the

temporary loss of revenue as well as inconvenience to the traveling public who use the commercial district. The following narrative provides a brief discussion of the phasing plan for implementing the Preferred Conceptual Site Plan.

6.8.1 Offsite Improvements

Offsite improvements will cause the least amount of disruption to the existing facilities. These improvements may include parking facilities and identifying permanent and/or temporary relocation sites for vendors that would be displaced from their currently location.

Widening of Camino de la Plaza may fall in this category. Although the existing bridge is next to the development site or focused study area, the widening of the bridge can occur without significant disruption to the existing access roads or other infrastructure facilities.

Other offsite improvements that may occur prior to development of the focused study area are the ramps to/from Camino de la Plaza.

6.8.2 On-Site Improvements

The first item of work is to ensure continuous access to the GSA facilities. Hence, the access road next to the railroad should be constructed first. The construction of LRT and bus platforms would come next, but this would interrupt the intercity bus terminal, located behind the existing retail shops. Hence, it is suggested that all commercial properties be relocated at this time. This will have the benefit of providing a temporary location for the intercity and MTS buses, while the transit center is being constructed. Construction of the transit center should occur in several stages. The first step would be to construct the portions that are located away from the existing LRT station. This would include the access ramp to the second story of the ITC facility. Upon completion of this segment of the two-story ITC, the LRT station can be moved to its new location, while the remainder of the two-story ITC is being completed. Upon completion of the transit center, the taxi/jitney/shuttle/kiss-and-ride lot will no longer be required by intercity and MTS buses and it can be fully developed. Additionally, other plaza areas and commercial facilities can be fully developed.

7.0 RECOMMENDATIONS, REMAINING ISSUES AND NEXT STEPS

7.1 STUDY RECOMMENDATIONS

Projected growth in border crossings at the San Ysidro International Border through 2030 and GSA's expansion plans for the San Ysidro border inspection facilities will impact the transportation facilities, circulation, mobility and existing context at, and in the vicinity of, the San Ysidro border crossing. Reconfiguration of the area at some level will need to occur to accommodate these future changes. The *San Ysidro Port of Entry Reconfiguration Mobility Study* has resulted in a preferred reconfiguration concept for the Focused Study Area and ancillary recommendations for the Full Study Area to address existing and future mobility at the border. The study analyses considered existing and future conflicts and deficiencies (Section 2.0), stakeholder goals and criteria (principles), including the community vision (Section 4.0), the concept alternatives evaluation (Section 5.0), transportation facility and operating needs (Section 6.0), and stakeholder input (Section 3.0) in developing the preferred concept and ancillary recommendations. The City of San Diego should continue to work with project stakeholders to advance the concept into the next steps of more detailed planning and conceptual engineering to address concept features and proposals in more detail and refine cost estimates. Simultaneously, the City and its partners should initiate development of financing strategies through public and private sources, and seek support from local, state and federal policy and elected officials to identify funding to move the concept and recommendations forward.

7.1.1 Focused Study Area Recommendations

The preferred alternative conceptual site plan for an Intermodal Transportation Center in the Focused Study Area (between border and Camino de la Plaza) incorporates a two-level rail/bus passenger station, an at-grade pick-up/drop-off area for taxis, jitneys, shuttles and kiss-and-ride, potential commercial uses integrated into the site design, and a pedestrian plaza, promenade and pathways that connect to on-site services and the community. The concept would incorporate symbolic architectural design into the ITC facilities. Specifically, the preferred concept, illustrated in **Figures 32** and **33**, includes:

- Accommodation of GSA Phase 1 and 2 expansion plans
- Relocation of northbound freeway on- and off-ramps from the center of the site to Camino de la Plaza
- Relocated Trolley tracks and passenger platform from the center of the site to the east
- Expansion from two to three Trolley terminal (station) tracks and corresponding passenger platforms to accommodate increased frequency of service
- A second-level bus passenger facility for public transit and intercity buses located directly above the Trolley platforms to consolidate bus and rail transportation into one location, minimize at-grade space requirements, and improve bus access
- A taxi, jitney, shuttle, and kiss-and-ride area for coordinated passenger pick-up and drop-off
- A larger pedestrian plaza and focal point with radiating pedestrian pathways for access to transportation and commercial uses on the site

FIGURE 32: PREFERRED CONCEPT SITE PLAN

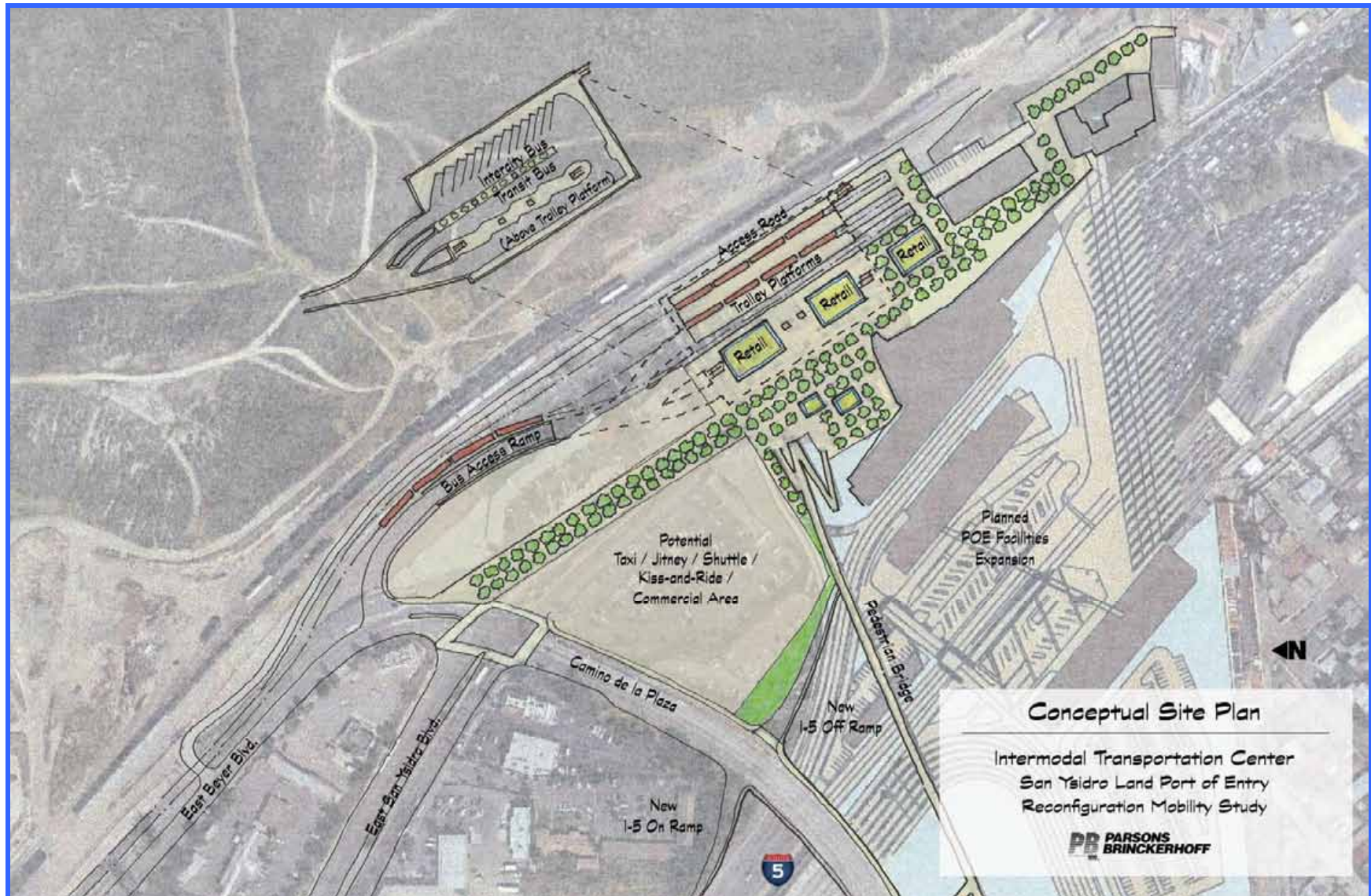
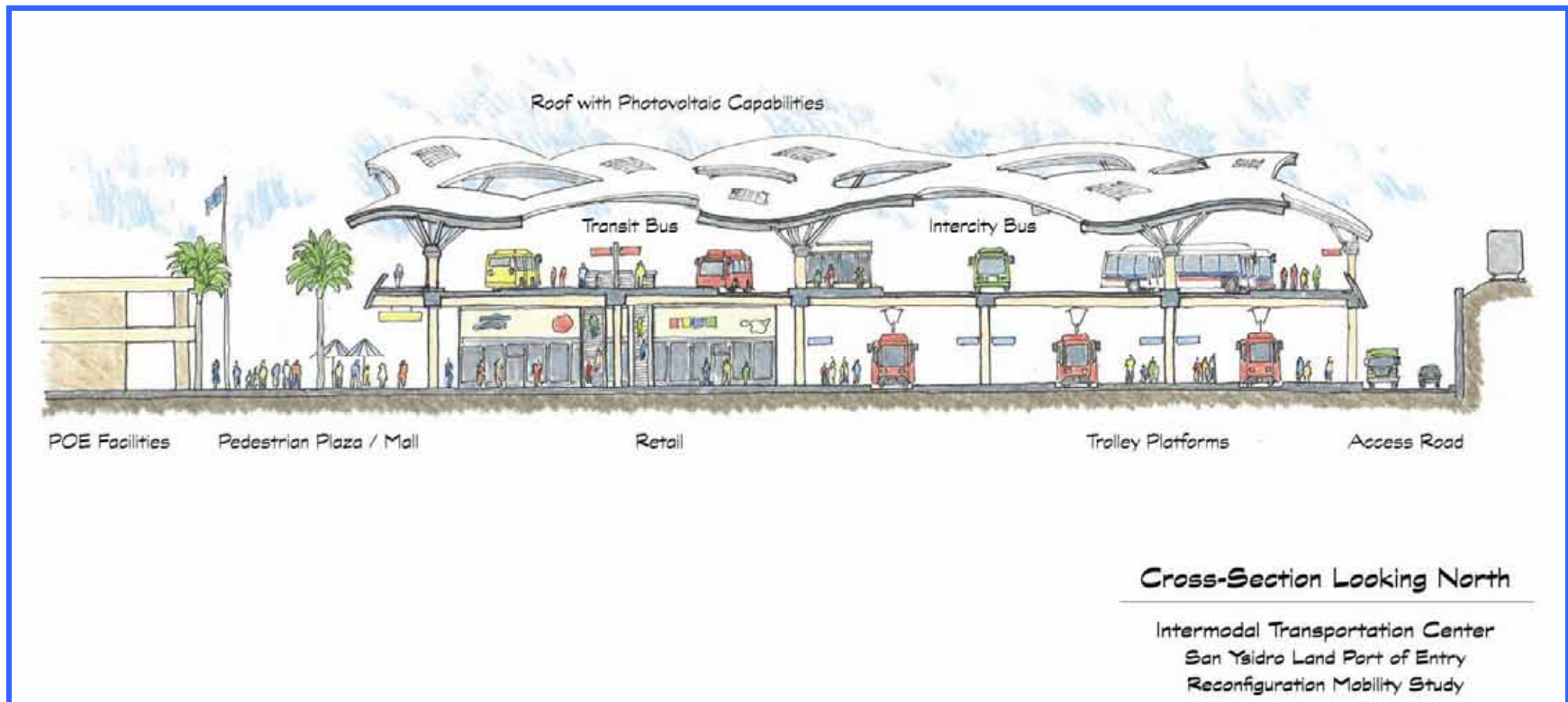


FIGURE 33: PREFERRED CONCEPT SITE DESIGN CROSS SECTION AT TRANSIT FACILITY (LOOKING NORTH)



- A pedestrian promenade and view corridor through the site from the border crossing to a connection with the community at Camino de la Plaza and East San Ysidro Boulevard
- Incorporation of retail and commercial uses into the rail/bus transportation facility and overall site to provide services for pedestrian border crossers, activate the site, and create a commercial link with the community commercial core north of Camino de la Plaza
- Integration of an architectural landmark on the site to create a gateway to the community and region and catalyst for economic development

7.1.2 Full Study Area Ancillary Recommendations

To accommodate GSA Phase 3 expansion plans, and circulation and mobility needs outside the Focused Study Area, ancillary recommendations for the Full Study Area include:

- Widening of the Camino de la Plaza bridge over the freeway by 26 feet to include:
 - Dual eastbound left-turn lanes to the northbound freeway on-ramp to accommodate anticipated traffic queues
 - A 10-foot-wide pedestrian sidewalk on the south side of the bridge
- New transportation facilities at the extension of Virginia Avenue to the GSA Phase 3 southbound pedestrian border crossing to include:
 - Transit bus bays and passenger platforms
 - Private bus bays and passenger platforms
 - Taxi, jitney and shuttle load zones
- Virginia Avenue/Camino de la Plaza and Camiones Way/Camino de la Plaza intersections improvements to include:
 - Signalized intersections
 - Widening to the north along Camino de la Plaza to accommodate an additional westbound through lane and a second westbound left-turn lane
- New off-site taxi staging area and remote taxi dispatching to include:
 - Taxi staging incorporated into a new parking facility or other development near the ITC taxi circle
 - Remote dispatching (a green signal or radio dispatching) to alert taxi drivers when vacant stalls are available in the taxi area
- New commercial parking facilities to replace those impacted by the GSA expansion plans and Focused Study Area ITC to include:
 - Independent parking lots or structures within walking distance (0.5 miles) of the border
 - Parking structures integrated into mixed use development to serve the border crossing market, the commercial/retail within the Focused Study Area, and/or the general community commercial/retail market outside the Focused and Full Study Areas (including the community commercial core).
 - Parking opportunities including integration with economic development opportunities/transit-oriented development (TOD) and possible taxi dispatching area

7.1 REMAINING ISSUES

Site Design – The conceptual site design is a planning-level vision for the site and is not intended to represent a final concept or design. Further analysis of the configuration of the site needs to be undertaken through conceptual and preliminary engineering so that issues, opportunities and options can be vetted, designs can be refined, and feasibility, cost, and cost-effectiveness can be evaluated. In particular, site design concepts that incorporate taxis, jitneys and possibly kiss-and-ride facilities into the vertical ITC should be evaluated. **Appendix C** shows an initial concept for including taxi and jitney facilities below the two-story ITC.

Parking – Up to five privately-owned commercial parking lots will potentially be affected upon implementation of the GSA expansion plans and reconfiguration proposals. Parking strategies, including locations and development strategies for provision of new commercial parking in the border area need to be identified, including incorporation of some parking into the vertical ITC facility. **Appendix C** shows an initial concept for including some commercial parking into the ITC facility. In addition, analysis of the potential to develop new commercial parking near the border through public/private partnerships, integration into multi-use developments, and construction of parking structures on existing surface lots should be undertaken.

Freeway Ramp Design – The conceptual site design for reconfiguration of border circulation and transportation facilities includes potential relocation of the northbound I-5 on- and off-ramps from the center of the Focused Study Area to a connection with Camino de la Plaza. At an August 10, 2009 meeting, Caltrans staff reviewed the ramp relocation proposal and indicated that there does not appear to be any fatal flaws with the concept. However, design exceptions to Caltrans highway design standards may be required. The extent of these exceptions will not be known until conceptual and preliminary engineering design is performed and design plans can be analyzed. All alternatives will need to be evaluated in a Project Initiation Document for engineering validity, following Caltrans guidelines. As a result, further analysis of freeway ramp designs that would retain the direct freeway ramp connection to East San Ysidro Boulevard through the focused study area should be conducted in the event it is infeasible or undesirable to relocate the ramps.

Financing Strategy and Funding – As the reconfiguration concept is advanced through planning, design and implementation phases, and capital and operating costs are refined, a financing strategy needs to be developed and funding identified to implement the reconfiguration project in phases or in total. Market feasibility analyses for private components of the reconfiguration project, and evaluation of the potential for public/private partnerships need to be undertaken.

Community Integration – The general proposal to reconfigure border area circulation, transportation facilities, and land use should be addressed in the future update of the San Ysidro Community Plan, including recognition of the role of the reconfiguration concept in promoting the community vision.

Ownership/Operations/Maintenance – Given the multiple public- and private-sector stakeholders with a capital and/or operating interests in the existing and reconfigured site, there are a number of ownership, operational and maintenance issues and agreements that need to be worked out for shared use, ownership, and maintenance of the site and facilities.

7.2 NEXT STEPS

The City staff has identified the following steps to be components and issues that will be coordinated as part of the pending *San Ysidro Community Plan Update* process:

- **Market Feasibility Analysis** – Conduct a market feasibility analysis to determine the opportunities and financial feasibility of incorporating retail/commercial uses on the site, including the potential for public private partnerships and joint development.
- **Stakeholder and Community Involvement** – Establish a stakeholder and community/public involvement/outreach program for future phases of project planning, design and development
- **Detailed Planning, Design and Analysis** – Conduct more detailed planning and design (including conceptual and preliminary engineering) of the preferred or an alternative ITC concept site plan to address issues and assess functional feasibility of concepts, including
 - Analysis of the potential and feasibility of incorporating taxi, jitney and shuttle facilities into the vertical building on the ITC site
 - Analysis of the potential to incorporate commercial parking into the vertical ITC facility, and/or other options for incorporating commercial parking within the Focused Study Area site
 - Further study of options that generally retain the northbound freeway on and off-ramps in their existing locations through the Focused Study Area site with direct connections to and from East San Ysidro Boulevard
 - Identification of opportunities for gaining additional retail and commercial space on the site
 - Updating traffic studies as site design is further developed and refined, including further traffic analyses to address potential queuing and traffic operations issues on the approaches to the ITC and west of I-5
 - Refining cost estimates at the conceptual and preliminary engineering phases of site design
 - Undertaking an initial study to identify potential environmental issues
- **Detailed phasing plan** – Develop a more detailed phasing plan that includes consideration of GSA border facilities expansion plan phasing and identifies discrete projects that could be implemented from the overall ITC site design
- **Financing and Funding Strategy** – Develop a financing strategy and funding analysis, including pursuit of public-private partnerships and joint development opportunities.

