



FINAL REPORT

RIGHT-OF-WAY IMPACT REPORT

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INTERSTATE 710 CORRIDOR PROJECT

Prepared for:



Los Angeles County
Metropolitan Transportation Authority

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1.0 EXECUTIVE SUMMARY

The Interstate 710 (I-710) Corridor Project Funding Partners¹ propose to improve the I-710 Corridor from Ocean Boulevard in the City of Long Beach to State Route 60 (SR-60) in East Los Angeles. Alternatives under consideration include five Build Alternatives and a No-Build Alternative. The principal improvements comprising the set of build alternatives includes widening and reconstructing I-710 to ten lanes and adding four separate freight movement lanes adjacent to the freeway.

The purpose of this report is to identify property impacts resulting from the right-of-way requirements of each alternative under analysis. The data and report then serve as key inputs for further environmental analysis, including relocation impact studies, community impact assessments, and other study area analyses. Furthermore, this report provides a basis for including right-of-way cost estimates in the Draft Project Report, while also identifying the need for agreements with other government agencies through its operational boundary determinations. Tables 1-1 and 1-2 summarize the property impacts of each alternative, categorizing them by current use in order to determine the number of impacts to existing parcels and quantify area requirements. Appendix 2 provides further breakdown of right-of-way requirements by segment and sub-area.

Table 1-1: Summary of Property Impacts (Alternative 5A)

Parcel Type	R/W Required	Parcels Affected	Additional R/W Required for TCE	Additional Parcels Affected
	(acre)	#	(acre)	#
Residential	3	30	1	4
Commercial / Industrial	106	227	26	23
Government Agency	61	49	37	7
Utility	23	45	79	10
Railroad	6	30	3	2
Flood Control	43	46	70	13
Total	235	346	220	59

¹ The I-710 Corridor Funding Partners are the Los Angeles County Metropolitan Transportation Authority (MTA), the California Department of Transportation (Caltrans), the Gateway Cities Council of Governments (GCCOG), the Port of Los Angeles (POLA), the Port of Long Beach (POLB), the Southern California Association of Governments (SCAG), and the I-5 Joint Powers Authority (I-5 JPA).



Table 1-2: Summary of Property Impacts (Alternatives 6A/B/C – Option 1)

Parcel Type	R/W Required	Parcels Affected	Additional R/W Required for TCE	Additional Parcels Affected
	(acre)	#	(acre)	#
Residential	16	147	3	4
Commercial / Industrial	192	369	20	15
Government Agency	136	75	15	4
Utility	55	59	80	10
Railroad	21	66	3	2
Flood Control	116	73	29	2
Total	489	678	149	37

Table 1-3: Summary of Property Impacts (Alternatives 6A/B/C – Option 2)

Parcel Type	R/W Required	Parcels Affected	Additional R/W Required for TCE	Additional Parcels Affected
	(acre)	#	(acre)	#
Residential	9	75	3	4
Commercial / Industrial	191	372	20	15
Government Agency	139	77	15	4
Utility	62	60	76	10
Railroad	23	67	1	0
Flood Control	116	73	29	2
Total	493	610	140	35

Table 1-4: Summary of Property Impacts (Alternatives 6A/B/C – Option 3)

Parcel Type	R/W Required	Parcels Affected	Additional R/W Required for TCE	Additional Parcels Affected
	(acre)	#	(acre)	#
Residential	8	68	3	4
Commercial / Industrial	193	349	20	14
Government Agency	136	75	17	4
Utility	55	60	79	10
Railroad	25	46	3	2
Flood Control	116	73	29	2
Total	486	560	150	36



2.0 INTRODUCTION

2.1 REPORT PURPOSE

The purpose of this report is to identify property impacts resulting from the right-of-way requirements of each alternative under analysis. The data and report then serve as key inputs for further environmental analysis, including relocation impact studies, community impact assessments, and other study area analyses. Furthermore, this report provides a basis for including right-of-way cost estimates in the Draft Project Report, while also identifying the need for agreements with other government agencies through its operational boundary determinations.

2.2 PROJECT DESCRIPTION

2.2.1 Introduction

The Interstate 710 (I-710) Corridor Project study area includes the portion of I-710 (6 or 8 lanes) from Ocean Blvd. in Long Beach to State Route 60 (SR-60), a distance of approximately 18 miles (see Figure 1). At the freeway-to-freeway interchanges, the study area extends one mile east and west of I-710 for the Interstate 405 (I-405), State Route 91 (SR-91), Interstate 105 (I-105), and Interstate 5 (I-5) interchanges. The I-710 Corridor Project traverses portions of the cities of Bell, Bell Gardens, Carson, Commerce, Compton, Cudahy, Downey, Huntington Park, Lakewood, Long Beach, Los Angeles, Lynwood, Maywood, Paramount, Signal Hill, South Gate, and Vernon, and portions of unincorporated Los Angeles County, all within Los Angeles County, California.

I-710 (also known as the Long Beach Freeway) is a major north/south interstate freeway connecting the City of Long Beach to central Los Angeles. Within the I-710 Corridor Project study area, the freeway serves as the principal transportation connection for goods movement between the Port of Los Angeles (POLA)/Port of Long Beach (POLB) shipping terminals and the Burlington Northern Santa Fe (BNSF)/Union Pacific Railroad (UP) railyards in the cities of Commerce and Vernon and destinations along I-710 as well as destinations north and east of I-710.

The I-710 Major Corridor Study (MCS), undertaken to address the mobility and safety needs of the I-710 Corridor and to explore possible solutions for transportation improvements, was completed in March 2005 and identified a community-based Locally Preferred Strategy (LPS) consisting of 10 general purpose (GP) lanes next to four separated freight movement lanes. The Los Angeles County Metropolitan Transportation Authority (Metro), the California Department of Transportation (Caltrans), the Gateway Cities Council of Governments (GCCOG), the Southern California Association of Governments (SCAG), POLA, POLB, and the Interstate 5 Joint Powers Authority (I-5 JPA) are collectively known as the I-710 Funding Partners. Through a cooperative agreement, these agencies are funding the preparation of preliminary engineering and environmental documentation for the I-710 Corridor Project to evaluate improvements identified in the Major Corridor Study along the I-710



Corridor from Ocean Blvd. in the City of Long Beach to SR-60. The I-710 Funding Partners have continued this engineering and environmental study effort within the same broad, continuous community participation framework that was used for the MCS.

The environmental impacts of the I-710 Corridor Project will be assessed and disclosed in compliance with both the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA). Caltrans is the Lead Agency for CEQA compliance and the lead agency for NEPA compliance pursuant to Section 6005 of the Safe, Accountable, Flexible, and Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) (23 United States Code [USC] 327).

The need for the I-710 Corridor Project is as follows:

- I-710 experiences high heavy-duty truck volumes, resulting in high concentrations of diesel particulate emissions within the I-710 Corridor.
- I-710 experiences accident rates, especially truck-related, that are well above the statewide average for freeways of this type.
- At many locations along I-710, the on- and off-ramps do not meet current design standards and weaving sections within and between interchanges are of insufficient length.
- High volumes of both trucks and cars have led to severe traffic congestion throughout most of the day (6:00 a.m. to 7:00 p.m.) on I-710 as well as on the connecting freeways. This is projected to worsen over the next 25 years.
- Increases in population, employment, and goods movement between now and 2035 will lead to more traffic demand on I-710 and on the streets and roadways within the I-710 Corridor as a whole.



The purpose of the I-710 Corridor Project is to achieve the following within the I-710 Corridor (2035 time frame):

- Improve air quality and public health
- Improve traffic safety
- Provide modern design for the I-710 mainline
- Address projected traffic volumes
- Address projected growth in population, employment, and activities related to goods movement (based on SCAG population projections and projected container volume increases at the two ports)

Interstate 710 (I-710) is a major north-south interstate freeway connecting the City of Long Beach to central Los Angeles. Within the I-710 Corridor Project study area, the freeway serves as the principal transportation connection for goods movement between the Ports of Los Angeles and Long Beach, located at the southern terminus of the freeway, and the Burlington Northern Santa Fe (BNSF)/ Union Pacific Railroad (UPRR) railyards in the cities of Commerce and Vernon and destinations further east. The study area extends from Ocean Boulevard in Long Beach to SR-60 in East Los Angeles, a distance of approximately 18 miles. Figure 1 provides a map of the study area map.

2.2.2 Alternatives Description

This section describes the alternatives based on the Major Corridor Study that were developed by a multidisciplinary technical team to achieve the I-710 Corridor Project purpose and subsequently were reviewed and concurred upon by the various committees involved in the I-710 Corridor Project community participation framework. Alternatives 2, 3, and 4 were considered but withdrawn from further environmental study as stand-alone alternatives but elements of these alternatives have been included in Build Alternatives 5A, 6A, 6B, and 6C. The alternatives are Alternative 1 (No Build Alternative), Alternative 5A (I-710 Widening up to 10 General Purpose [GP] Lanes), Alternative 6A (10 GP Lanes plus a Four-Lane Freight Corridor), Alternative 6B (10 GP Lanes plus a Zero-Emissions Four-Lane Freight Corridor), and Alternative 6C (10 GP Lanes plus a Four-Lane Freight Corridor Tolled).

2.2.2.1 Alternative 1 – No Build Alternative

The No Build Alternative does not include any improvements within the I-710 Corridor other than those projects that are already planned and committed to be constructed by or before the planning horizon year of 2035. The projects included in this alternative are based on Southern California Association of Governments (SCAG's) 2008 Regional Transportation Improvement Program (RTIP) project list, including freeway, arterial, and transit improvements within the SCAG region. This alternative also assumes that goods movement to and from the ports make maximum utilization of existing and planned railroad capacity within the I-710 Corridor. Alternative 1 is the baseline against



which the Build Alternatives proposed for the I-710 Corridor Project will be assessed. The existing I-710 mainline generally consists of eight GP lanes north of I-405 and six GP lanes south of I-405.

2.2.2.2 Alternative 5A – Freeway Widening up to 10 GP Lanes

Alternative 5A proposes to widen the I-710 mainline to up to ten GP lanes (northbound [NB] I-710 and southbound [SB] I-710). This alternative will:

- Provide an updated design at the I-405 and State Route 91 (SR-91) interchanges (no improvements to the I-710/Interstate 5 [I-5] interchange are proposed under Alternative 5A)
- Reconfigure all local arterial interchanges within the project limits that may include realignment of on- and off-ramps, widening of on- and off-ramps, and reconfiguration of interchange geometry
- Eliminate local ramp connections over I-710 (9th to 6th St. and 7th to 10th St.) in the City of Long Beach
- Eliminate a local interchange at Wardlow Ave. in the City of Long Beach
- Add a local street connection under I-710 to Thunderbird Villas at Miller Way in the City of South Gate
- Add a local connection (bridge) over I-710 at Southern Ave. in the City of South Gate
- Add a local arterial interchange at NB and SB I-710/Slauson Ave. in the City of Maywood
- Shift the I-710 centerline at several locations to reduce right-of-way requirements.

Additionally, various structures such as freeway connectors, ramps, and local arterial overcrossings, structures over the Los Angeles River and structures over the two railyards throughout the project limits will be replaced, widened, or added as part of Alternative 5A.

In addition to improvements to the I-710 mainline and the interchanges, Alternative 5A also includes Transportation Systems/Transportation Demand Management (TSM/TDM), Transit, and Intelligent Transportation Systems (ITS) improvements. TSM improvements include provision of or future provision of ramp metering at all locations and the addition of improved arterial signage for access to I-710. Parking restrictions during peak periods (7:00 a.m.–9:00 a.m.; 4:00 p.m.–7:00 p.m.) will be implemented on four arterial roadways: Atlantic Blvd. between Pacific Coast Hwy. and SR-60; Cherry Ave./Garfield Ave. between Pacific Coast Hwy. and SR-60; Eastern Ave. between Cherry Ave. and Atlantic Blvd.; and Long Beach Blvd. between San Antonio Dr. and Firestone Blvd. Transit improvements that will be provided as part of the I-710 Corridor Project include increased service on all Metro Rapid routes and local bus routes in the study area. ITS improvements include updated



fiber-optic communications to interconnect traffic signals along major arterial streets to provide for continuous, real-time adjustment of signal timing to improve traffic flow as well as other technology improvements.

Alternative 5A also includes improvements to 42 local arterial intersections within the I-710 Corridor Project study area (see Figure 2). These improvements generally consist of lane restriping or minimal widening to provide additional intersection turn lanes that will reduce traffic delay and improve intersection operations for those intersections with projected Level of Service (LOS) F.

In addition to the transportation system improvements described above, Alternative 5A also includes:

- **Aesthetic Enhancements:** Landscaping and irrigation systems would be provided within the corridor where feasible. Urban design and aesthetic treatment concepts for community enhancement will be integrated into the design of the I-710 Corridor Project. These concepts will highlight unique community identities within a unified overall corridor theme; strengthen physical connections and access/mobility within and between communities; and implement new technologies and best practices to ensure maximum respect for the environment and natural resources. They will continue to evolve and be refined through future phases of project development.
- **Drainage/Water Quality Features:** Alternative 5A includes modifications to the Los Angeles River levee; new, extended, replacement, and additional bents and pier walls in the Los Angeles River; additional and extended bents and pier walls in the Compton Channel; modifications to existing pump stations or provision of additional pump stations; and detention basins and bioswales that will provide for treatment of surface water runoff prior to discharge into the storm drain system.



2.2.2.3 Alternative 6A – 10 GP Lanes plus a Four-Lane Freight Corridor

Alternative 6A includes all the components of Alternatives 1 and 5A described above. (The alignment of the GP lanes in Alternative 6A will be slightly different than Alternative 5A in a few locations.) In addition, this alternative includes a separated four-lane freight corridor (FC) from Ocean Blvd. northerly to its terminus near the UP and BNSF railyards in the City of Commerce. The FC would be built to Caltrans highway design standards and would be restricted to the exclusive use of heavy-duty trucks (5+ axles). In Alternative 6A these trucks are assumed to be conventional” trucks (conventional trucks are defined to be newer [post-2007] diesel/fossil-fueled trucks [new or retrofitted engines required per new regulations and standards].

The FC would be both at-grade and on elevated structure with two lanes in each direction. There are exclusive, truck only ingress and egress ramps to and/or from the FC at the following locations:

- Harbor Scenic Dr. (NB ingress only)
- Ocean Blvd. (NB ingress only)
- Pico Ave. (NB ingress and SB egress only)
- Anaheim St. (NB ingress and SB egress only)
- SB I-710 GP lanes just south of Pacific Coast Hwy (SB egress only)
- NB I-710 GP lanes north of I-405 at 208th St. (NB ingress only)
- SB I-710 GP lanes north of I-405 at 208th St. (SB egress only)
- Eastbound (EB) SR-91 (NB egress only)
- Westbound (WB) SR-91 (SB ingress only)
- Patata St (NB egress and SB ingress only)
- SB I-710 GP lanes at Bandini Blvd. (SB ingress only)
- NB I-710 GP lanes at Bandini Blvd. (NB egress only)
- Washington Blvd. – (NB egress only and SB ingress only) (Design Options 1 and 2)
- Washington Blvd. (NB egress and SB ingress via Indiana Ave) (Design Option 3)
- Sheila St – (NB egress only) (Design Option 3)

In addition to the FC feature, Alternative 6A includes:

- Partial modification to the I-5 interchange, notably the replacement of the NB I-710 to NB I-5 connector (right-side ramp replacement of left-side ramp) and a realigned SB I-5 to SB I-710 connector and 5 SB GP lanes from SR-60 to Washington Blvd.
- 3 NB GP lanes from I-5 to SR-60
- Retention of and modification to the I-710 SB on- and off-ramps at Eastern Ave. to slightly realign them.
- A local connection over I-710 at Patata St. in the cities of South Gate and Bell Gardens.



As with Alternative 5A, Alternative 6A will include additional aesthetic enhancements, and drainage/water quality features as follows:

Aesthetic Enhancements: In addition to the aesthetic enhancements described above for Alternative 5A, specific aesthetic treatments will be developed for the FC, including use of screen walls and masonry treatments on the FC structures (including soundwalls).

Drainage/water quality features: Alternative 6A includes features to capture and treat the additional surface water runoff from the FC, as well as some modifications to the Los Angeles River levees in order to accommodate electrical transmission line relocations.

2.2.2.4 Alternative 6B – 10 GP Lanes plus a Zero-Emissions Four-Lane Freight Corridor

Alternative 6B includes all the components of Alternative 6A as described above, but would restrict the use of the FC to zero-emission trucks rather than conventional trucks. This proposed zero emission truck technology is assumed to consist of trucks powered by electric motors in lieu of internal combustion engines and producing zero tailpipe emissions while traveling on the freight corridor. The specific type of electric motor is not defined, but feasible options include linear induction motors, linear synchronous motors or battery technology. The power systems for these electric propulsion trucks could include, but is not limited to, hybrid with dual-mode operation (ZEV Mode), Range Extender EV (Fuel Cell or Turbine with ZEV mode), Full EV (with fast charging or infrastructure power), road-connected power (e.g., overhead catenary electric power distribution system), alternative fuel hybrids, zero NOx dedicated fuel engines (CNG, RNG, H2 ICE), and range extender EV (turbine). For purposes of the I-710 environmental studies, the zero-emission electric trucks are assumed to receive electric power while traveling along the FC via an overhead catenary electric power distribution system (road-connected power).

Alternative 6B also includes the assumption that all trucks using the FC will have an automated control system that will steer, brake, and accelerate the trucks under computer control while traveling on the FC. This will safely allow for trucks to travel in “platoons” (e.g., groups of 6–8 trucks) and increase the capacity of the FC from a nominal 2,350 passenger car equivalents per lane per hour (pces/lane/hr) (as defined in Alternative 6A) to 3,000 pces/lane/hr in Alternative 6B.

The design of the FC will also allow for possible future conversion, or be initially constructed, as feasible (which may require additional environmental analysis and approval), of a fixed-track guideway family of alternative freight transport technologies (e.g., Maglev). However, this fixed-track family of technologies has been screened out of this analysis for now, as they have been determined to be inferior to electric trucks in terms of cost and ability to readily serve the multitude of freight origins and destinations served by trucks using the I-710 corridor.



2.2.2.5 Alternative 6C – 10 GP Lanes plus a Four-Lane Freight Corridor with Tolls

Alternative 6C includes all the components of Alternative 6B as described above, but would toll trucks using the FC. Although tolling trucks in the FC could be done under either Alternative 6A or 6B; for analytical purposes, tolling has only been evaluated for Alternative 6B as this alternative provides for higher FC capacity than Alternative 6A due to the automated guidance feature of Alternative 6B.

Tolls would be collected using electronic transponders which would require overhead sign bridges and transponder readers like the SR-91 toll lanes currently operating in Orange County, where no cash toll lanes are provided. The toll pricing structure would provide for collection of higher tolls during peak travel periods.

2.2.2.6 Design Options

For alternatives 6A, 6B, and 6C, three design options for the portion of I-710 between the I-710/Slauson Ave interchange to just south of the I-710/I-5 interchange are under consideration. These configurations will be fully analyzed so that they can be considered in the future selection of a Preferred Alternative for the project. These options are as follows:

Design Option 1 applies to Alternatives 6A, 6B and 6C and provides access to Washington Blvd using three ramp intersections at Washington Blvd.

Design Option 2 applies to Alternatives 6A, 6B, and 6C and provides access to Washington Blvd. using two ramp intersections at Washington Blvd.

Design Option 3 applies only to Alternative 6B² and removes access to Washington Blvd. at its current location. The ramps at the I-710/Washington Blvd. interchange would be removed to accommodate the proposed FC ramps in and out of the railyards. The SB off-ramp and NB-on-ramp access would be accommodated by Alternative 6B in the vicinity of the existing interchange by the proposed new SB off-ramp and NB on-ramp at Oak St. and Indiana St. These two ramps are proposed as mixed-flow ramps (freight connector ramps that would also allow automobile traffic). However, the SB on-ramp and NB off-ramp traffic that previously used the Washington Blvd. interchange would be required to access the Atlantic Blvd./Bandini Blvd. interchange located south of the existing Washington Blvd. interchange to ultimately reach I-710.

² Design Option 3 only applies to Alternative 6B because it was not included in the travel demand modeling for either Alternative 6A or 6C.



2.2.3 Project Segments

To facilitate design, analysis, and organization, this report breaks down the project geographically into seven segments. Table 2-1 provides the segment limits and interchange locations. Appendix 1 includes a Segment Key Map.

Table 2-1: Segment Limits

Segment	Limits	Interchanges
1	Ocean Boulevard to Willow Street <i>City of Long Beach</i>	<ul style="list-style-type: none"> • Ocean Boulevard • Harbor Scenic Drive • Pico Avenue • Shoreline Drive (Downtown) • Anaheim Street • Pacific Coast Highway • Willow Street
2	Wardlow Road to Del Amo Boulevard <i>City of Long Beach</i> <i>City of Carson</i> <i>County of Los Angeles</i>	<ul style="list-style-type: none"> • Wardlow Road • Interstate 405 • Del Amo Boulevard • Santa Fe Avenue (at I-405) • Pacific Place (at I-405)
3	Long Beach Boulevard to Alondra Boulevard <i>City of Long Beach</i> <i>City Of Compton</i> <i>City of Paramount</i>	<ul style="list-style-type: none"> • Long Beach Boulevard • Artesia Boulevard • State Route 91 • Alondra Boulevard • Long Beach Boulevard (at SR-91)
4	Rosecrans Avenue to Firestone Boulevard <i>City of Paramount</i> <i>City of Lynwood</i> <i>City of South Gate</i>	<ul style="list-style-type: none"> • Rosecrans Avenue • Interstate 105 • Martin Luther King Jr Boulevard • Imperial Highway • Firestone Boulevard
5	Clara Street to Slauson Avenue <i>City of Bell Gardens</i> <i>City of Cudahy</i> <i>City of Bell</i> <i>City of Maywood</i> <i>City of Vernon</i>	<ul style="list-style-type: none"> • Florence Avenue • Slauson Avenue (New)
6	Atlantic Boulevard to Washington Boulevard <i>City of Vernon</i> <i>City of Commerce</i> <i>County of Los Angeles</i>	<ul style="list-style-type: none"> • Atlantic Boulevard • Bandini Boulevard • Washington Boulevard



Segment	Limits	Interchanges
7	I-5 to SR60 <i>City of Commerce</i> <i>City of East Los Angeles</i> <i>County of Los Angeles</i>	<ul style="list-style-type: none"> • Interstate 5 • Olympic Boulevard • 3rd Street • State Route 60



3.0 METHODOLOGY

The process of identifying and quantifying right-of-way impacts for each project alternative includes six basic steps:

- Develop base mapping,
- Develop alternative geometric designs and identify right-of-way requirements,
- Develop construction staging concepts and identify construction easements,
- Develop utility relocation designs and identify right-of-way and easement requirements,
- Overlay requirements and easements on property base maps and tabulate property requirements and dispositions for each alternative, and
- Identify potential relinquishment and vacation areas.

The following subsections describe the approach for each of the six steps above.

3.1.1 Base Mapping

- Topographic maps, including ortho certified aerial photographs, were prepared for the project and certified by Wagner Engineering & Survey Inc. The mapping limits extend the length of the corridor and capture topographic and planimetric features 300 feet east and west of existing state property lines along I-710. The limits also capture arterial streets crossing I-710, one-quarter mile in each direction. Similarly, the limits capture freeway crossings, one-mile in each direction. The aerial photographs were taken in March of 2008. The mapping underwent a quality assurance process at Caltrans District 7 and Caltrans Headquarters Office of Photogrammetry. Caltrans verified that the mapping complied with Caltrans and National Map Accuracy Standards and issued a notice of acceptance on November 25, 2009.
- Los Angeles County GIS assessor parcel data and maps were obtained for the project and limits as described above. The maps are referenced with the topographic mapping and aerial photographs. Together these maps serve as basis for the project's base maps. Because the GIS data is based upon various recorded boundaries from multiple sources, accuracy is limited and insufficient for property appraisal. However, it is useful in identifying potential project impacts and approximate property boundaries.
- To provide a higher level of accuracy, preliminary boundary assessments were conducted for existing Caltrans right-of-way and tied to the land net established for the base map. No prior digital (CADD) products exist. To digitally establish existing Caltrans right-of-way the following tasks were completed:
- Record research including Caltrans right-of-way, survey control and coordinate control maps; Los Angeles County assessor, flood control, record of survey, tract and parcel maps; Long



Beach monument index maps and monumentation; and various other publicly available sources.

- Densification of primary control using GPS methods, as required by Caltrans procedures.
- Recovery of land net monuments in the field.
- Calculations from Caltrans right-of-way maps. These maps were found to have discrepancies and missing dimensions. These deficiencies were resolved by checking against found monuments, overlaying orthophotography, and applying professional land surveying opinions.
- Proration and rotations between recorded documents (Tract and Parcel Maps) and land net. This was applied to parcels adjacent to Caltrans rights of way.
- Caltrans right-of-way tied to Land Net. The Caltrans right-of-way boundary was tied to the land net utilizing the most reliable monuments. The digital boundary is a reference file in the Project Base Map and is the primary basis to assess impacts to properties adjacent to Caltrans rights of way.
- Boundary assessments for municipal right-of-way were not established using the above method. Boundaries for City street right-of-ways were established using available as-built drawings, assessor maps, and topographic mapping. Where assessor information is unclear or in conflict with planimetric features, the back of sidewalk or edge of shoulder is used to establish these boundaries. These boundaries serve as the primary basis to assess impacts to properties adjacent to City streets.
- Los Angeles County assessor parcel data was obtained to identify ownership, location, size, and use of properties in the study area. A parcel database has been developed to compile potential property impacts and cross-references the assessor's identification number.

3.1.2 Geometric Design and Right-of-Way Requirements

Consistent with the Project Funding Partners' guiding principles to minimize property impacts, alternative designs are developed to avoid property impacts to the extent practicable and meet the project's purpose and need objectives. The alignments generally follow and utilize existing Caltrans and City right-of-ways and avoid residential neighborhoods where possible. In many locations, the alternative designs feature retaining walls to avoid adjacent property impacts or takings (fee, TCE aerial, footing, slope, highway access, etc.). Adjacent to travel ways, grading, drainage, and maintenance access features are taken into consideration in establishing each alternative's right-of-way requirements. For structures over waterways, railroads, or other grade separated features, the right-of-way requirements are for foundations and aerial easements.



3.1.3 Construction Staging Concepts and Construction Easements

Construction staging concepts were developed for the alternatives to identify a feasible means to construct project features and to establish approximate construction durations. These concepts were also used to identify temporary construction easements on private property. These easements are needed for contractor work areas and contractor access, as well as, potential material disposal, staging, and borrow areas. These easements are located on mostly vacant or undeveloped parcels, generally used for storage, and are needed for the duration of construction. Duration is expected to range from one to three years.

3.1.4 Utility Requirements

Right-of-way requirements for utility relocations are not typically needed in this phase of project development. With some exceptions, all utilities are relocated within existing highway and street right-of-ways or other existing utility right-of-way. The alternatives affect regionally significant high-voltage transmission lines. Relocations of these facilities require some new right-of-ways. *The Utility Impact Report* (prepared under separate cover) describes relocation strategies associated with the alternatives. This report includes the right-of-way requirements for these relocation strategies.

3.1.5 Property Tabulation and Dispositions

A parcel database was created for the study area and is referenced to parcels identified on the base maps. This database not only tabulates ownership, size and use for each parcel, but also includes County of Los Angeles Assessor's Identification Numbers (AIN) for identification.

Alternative right-of-way requirements and temporary construction easements are overlaid on the base map to determine parcel impacts. Parcels outside of Caltrans and City Street rights of way affected by the alternative requirements are identified. These parcels are assigned an impact number that is tabulated in the database and annotated on the right-of-way impact maps.

For each parcel, the required area is calculated and the effect on the property's current use is evaluated. Based on this data, a preliminary determination is made regarding partial or full acquisition of the property. As a general rule, remainder areas are identified as potential temporary construction easements and supplement these requirements. These areas are also considered potential mitigation or relinquishment areas. The project database tabulates the required and remainder areas, acquisition dispositions and relocation dispositions for each affected parcel.

3.1.6 Relinquishment and Vacation

For each alternative an operational boundary is established which serves to identify local streets and public facilities that the project creates or uses. Through existing freeway agreements between the State and Cities along the corridor, these facilities are relinquished to the ultimate owner in a state of good repair. This report identifies these streets and facilities.



Some areas within the existing Caltrans right-of-way, or where Caltrans has easement rights, do not have a permanent highway use after the project is constructed. If the project does not use these areas for mitigation purposes, they are subject to vacation or disposal. For vacation areas, the public right of use is removed from right-of-way the State holds in easement. For disposal areas, the State's real property interest is sold or exchanged under the provisions of the Streets and Highways Code. This report identifies these potential areas.



4.0 EXISTING CONDITIONS

The following subsections describe the existing conditions with the I-710 project limits and only include areas adjacent to the existing Caltrans and city street right-of-ways.

4.1.1 Segment 1

- West of I-710, properties which bound Segment 1 include: the railroads which the Port of Long Beach operate from Ocean Boulevard to Pico Avenue; commercial/industrial businesses, such as a community center, gas station, pump station, etc., from Pico Avenue to PCH; and residential properties from PCH to north of Willow Street. Additionally, a strip of empty parcel abuts the west side of I-710 between Hill Street and 23rd Street.
- East of I-710, oil facilities abutting the Los Angeles River and public use properties owned by the City of Long Beach and the Los Angeles County Flood Control District bound Segment 1 from Ocean Boulevard to Willow Street.
- The Los Angeles River bounds the Downtown Long Beach improvements to the west, while Cesar E. Chavez Park and various commercial/industrial properties bound them to the east.
- A SCE utility corridor carrying overhead transmission lines exists east of I-710 from Ocean Boulevard to Willow Street, with a substation just south of Ocean Boulevard.

4.1.2 Segment 2

- North of Willow Avenue, along I-710, the existing freeway right-of-way lies between the Los Angeles River to the east and residential neighborhoods of Long Beach to the west. Additionally, homes back up to the freeway through Wardlow Road. North of Wardlow Road and into the southwest quadrant of the I-405 interchange, the right-of-way fence mainly follows the residential road, Gale Avenue, although some residences still abut the existing right-of-way.
- Immediately west of I-405, commercial properties reside on either side of the freeway. Beyond the rail crossing, west of the Santa Fe Avenue undercrossing, residential properties line the freeway.
- Following the southbound I-405, undeveloped industrial properties lie east of the Los Angeles River until 39th Street where a residential neighborhood abuts the right-of-way up to Pacific Place. East of Pacific Place, offset residential apartment buildings line the freeway right-of-way. Along the northbound direction of I-405, a golf driving range lies directly east of the Los Angeles River, and its parking lot abuts the freeway right-of-way.



- North of the I-405, I-710 veers away from the Los Angeles River. The property between the freeway and river consists of the SCE transmission corridor, the Dominguez Retention Basin, the MTA Blue Line Maintenance facility, and a UPRR rail line. Directly northeast of the interchange, SCE's property contains an equestrian center. From there, the SCE corridor continues north carrying overhead lines across parcels that are either vacant or used for storage. North of Compton Creek, the SCE corridor contains livestock and equestrian uses adjacent to the southeast quadrant of the Del Amo Boulevard interchange. The SCE property continues north across Del Amo Boulevard, between I-710 and the Los Angeles River, towards Long Beach Boulevard and Segment 3.
- West of I-710, the existing Caltrans right-of-way abuts mainly commercially zoned properties between I-405 and Long Beach Boulevard. Via Alcalde Avenue runs adjacent to the southbound freeway lanes directly across from the MTA Maintenance facility.

4.1.3 Segment 3

- Segment 3 follows I-710 from south of Long Beach Boulevard to north of Alondra Boulevard. The Los Angeles River lies east of the freeway alignment beyond the adjacent SCE transmission lines, as do a number of industrial and commercial properties such as the Compton Hunting and Fishing Club. South of Alondra Boulevard, the transmission corridor splits to the east and west, and the buffer area narrows. South of Long Beach Boulevard, I-710 runs adjacent to large commercial developments west of the freeway. North of Long Beach Boulevard, residential properties abut the western right-of-way.
- The southwest quadrant of the SR-91 interchange is flush against Coolidge Park. Additionally, Segment 3 improvements include connectors onto SR-91 to the east. North of SR-91, homes line the western existing right-of-way, including a new senior center along Alondra Blvd next to the I-710; while south of SR-91, residential parcels abut either the freeway or collector arterials alongside the freeway.
- East of I-710, between the Los Angeles River and Atlantic Avenue, multi-family units lie north of the SR-91 mainline while a storage facility, gas station and park lie to the south. From Atlantic Avenue to Orange Avenue, residential neighborhoods line both sides of the freeway.

4.1.4 Segment 4

- Residential properties abut the western right-of-way, north of Compton Boulevard, through the Rosecrans interchange, and north to the I-105 interchange. To the east, the freeway right-of-way meets Los Angeles County Flood Control District property containing the Los Angeles River and levees. Directly north of Rosecrans Avenue are several vacant, privately owned parcels.



- North of the I-105 interchange, a block of residential homes backs to the existing right-of-way. Beyond Cortland Street, the properties are generally large commercial parcels served by Wright Road up to the Imperial Highway Interchange. Through this area, the Los Angeles River abuts the existing right-of-way east of I-710.
- North of Imperial Highway, the western right-of-way line continues to follow residential property lines until it crosses the Los Angeles River. On the east side of the Los Angeles River, the right-of-way passes several commercial properties which the Union Pacific rail corridor bisects. Miller Way, east of the freeway, crosses below the mainline to access the Thunderbird Mobile Home Park and other commercial uses.
- East of where I-710 crosses the Los Angeles River, the surrounding properties along area streets (Miller Way, North Frontage Road and Southern Avenue) consist of developed industrial parcels. Large industrial properties continue along the eastern right-of-way up to Firestone Avenue.
- At Firestone Boulevard the mainline shifts to the west running directly alongside the Department of Water and Power's transmission corridor, which parallels the east Los Angeles River levee. Between Firestone Boulevard and Shull Street, the eastern side of the Caltrans right-of-way abuts various industrial properties. North of Jaboneria towards Clara Street, residential properties back up to the freeway fence line.
- North of Firestone Boulevard is a railroad line which crosses over the I-710 mainline and Los Angeles River. Between Garfield and Atlantic Avenues the uses lining the railroad right-of-way include industrial facilities and warehouses, as well as the Shull Garden Mobile Home Park just east of I-710.

4.1.5 Segment 5

- West of I-710, properties which bound the freeway include Los Angeles Department of Water and Power transmission corridor abutting the Los Angeles River, and commercial/industrial businesses from Clara Street to Gage Avenue. Maywood Riverfront Park abuts the south side of Slauson Avenue west of the Los Angeles River.
- East of I-710, residential and commercial/industrial businesses abut the freeway. The Bicycle Casino abuts the Florence interchange ramps.
- Commercial properties front Slauson Avenue on both sides, east of the freeway.

4.1.6 Segment 6

- West of I-710 and south of Atlantic Boulevard, the LA Junction Railroad operates industry spur tracks adjacent to the freeway. Between Atlantic Boulevard and 26th Street, large commercial



uses abut the freeway. Between 26th Street and Sheila Street, BNSF operates the Hobart Yard. This intermodal railyard extends two miles to the west. Between Sheila Street and Washington Boulevard, smaller commercial uses abut the freeway. Between Washington Boulevard and Noakes Street, UP railroad operates the East LA Yard. This railyard extends over a mile to the west. A small neighborhood with approximately 100 residences is surrounded by the East LA Yard, the freeway and Washington Boulevard.

- East of I-710 and south of Bandini Boulevard, large commercial parcels abut the freeway. Much of the property is vacant. A U.S. Army facility fronts Bandini Boulevard. Between Bandini Boulevard and 26th Street, large commercial uses abut the freeway. Between 26th Street and Sheila Street, the Hobart Yard extends to Atlantic Boulevard. Between Sheila Street and Washington Boulevard, smaller commercial uses abut the freeway. Between Washington Boulevard and Noakes Street, uses include residences, Bandini Park, and UPRR's East LA Yard.

4.1.7 Segment 7

- Between the East LA Yard and the I-5 freeway, residential uses abut the freeway on both sides. Some commercial uses abut the East LA Yard west of the freeway.
- Between I-5 and Whittier Boulevard, Eastern Avenue abuts the freeway to the west. To the east, residential uses abut the freeway.
- Between Whittier Boulevard and SR-60, residential uses abut the freeway on both sides. A church and cemetery occupy the area adjacent to the southbound ramps from 3rd Street.



5.0 RIGHT-OF-WAY REQUIREMENTS

This section organizes project right-of-way requirements or takings (fee, TCE, aerial, footing, slope, highway, access, etc.) along the length of the I-710 Corridor and describes each segment by:

- Alternative 5A Requirements
- Alternatives 6A/B/C Requirements
- Temporary Construction Easements (TCE)
- Relinquishments and Vacations/Disposals

Appendix 2 provides summary tabulations, while Appendices 3 and 4 include right-of-way requirement data sheets and right-of-way impact maps respectively.

5.1 SEGMENT 1

5.1.1 Alternative 5A

- Within Downtown Long Beach, the realignments of Shoreline Drive, Broadway and Third Street result in impacts to portions of Cesar E. Chavez Park, however, the resultant park area is expanded by about 10 acres and fully accessible. The SCE substation located adjacent to the park is not impacted. The realignment of Golden Shore Street between Ocean Boulevard and Broadway also impacts Cesar E. Chavez Park, as well as the parking lot located on public use property at the northwest corner of Golden Shore Street and Broadway. The project improvements also realign Shoemaker Bridge requiring new aerial easements over the Los Angeles River from the Los Angeles County Flood Control District (LACFCD). The reconstruction of the Shoemaker Bridge may also impact a portion of the oil facilities operated by Occidental Petroleum on Long Beach Property, which abuts the Los Angeles River. The affected oil facilities impacted by Shoemaker Bridge reconstruction are planned to be relocated within the existing oil field.
- Along the east side of the I-710, between I-710 and the Los Angeles River, between Shoemaker Bridge and Anaheim St, the project impacts a portion of an oil field operated by Occidental Petroleum on Long Beach property. These impacted oil field facilities will be relocated within the existing oil field.
- Along the west side of I-710, between Anaheim Street and Pacific Coast Highway (PCH), the project improvements impact several developed commercial/industrial businesses as well as the Valero gas station at the southeast corner of Cowles Street and Fashion Avenue. On the east side of the freeway, the project improvements impact a stormwater pump station operated by the City of Long Beach and oil facilities operated by Long Beach Gas & Oil. The oil



operations are planned to be relocated in remaining accessible areas between Fashion Avenue and the freeway.

- Along the west side of I-710, between PCH and north of Willow Street, the project improvements result in the acquisition of a landscaped area from Hill Street to 23rd Street and at the end of Burnett Street. Ownership of this area is unknown at this time. On the east side of the freeway, the project improvements impact two stormwater pump stations operated by the City of Long Beach and property owned by LACFCD.
- The improvements along PCH require partial acquisition of the commercial/industrial property located at the southeast corner of PCH and Harbor Avenue.
- The improvements along Willow Street impact: the front lot of an empty residential parcel located at the southeast corner of Willow Street and Fashion Avenue; the parking lot of a commercial business at the northeast corner of Willow Street and Fashion Avenue, the parking lot of shopping center along the south side of Willow Street between Fashion Avenue and Easy Avenue; and some commercial buildings along the north side of Willow Street between Fashion Avenue and Easy Avenue.
- Widening the Anaheim Street, PCH and Willow Street bridges over the Los Angeles River requires additional aerial easements from the LACFCD.

5.1.2 Alternatives 6A/B/C

- Unless this report notes otherwise, the right-of-way impacts in Alternatives 6A/B/C include all Alternative 5A impacts as well as the following:
- On the east side of the freeway, the project improvements impact several oil facilities operated by Occidental Petroleum on Long Beach property, which abuts the Los Angeles River from Ocean Blvd to north of Shoemaker Bridge. These oil facilities are planned to be relocated within remaining accessible areas between the river and the freeway.
- Along the west and east sides of I-710, between Ocean Boulevard and Anaheim Street, the freight corridor impacts the same properties described in Alternative 5A, but to a greater extent.
- In the southwest quadrant of the I-710/Anaheim Street Interchange, the freight corridor impacts 19 developed commercial/industrial properties including access to a community center operated by the City of Long Beach, which will likely have to be relocated.
- Along the west side of I-710, between Anaheim Street and PCH, the combined freeway and freight corridor improvements impact almost all commercial/industrial properties east of Fashion Avenue which includes a Valero gas station and various warehouses. Additionally the



freight corridor requires new cul-de-sacs at Cowles Street, 15th Street, Gaylord Street and 16th Street. On the east side of the freeway, the freight corridor impacts the same properties described in Alternative 5A, but to a greater extent.

- A pump station operated by the Los Angeles Sanitation District abuts the existing right-of-way west of I-710 between Gaylord Street and 16th Street. The freight corridor does not impact the pump station and access to the pump station is provided via 17th Street as the improvements cul-de-sac 16th Street.
- On the east side of I-710, between Pacific Coast Highway and north of Willow Street, the freight corridor impacts the Los Angeles River levee and encroaches approximately 40 feet into LACFCD property. An aerial easement is required over the levee access road.

5.1.3 Temporary Construction Easements

- The Downtown Long Beach project improvements use the following TCE areas as part of Alternatives 5A and 6A/B/C:
 - The City of Long Beach property bounded by Ocean Boulevard, Shoreline Drive, Broadway and Golden Shore Street which provides space for contractor work and staging,
 - The state property located just north of the existing Shoemaker Bridge as a contractor work area, and
 - A strip of land cutting through the south end of Cesar E. Chavez Park necessary for traffic staging during construction.
- East of I-710, TCE areas for Alternatives 5A and 6A/B/C include the undeveloped LACFCD public property adjacent to the Los Angeles River which provides a contractor work and staging area. Additionally, the TCE areas include the Los Angeles River levee access road as a means to facilitate access for the contractor during construction.
- West of I-710, the TCE areas for Alternatives 5A and 6A/B/C include: the undeveloped land within the existing 9th Street loop on-ramp, which serves as a staging area; several commercial/industrial properties abutting Fashion Avenue north of Anaheim Street; and some of the commercial parcels lining Willow Street east of Easy Avenue.

5.1.4 Relinquishment and Vacation

- The project proposes improvements on local arterial streets that fall outside Caltrans right-of-way. Upon completion of project construction, streets and public spaces will be relinquished. In the City of Long Beach, these locations are:
 - Downtown Long Beach improvements along Shoreline Drive, 6th Street and 7th Street;



- Shoreline Drive east of the Shoemaker Bridge;
 - Anaheim Street from Caspian Avenue to San Francisco Avenue;
 - Pacific Coast Highway (PCH) from Caspian Avenue to Golden Avenue; and
 - Willow Street from Easy Avenue to Golden Avenue.
- There are no areas currently identified with existing and proposed project right-of-way that are subject to vacation and disposal.

5.2 SEGMENT 2

5.2.1 Alternative 5A

- South of the I-405 Interchange, there are no impacts west of I-710. To the east of the freeway, however, the project improvements impact the LACFCD property located between I-710 and the river levee.
- As part of the I-710/I-405 interchange improvements, there are impacts to two single-family homes located on Gale Avenue, north of Wardlow Road and west of I-710, resulting from the reconfiguration of the northbound I-405 to southbound I-710 connector ramp. Additionally, west of I-710, the I-405 southbound hook-ramps relocate to Wardlow Road, causing impacts to the corner of a commercial property and an SCE transmission parcel. Furthermore, the proposed freeway reconfiguration impacts an SCE parcel within the I-405 interchange infield which contains transmission towers. East of I-710, the new connector alignments for I-710 traffic to the I-405 southbound lanes require additional aerial easements over the Los Angeles River and, and also directly impact vacant industrial parcels east of the river. Additionally, east of the Los Angeles River, the proposed northbound I-405 to southbound I-710 fly-over direct connector impacts the operations area (driving tees) as well as the parking lot of a golf driving range.
- North of the I-405, the project improvements impact the large commercial property on Hughes Way south of Carson Street, but do not affect the building itself. The interchange improvements also impact the commercial-zoned property north of Carson Street as the new southbound I-710 to southbound I-405 connector encroaches upon Via Alcalde Avenue. As such, Via Alcalde Avenue shifts west encroaching on three currently vacant, commercial-zoned parcels.
- East of the I-710, the project improvements include enhancing and widening Carson Street from its crossing underneath the I-710 mainline to the Dominguez Basin, where it continues north offering secondary access to the MTA Maintenance Facility. The new alignment



generally follows an existing dirt road within SCE owned property and joins an established access road in LA Metro Property.

- The project improvements require shoefly structures for both the Metro Blue Line and Union Pacific Railroad (UPRR) tracks thereby impacting Metro and UPRR right-of-way.
- The reconfiguration of the I-710/Del Amo Boulevard interchange requires the full acquisition of all commercial properties located within the southwest quadrant of the interchange. Access restrictions to the remaining areas are necessary to ensure functionality of the interchange. Additionally, the interchange improvements require the realignment of Susana Boulevard to the west, which directly impacts the commercial building in the northwest quadrant of the existing Del Amo Boulevard/Susana Road intersection. Finally, the new alignment of the Del Amo Boulevard southbound off-ramp requires acquisition of two large commercial buildings located just west of I-710.
- Over the Los Angeles River, the widening of the Del Amo Boulevard Bridge requires additional aerial easements.

5.2.2 Alternatives 6A/B/C

- Unless this report notes otherwise, the right-of-way impacts in Alternatives 6A/B/C include all Alternative 5A impacts as well as the following:
- South of I-405, the freight corridor in Alternatives 6A/B/C travels east of the I-710 mainline, at grade, expanding the proposed project footprint further into LACFCD property adjacent to the Los Angeles River. The freight corridor cross-section impacts the levee, requiring retaining walls. To accommodate the addition of the freight corridor, the interchange improvements at I-405 are shifted westerly. The resultant shift impacts 17 residential parcels along Gale Street.
- North of I-405, the freight corridor alignment requires partial acquisition of LACFCD, SCE and MTA properties. The proposed freight corridor alignment impacts the LACFCD Dominguez Basin. Mitigation to ensure continued operation of SCE's transmission lines, LACFCD's Dominguez Basin, and MTA's Blue Line are included in the right-of-way requirements.

5.2.3 Temporary Construction Easements

- The I-405 interchange improvements require the following TCE areas as part of Alternatives 5A and 6A/B/C:
 - The western Los Angeles River levee and levee access road. These areas will provide access during construction,
 - The residential properties along Gale Avenue north of Wardlow Road will provide access during construction,



- The SCE transmission corridor parcel west of I-710, between Wardlow Road and the I-405 Interchange, will provide access and storage during construction, and
- A 40' offset from the existing Caltrans right-of-way into a vacant commercial property just north of Hughes Way will provide access during construction.
- The addition of the freight corridor in Alternatives 6A/B/C requires acquisition of residential parcels lining the east side of Gale Avenue from approximately 34th Street to the I-710 southbound off-ramp at Wardlow Road. The remainder areas will be utilized during construction.
- North of I-405, the TCE areas for all alternatives include a 40' TCE offset from the proposed right-of-way line into a vacant commercial parcel between Carson Street and Via Plata Street along Via Alcalde to provide additional access during construction.
- East of I-710, between I-405 and Compton Creek, TCE areas for Alternatives 5A and 6A/B/C include:
 - The Dominguez Retention Basin and its levees. These will provide access during construction;
 - Properties within the MTA Blue Line corridor and maintenance facility. These will provide access during construction; and
 - A number of the existing SCE parcels. These will provide access to construction areas as well as contractor staging and storage areas.
- TCE areas include access roads along both sides of Compton Creek, from the Los Angeles River to Del Amo Boulevard. These areas provide access during construction to Compton Creek.
- In the west side of the Del Amo Boulevard interchange, the project improvements require acquisition of commercial parcels lining Del Amo Boulevard. The remainder of these parcels are designated as contractor storage and staging areas.
- Between Compton Creek and Long Beach Boulevard, TCE areas run from the proposed right-of-way line to the Los Angeles River access road through LACFCD and SCE property. These areas provide access during construction as well as open areas for contractor staging and storage.

5.2.4 Relinquishment and Vacation

- The project proposes several improvements on local arterial streets that fall outside Caltrans right-of-way. Upon completion of project construction, streets and public spaces will be



relinquished. In the cities of Long Beach and Carson, and the County of Los Angeles, these locations are:

- Wardlow Road west of Santa Fe Avenue to approximately 1000' east of the Los Angeles River;
 - Carson Street from west of the I-710 mainline to the MTA Maintenance Facility;
 - Via Alcalde Avenue directly west of the I-710 mainline;
 - 208th Street across the I-710 mainline into the MTA Maintenance Facility;
 - Del Amo Avenue from Compton Creek across the Los Angeles River; and
 - Susana Street along its new alignment.
- There are no areas currently identified with existing and proposed project right-of-way that are subject to vacation and disposal.

5.3 SEGMENT 3

5.3.1 Alternative 5A

- West of I-710, between Del Amo and Long Beach boulevards, there are minimal to no right-of-way impacts. East of I-710 from Long Beach Boulevard to SR-91, impacts include property within the SCE utility corridor which accommodates the new I-710 northbound on- and off-ramps.
- There are six partial acquisitions at the Long Beach Boulevard Interchange to accommodate sliver widenings.
- Widening the Long Beach Boulevard Bridge over the Los Angeles River requires additional aerial easements across the river as do the I-710 northbound on- and off-ramps at Long Beach Boulevard. The direct connector ramp from the northbound I-710 lanes to westbound SR-91 also impacts SCE property and facilities.
- Improvements to the SR-91 interchange, notably the new fly-over direct connection from northbound I-710 to westbound SR-91, impact two residential parcels on the north side of SR-91 just east of Butler Avenue. Additionally, this direct connection encroaches on a storage facility.
- Between the SR-91 interchange and Alondra Boulevard, a new braided ramp configuration directly impacts the SCE and commercial properties along the west side of the Los Angeles River levee, such as the Compton Sporting Club. Additionally, the new ramps eliminate



access to the remainder areas. The SCE facilities affected by Alternative 5A are planned to be relocated within existing SCE property.

- The Alondra Boulevard interchange improvements include realigning Alondra Boulevard both horizontally and vertically, which includes shifting and expanding the aerial easement across the Los Angeles River with a new bridge alignment. Additionally, the shifted alignment requires reconstruction of the driveways east of the Los Angeles River to adjust for grade changes. West of I-710, the southbound on-ramp impacts the El Rancho Mobile Home Park in the southwest quadrant interchange. Up to six mobile homes are directly affected.
- West of I-710, the widening of Alondra Boulevard and its profile change affect the commercial properties fronting the street up to Atlantic Avenue. Furthermore, Lime Avenue and Frailey Avenue require cul-de-sacs. North of Alondra Boulevard, the southbound Alondra Boulevard off-ramp impacts a number of properties, including the recently constructed Compton Senior Housing Center. Along with reconstruction of Gibson Avenue, this off-ramp also directly impacts six residential properties, north of Linsley Avenue.

5.3.2 Alternatives 6A/B/C

- Unless this report notes otherwise, the right-of-way impacts in Alternatives 6A/B/C include all Alternative 5A impacts as well as the following:
 - From Del Amo Boulevard to the SR-91 interchange, the freight corridor alignment encroaches 120' to 180' into SCE property. To accommodate relocation of 220kv SCE transmission towers to the east towards the LA River, LACFCD property is required up to the river levee access road. Additionally, new right-of-way is required just south of the SR-91 freeway on the east side of the river to provide a new alignment for the transmission corridor. The impacted SCE 66kv facilities are planned to be relocated to local city streets on either side of the river using existing poles or buried underground in public right-of-way.
 - The proposed freight corridor connectors impact one LACSD property.
 - Between SR-91 and Alondra Boulevard, the proposed improvements impact the same properties described in Alternative 5A, but to a greater extent. Between Alondra Boulevard and Compton Boulevard the freight corridor requires aerial easement over LACFCD property.

5.3.3 Temporary Construction Easements

- South of SR-91, TCE areas for Alternatives 5A and 6A/B/C include the following properties:
 - The western Los Angeles River levee and access road, and a short distance of the eastern river levee and access road just south of the SR-91 freeway. These areas will provide access during construction;



- The remaining SCE property between the Los Angeles River levee and the proposed right-of-way line will provide access during construction as well as contractor staging and storage areas; and
- An offset near the southbound Long Beach Boulevard on-ramp, containing SCE and City-owned parcels will provide access during construction.
- North of the SR-91, TCE areas for Alternatives 5A and 6A/B/C include the following properties:
 - The western Los Angeles River levee and access road. These areas will provide access during construction;
 - The remaining SCE property between the Los Angeles River levee and the proposed right-of-way line will provide access during construction as well as contractor staging and storage areas;
 - The remaining Compton Hunting and Fishing Club parcels south of Atlantic Avenue will provide access during construction as well as contractor staging and storage areas; and
 - The vacant parcels west of I-710 lining the north and south sides of Atlantic Avenue will provide access during construction as well as contractor staging and storage areas. Although vacant, the mobile home park north of Atlantic Avenue owns the northern property and the current zoning designation for the southern parcel is for commercial use.
- In the vicinity of the Alondra Boulevard Interchange, TCE areas for Alternatives 5A and 6A/B/C include the following properties:
 - The remaining portions of the residential parcels acquired along Gibson Avenue north of Linsley Avenue will provide access during construction; and
 - The undeveloped parcels south of Compton Avenue, between Gibson Avenue and I-710, will provide contractor staging and storage areas.

5.3.4 Relinquishment and Vacation

- The project proposes several improvements on local arterial streets that fall outside Caltrans right-of-way. Upon completion of project construction, streets and public spaces will be relinquished. In the cities of Long Beach, Compton and Paramount, and the County of Los Angeles, these locations are:
 - Long Beach Boulevard from Barclay Street across the Los Angeles River;



- Atlantic Avenue west of the I-710 mainline to the Los Angeles River bridge;
 - Alondra Avenue west of Atlantic Avenue to Hunsaker Avenue; and
 - Gibson Avenue east of Williams Avenue and along I-710.
- There are no areas currently identified with existing and proposed project right-of-way that are subject to vacation and disposal.

5.4 SEGMENT 4

5.4.1 Alternative 5A

- From just south of Rosecrans Avenue to I-105, generally all improvements are within the existing Caltrans right-of-way, with the exception of the northbound Rosecrans Avenue off-ramp which encroaches onto LACFCD property east of I-710.
- Southeast of the Imperial Highway Interchange, the shifted alignment of the I-710 mainline encroaches on vacant public land between the existing Caltrans right-of-way and the Los Angeles River levee. North of Imperial Highway this same shift affects the privately owned vacant parcels east of the I-710.
- West of I-710, the widening of Imperial Highway only impacts the gas station on the northeast corner of Imperial Highway and Wright Road. East of the freeway, the Imperial Highway Bridge over the Los Angeles River requires an aerial easement, and may impact the property located at the northwest corner of Leeds Street and Imperial Highway.
- The proposed I-710 mainline crosses the Los Angeles River just south of its current alignment, requiring both a shifted and wider aerial easement. As such, the alignment encroaches on property owned by the LACFCD and the City of Southgate. After crossing the UPRR San Pedro Subdivision, the proposed I-710 mainline gradually shifts back into line with the current alignment and turns, resulting in sliver takes to mostly vacant commercial properties along the east side of the freeway .
- East of I-710, the project improvements require widening Southern Avenue from the I-710 mainline to Garfield Avenue which impacts several industrial parcels lining each side of the street. Additionally, the widening of I-710 shifts E. Frontage Road further east and impacts the adjacent industrial parcels fronting the street. The proposed project improvements also include connecting the east segment Southern Avenue with the existing segment west of the Los Angeles River. This improvement includes constructing a bridge over the I-710 mainline, as well as one across the Los Angeles River which requires right-of-way beyond that of the existing easement. This new Southern Avenue segment also impacts a currently vacant



parcel owned by the City of Southgate, located between the Los Angeles River and I-710 mainline.

- In the southeast quadrant of the improved Firestone Boulevard interchange, the I-710 northbound off-ramp shifts east of its current alignment, encroaching into Department of Water and Power (DWP) right-of-way and impacting a side access road around the existing Target store. Improvements in the southwest quadrant further impact a large, vacant parcel owned by the City of Southgate, a City parcel containing large water tanks, and the DWP corridor. In the northwest quadrant of the interchange, the I-710 southbound off-ramp encroaches into DWP and LACFCD properties before returning to the existing Caltrans right-of-way.
- Along Firestone Boulevard, the project improvements require an additional aerial easement over the Los Angeles River and arterial widening impact the Target parking lot landscaping east of the freeway.
- North of Firestone Boulevard, the freeway encroaches into the DWP property to the west.

5.4.2 Alternatives 6A/B/C

- Unless this report notes otherwise, the right-of-way impacts in Alternatives 6A/B/C include all Alternative 5A impacts as well as the following:
- South of Rosecrans Avenue, and east of the I-710 mainline, the addition of the freight corridor in Alternatives 6A/B/C requires additional right-of-way or easement, therefore, impacting LACFCD owned property. Additionally, a number of inaccessible, privately owned vacant parcels are required directly northeast of the Rosecrans Interchange.
- From Rosecrans Avenue to approximately the UPRR San Pedro Subdivision, the freight corridor encroaches further east into LACFCD and City of Southgate property than the I-710 mainline.
- Although the project improvements elevate the freight corridor over the I-710 mainline south of Southern Avenue, the large diameter cantilever columns require additional property within the parcels along the east right-of-way line.
- Through the Firestone interchange the freight corridor improvements are contained within the footprint required by the Alternative 5A improvements. Just north of the interchange, the freight corridor's alignment parallels the mainline to the west requiring right-of-way currently used by DWP for overhead transmission lines.
- Improvements under Alternatives 6A/B/C include a new local arterial, Patata Street, extending between Atlantic Boulevard and Garfield Avenue. West of the Los Angeles River, this new arterial travels adjacent to the south side of the existing UPRR rail line, impacting a number of



commercial buildings and properties. East of the I-710, Patata Street follows the existing UPRR right-of-way, thereby shifting the existing 100-foot UPRR easement north, affecting a vacant parcel, a mobile home park, and a cold storage industrial facility. Additionally, the I-710 southbound on-ramp connecting Patata Street to the freight corridor extends into existing DWP property.

5.4.3 Temporary Construction Easements

- South of the I-105, the TCE areas for Alternatives 5A and 6A/B/C consist of the western Los Angeles River levee and access road will provide access during construction.
- North of the I-105, the TCE areas for all three alternatives include the western Los Angeles River levee and access road will provide access during construction.
- West of the Los Angeles River levee at the Imperial Interchange, the TCE areas for all three alternatives include several undeveloped and inaccessible commercial properties.
- TCE areas southeast of where the I-710 mainline crosses the Los Angeles River, include all of the DWP, SCE and City of South Gate parcels from the proposed right-of-way line to the west side of the Rio Hondo Creek, and as far north as the structure connecting the I-710 frontage road west of the freeway and Miller Way. These TCE areas apply to Alternatives 5A and 6A/B/C.
- At the Firestone interchange, the TCE areas for Alternatives 5A and 6A/B/C include an additional offset into the Target parking lot and DWP transmission corridor parcels lining the northbound I-710 off-ramp, to provide access during construction.
- Along the north side of Southern Avenue between the mainline and DWP corridor, the TCE areas for all three alternatives include LACFCD property and vacant City of Southgate parcels to provide access during construction as well as contractor staging and storage areas.
- North of Firestone, the TCE areas for Alternatives 5A and 6A/B/C include the DWP parcels between the I-710 mainline and east Los Angeles River levee to provide access during construction as well as contractor staging and storage areas.

5.4.4 Relinquishment and Vacation

- The project proposes several improvements on local arterial streets that fall outside Caltrans right-of-way. Upon completion of project construction, streets and public spaces will be relinquished. In the cities of Paramount, Bell Gardens, Lynwood and South Gate, and the County of Los Angeles, these locations are:
 - Rosecrans Avenue between Gibson Avenue and the Los Angeles River Bridge;



- Imperial Highway from Atlantic Avenue across the Los Angeles River Bridge;
 - Atlantic Avenue at Imperial Highway and north through the Pendleton Avenue intersection;
 - Miller Way north of the tunnel beneath I-710 (Alternatives 6A/B/C only);
 - Garfield Avenue approaching Miller Way and across Rio Hondo Bridge;
 - East Frontage Road off of Miller Way;
 - Southern Avenue west of the Los Angeles River Bridge to Garfield Avenue;
 - Firestone Boulevard west across the Los Angeles River Bridge to and including the Garfield intersection; and
 - Patata Street.
- There are no areas currently identified with existing and proposed project right-of-way that are subject to vacation and disposal, except for the following:
 - The area formerly occupied by the southbound exit to Imperial Highway (via Wright Road).

5.5 SEGMENT 5

5.5.1 Alternative 5A

- Along the west side of I-710, between Clara Street and just north of Slauson Avenue, the project improvements encroach into Los Angeles Department of Water and Power (LADWP) property. Additionally, the project improvements impact pump stations near Clara Street, Gage Avenue and Slauson Avenue, as well as the commercial/industrial businesses between Clara Street and Gage Avenue.
- Along the east side of I-710, the project improvements impact a sliver of an empty residential property and a sidewalk of Bell Gardens Avenue just south of Clara Street, and several developed commercial/industrial properties near the proposed Slauson Avenue interchange, including a three-story building.
- The replacement of the Florence Avenue, Slauson Avenue and UPRR bridges over the Los Angeles River require additional aerial easements from the LACFCD.
- The realignment of Slauson Avenue to the east side of I-710, impacts several adjacent commercial/industrial businesses, as will the realignment of Alamo Avenue.



5.5.2 Alternatives 6A/B/C

- Unless this report notes otherwise, the right-of-way impacts in Alternatives 6A/B/C include all Alternative 5A impacts as well as the following:
- Along the west side of I-710, between Clara Street to approximately the UPRR La Habra Branch, the freight corridor encroaches into LADWP property impacting the same commercial/industrial businesses described in Alternative 5A, but with a much wider physical footprint.
- On the east side of I-710, between Clara Street and the UPRR La Habra Branch, the freight corridor has no right-of-way impacts. North of the La Habra Branch, however, the freight corridor shifts to the east side of I-710 impacting mostly the same industrial/commercial buildings adjacent to the Slauson Avenue interchange as in Alternative 5A, only to a greater extent.

5.5.3 Temporary Construction Easements

- West of I-710, the TCE areas for Alternatives 5A and 6A/B/C include several LACFCD and DWP properties which provide contractor work and staging areas. Additionally, the TCE areas also include the Los Angeles River levee access road which serves to facilitate contractor access during construction.
- East of I-710, the TCE areas for Alternative 5A include the large commercial/industrial parcel immediately adjacent to the proposed I-710 off-ramp at Slauson Avenue, the six commercial/industrial parcels abutting the north side of the proposed Slauson Avenue alignment, and the U.S. Government property north of the Slauson Avenue Interchange. Alternatives 6A/B/C also use these areas for TCE purposes, but with a larger impact on the U.S. Government property.

5.5.4 Relinquishment and Vacation

- The project proposes to improve local arterial streets that fall outside Caltrans right-of-way. Upon completion of project construction, streets and public spaces will be relinquished. In the cities of Bell, Cudahy, Maywood, Bell Gardens, Commerce and Vernon, and the County of Los Angeles, these locations are:
 - Clara Avenue and Gage Avenue improvements;
 - The UPRR Bridge over I-710 and the Los Angeles River;
 - Florence Avenue from Walker Avenue to Eastern Avenue;
 - Slauson Avenue from Alamo Avenue to Eastern Avenue; and



- The realigned Los Angeles junction railroad.
- There are no areas currently identified with existing and proposed project right-of-way that are subject to vacation and disposal.

5.6 SEGMENT 6

5.6.1 Alternative 5A

- Along the west side of I-710, there are no right-of-way impacts associated with the mainline improvements. The east side of the I-710 mainline, however, impacts a City of Bell government agency located just past Slauson Avenue where I-710 curves north away from the Los Angeles River.
- West of I-710, the realignment of the southbound off-ramp to Bandini Boulevard directly impacts the commercial/industrial facility located in the northwest quadrant of the freeway. East of I-710, the proposed northbound off-ramp to Bandini Boulevard and the Los Angeles Junction rail tracks impacts the US Government property and the distribution center located south of Lindbergh Lane, while the proposed northbound on-ramp from Bandini Boulevard requires the full take of the commercial/industrial properties and US Government buildings in the southeast quadrant of the interchange.
- West of I-710, project improvements include widening Atlantic Boulevard just west of the southbound on-ramp from Atlantic Boulevard, which impacts the commercial/industrial facilities lining the street, as well as widening the south side of Bandini Boulevard which requires a full take of the adjacent government agency. Similar to the west side of I-710, the project improvements require widening the south side of Bandini Boulevard which impacts the adjacent government agency.
- The project improvements impact the commercial property within the in-field of the southbound on-ramp loop at Washington Boulevard interchange.
- The replacement of I-710 bridges over BNSF and UP rail tracks requires additional aerial easements from BNSF and UP rail facilities.

5.6.2 Alternatives 6A/B/C

- Unless this report notes otherwise, the right-of-way impacts in Alternatives 6A/B/C include all Alternative 5A impacts. This section assesses three options to this alternative. Although each option has common parcel impacts, the following subsections describe impacts attributed to each option.



5.6.2.1 Design Option 1

- Between Slauson Avenue and Atlantic Boulevard/Bandini Boulevard, the improvements impact large parcels currently used for industrial storage and government use.
- Between Bandini Boulevard and 26th Street, the improvements impact commercial properties on both sides of the freeway.
- The improvements impact the Hobart Yard west and east of the freeway.
- Between Sheila Street and Washington Boulevard, the improvements impact parcels adjacent to the freeway on both sides. The improvements also affect commercial properties fronting Washington Boulevard between Coutts Avenue and Arrowmill Avenue.
- Between Washington Boulevard and the East Los Angeles railyard, the improvements impact the entire residential neighborhood west of the freeway. The improvements also impact commercial properties fronting Washington Boulevard between Ransom Street and Ayers Avenue.
- The improvements impact the East Los Angeles railyard west and east of the freeway.

5.6.2.2 Design Option 2

- Between Slauson Avenue and Atlantic Boulevard/Bandini Boulevard, the improvements impact the same parcels as Option 1. However, the extent of the impact is greater to the eastern most parcels due to the northbound Washington Boulevard off-ramp.
- Between Bandini Boulevard and 26th Street, the improvements impact the same parcels to the same extent as Option 1. Additionally, the improvements associated with the northbound Washington Boulevard off-ramp impact commercial properties and an SCE substation.
- The improvements impact the Hobart Yard in the same manner as Option 1, except there are additional impacts east of the freeway to accommodate the northbound Washington Boulevard off-ramp.
- Between Sheila Street and Washington Boulevard, the improvements impact properties in a comparable manner to Option 1.
- Between Washington Boulevard and the East Los Angeles railyard, the improvements impact residential properties fronting the west side of the freeway. The improvements also impact commercial properties fronting Washington Boulevard between Ransom Street and Connor Avenue.
- The improvements impact the East Los Angeles railyard in the same manner as Option 1.



5.6.2.3 Design Option 3

- Between Slauson Avenue and Atlantic Boulevard/Bandini Boulevard, the improvements impact the same parcels as Option 1 to a comparable extent. These improvements impact additional commercial properties west of the freeway.
- Between Bandini Boulevard and 26th Street, the improvements west of the freeway impact commercial frontage along Bandini Boulevard. East of the freeway, the freight corridor ramps impact commercial properties east and west of Atlantic Boulevard.
- The improvements impact the Hobart Yard on the east side of the freeway only. South of the Hobart Yard, the Sheila Street off-ramp impacts two commercial parcels.
- Between Sheila Street and Washington Boulevard, the improvements impact commercial and railroad properties fronting Sheila Street between Atlantic Boulevard and Indiana Street. The improvements also impact properties fronting Washington Boulevard between the freeway and Bedessen Avenue.
- Between Washington Boulevard and the East Los Angeles railyard, the improvements impact one commercial property fronting Washington Boulevard and require an aerial easement over Noble Street for the northbound Washington Boulevard off-ramp.
- The improvements impact the East Los Angeles railyard to a lesser extent than Options 1 and 2, as this option includes only the replacement of the freeway bridge over the railyard.

5.6.3 Temporary Construction Easements

- East of I-710, TCE areas include:
 - The distribution center south of the Atlantic Boulevard/ Bandini Boulevard interchange will provide a contractor work and staging area for Alternative 5A;
 - The commercial/industrial properties in the southeast quadrant of the Atlantic Boulevard/Bandini Boulevard interchange as part of Options 1 and 2 for Alternatives 6A/B/C; as well as
 - The parcels from the northbound freight corridor to 26th Street and the remainder of the SCE substation property, which only apply to Option 2.
- West of I-710, the TCE areas include:
 - The commercial/industrial properties lining the southbound Bandini Boulevard off-ramp for Alternative 5A;



- The commercial/industrial property at the proposed southbound I-710 off-ramp to Bandini Boulevard, the commercial/industrial parcels lining the south side of Washington Boulevard east and west of Ayers Avenue, and the remainder of the residential parcels along the north side of the realigned Ayers Avenue south of the East LA Yard as part of Option 1; and
- The commercial/industrial property at the proposed southbound I-710 off-ramp to Bandini Boulevard, and the commercial/industrial parcels lining the south side of Washington Boulevard east and west of Ayers Avenue as part of Option 2.

5.6.4 Relinquishment and Vacation

- The project proposes several improvements on local arterial streets that fall outside Caltrans right-of-way. Upon completion of project construction, streets and public spaces will be relinquished. In the cities of Commerce, Bell and Vernon these locations are:
 - The realigned Atlantic Boulevard;
 - Bandini Boulevard from Ayers Avenue to 26th Street;
 - Sheila Street near the BNSF railyard;
 - The realigned Los Angeles junction rail tracks;
 - The realigned BNSF rail track; and
 - Oak Street between Sheila Street and Washington Boulevard.
 - Washington Blvd, east and west of the I-710
- There are no areas currently identified with existing and proposed project right-of-way that are subject to vacation and disposal, except for the following:

5.7 SEGMENT 7

5.7.1 Alternative 5A

- There are no impacts associated with project improvements.

5.7.2 Alternatives 6A/B/C

- North of Union Pacific's East LA Yard, the I-5 off-ramps to I-710 directly impact the commercial/industrial and residential properties fronting Sydney Drive and a portion of Eastern Avenue.



5.7.3 Temporary Construction Easements

- TCE areas are limited to the remaining right-of-way from full-parcel acquisitions.

5.7.4 Relinquishment and Vacation

- The project proposes several improvements on local arterial streets that fall outside of Caltrans right-of-way. No streets have been identified in this section.

5.8 ARTERIAL INTERSECTIONS

Alternatives 5A and 6A/B/C feature off-highway intersections. The locations of these intersections are located primarily on north-south running arterials parallel to the freeway. The intersection improvements include new dedicated left/right turn lanes, extended left/right turn storage, and signal optimization. The Intersection Traffic Impact Analysis Report, under separate cover, describes these improvements and details the supporting analysis. Of the off-highway improvement locations, 22 intersections require new rights-of-way. The right-of-way requirements associated with these improvements are summarized in Table 5-1. Appendix 2 provides a summary tabulation by intersection location. Appendix 3 further details requirements by parcel.

Table 5-1: Arterial Intersection Right-of-Way Requirement Summary

Parcel Type	Parcels Affected
Residential	7
Commercial/Industrial	76
Government Agency	3
Utility	0
Railroad	0
Flood Control	0
Total for All Parcel Types	86



6.0 MAJOR UTILITY RELOCATIONS

6.1 OIL OPERATIONS

The Project alternatives impact oil field operations and high voltage electrical transmission facilities. These facilities must be relocated. As mitigation, new rights-of-way are required beyond the requirements identified for the proposed freeway improvements. These new rights-of-way are based upon relocation strategies developed in collaboration with facility owners. These strategies are discussed in the Utility Impact Report. The right-of-way impacts are further described in this section and identified on the Right-of-Way Impact Maps included in Appendix 4.

6.1.1 Occidental Petroleum (OXY)

Oxy leases property from the City of Long Beach along the west bank of the Los Angeles River between Ocean Boulevard and Anaheim Street. The portion of the leased area between the realigned Shoemaker Bridge and Anaheim Street is impacted by the improvements to the Anaheim Street interchange and reconstruction of the Shoemaker Bridge for Alternative 5A. Much of the leased area is impacted by the northbound freight corridor entrance ramps from Ocean Boulevard and Harbor Scenic Drive that are part of Alternatives 6A/B/C. The remaining leased area not used for freeway purposes is considered accessible and usable for continued oil operations. The area bounded by Anaheim Street and the proposed southbound freight corridor on-ramp from Anaheim Street is identified as a potential mitigation area. These parcels are required for Alternatives 6A/B/C. Available access to these areas is not suitable for current land uses, but is considered accessible and useable for oil operations.

6.1.2 Long Beach Gas & Oil (LBG&O)

LBG&O operates wells on a one acre site between Anaheim Street and Pacific Coast Highway adjacent to the west bank of the Los Angeles River. The site is directly impacted by improvements featured in Alternatives 5A and 6A/B/C. The area bounded by Cowles Street, Fashion Avenue, Gaylord Street and the proposed improvements is identified as a potential mitigation area. This site is considered accessible and usable for oil operations.

6.2 SCE TRANSMISSION

SCE operates high voltage transmission lines adjacent to the freeway between I-405 and SR-91. SCE owns much of the property occupied by the towers that support the lines. The improvements featured in Alternatives 6A/B/C directly impact SCE's facilities and require portions of its property. The relocation strategy for the 220kV lines requires additional right-of-way from the LACFCD, as the 220kv transmission towers will be moved closer to the river and cross the river just south of the SR-91, continuing north on the east side of the river to join the existing SCE easement. The 66kv facilities between SR-91 and I-405 will be relocated away from their current location next to the river.



The strategy for these 66kv facilities is to distribute them to existing systems and poles either side of the river and to place them underground in some city streets under agreement with SCE.

6.3 DWP TRANSMISSION

LADWP operates high voltage transmission lines adjacent to the freeway between Firestone Boulevard and Slauson Avenue. LADWP owns much of the property occupied by the towers that support the lines. The improvements featured in Alternatives 6A/B/C directly impact LADWP's facilities and require portions of it property. The relocation strategy for the 230kV lines requires additional right-of-way from USACE to relocate a few of the LADWP transmission towers.



7.0 APPENDIX

Appendix 1 – Segment Key Map (11x17)

Appendix 2 – Summary Tabulations

Appendix 3– Right-of-Way Requirement Estimate Worksheets

Appendix 4 – Right-of-Way Impact Maps Alternative 5A
Right-of-Way Impact Maps Alternatives 6A/B/C (with Options 1, 2 and 3)



Appendix 1 Segment Key Map



Appendix 2 Summary Tabulations



Appendix 3

Right-of-Way Estimate Worksheets



Appendix 4
Right-of-Way Impact Maps Alternative 5A
Right-of-Way Impact Maps Alternatives 6A/B/C