

acts - Freeways

n Projects

Replacement

r Bridge Project Location

ew Bridge Location

Realign Shoreline Drive

ez Park Improvements

Improvements

Freight Corridor

ght Corridor (4 Lanes for Zero

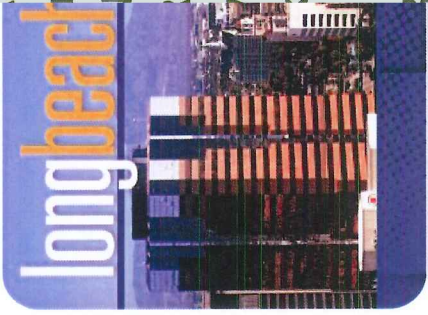
Trucks)

nt Corridor Next Steps, Studies

Illustrations

Truck Research Project with

Technology



CI

TRANS

Description

I-710 Maps

General Information

IS Corridor Study Area

Project Alternatives

ect Alternatives

Plans for Long Beach

s River Impacts

ommunity Impacts in Long Beach

isual Impacts

Soundwalls

Locations

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1
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Phase II Strategic

Transportation Plan Active
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I-710

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SECTION 1

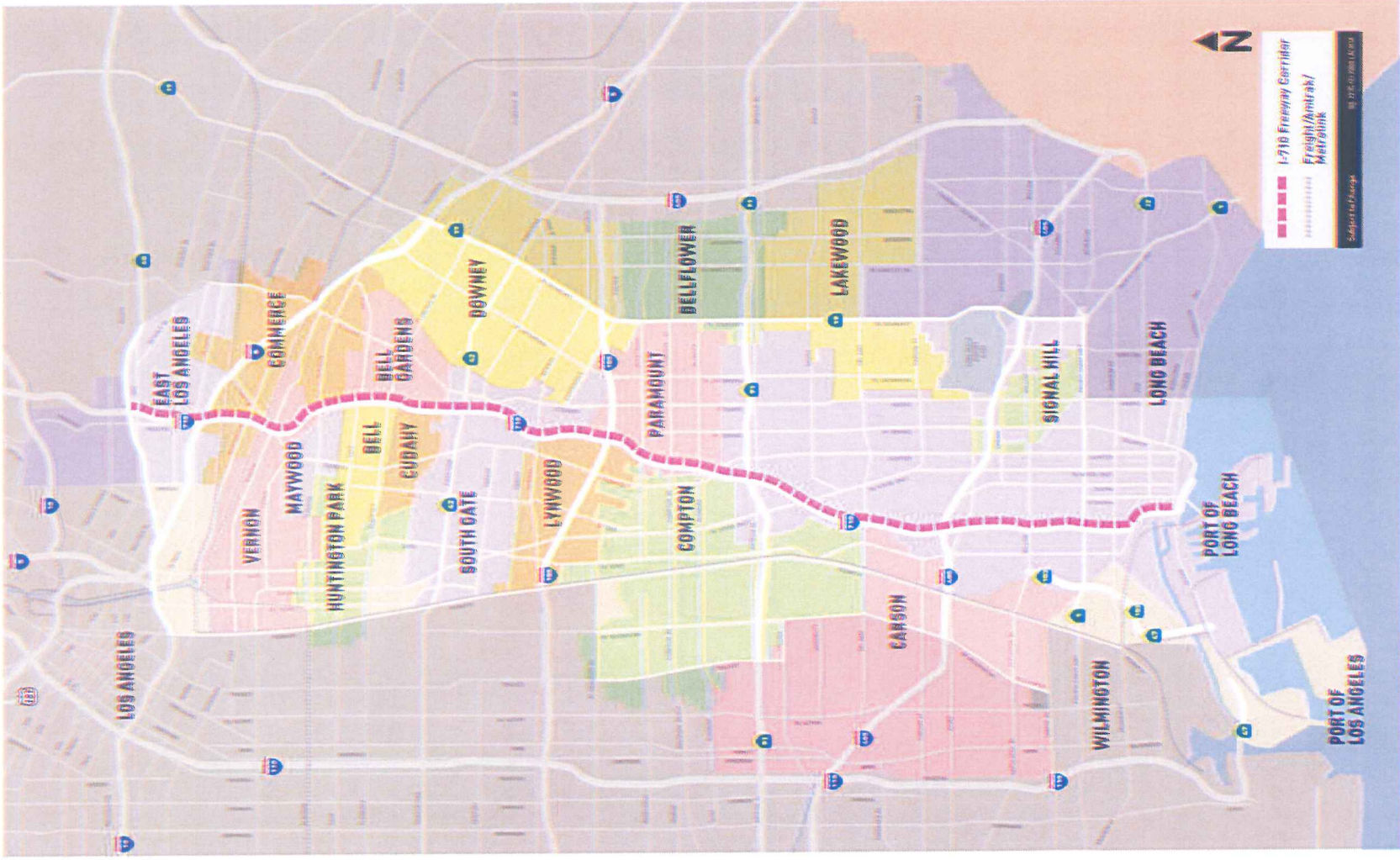
I-710 MAPS

I-710

FREEWAY CORRIDOR


**GENERAL
INFORMATION**

I-710 EIR/EIS Corridor Study Area




**NOTE: I-710 DEIR/EIS
to be recirculated**

Previous Project Alternatives

- 
- No Build Improvements
 - Planned and Committed Projects in 2008 RTP
 - Enhanced Goods Movement by Rail
 - Clean Trucks Program
 - Expanded Night Gate Ops at Ports
 - I-710 Pavement Rehabilitation
 - Traffic Signal Coordination
 - TSM/TDM and ITS
 - Ramp Metering
 - Improved Arterial Signage
 - Peak Period Parking Restrictions
 - Increased Transit Service
 - Upgraded Traffic Signals (ITS)
 - Arterial System Improvements
 - Signal Timing Improvements
 - Local Arterial Intersection Improvements at 42 Locations
 - I-710 Widening
 - Widen the I-710 up to 10 Lanes
 - Modernize Geometric Design of the Local I-710 Interchanges
 - Freight Corridor
 - Separate Four-Lane Freight Corridor

Alternative 1

No Build Improvements



Alternative 5A

I-710 Widening

Modernize I-710 Geometrics

Arterial System Improvements

TSM/TDM & ITS

No Build Improvements

Alternative 6A

Freight Corridor

I-710 Widening

Modernize I-710 Geometrics

Arterial System Improvements

TSM/TDM & ITS

No Build Improvements

Alternative 6B

Auto Emissions Automated Guidance

Freight Corridor

I-710 Widening

Modernize I-710 Geometrics

Arterial System Improvements

TSM/TDM & ITS

No Build Improvements

Alternative 6C

Trucking Feature

Auto Emissions Automated Guidance

Freight Corridor

I-710 Widening

Modernize I-710 Geometrics

Arterial System Improvements

TSM/TDM & ITS

No Build Improvements

New Project Alternatives

I-710 Draft EIR/EIS to be recirculated

With new set of assumptions and the following alternatives:

2045
No Build

2045
Alt. 6C Modified
(up to 10 GP lanes with
modernization with zero
emission freight corridor)

2045
Alt. 6D/Community
Alternative
(zero emission freight
corridor and 8 GP lanes
with modernization)

Note:
No impact to Multi-Service Center

Community Impacts in Long Beach

Los Angeles River Impacts

Runoff

Projected Runoff (CFS):

Q25	Q50	CHANGE
EXISTING	2748	3130
ALT. 5	2827	3220
ALT. 6	3489	3974
		0.4%
		0.04%

Ex. L.A. River Design Flow @ South End – 180,000 CFS

Corps. Of Engineers River Hydraulic Model Run –
NO CHANGE IN FLOOD PROFILE

Stormwater Treatment

- Existing Treatment - 0% runoff treated
- Proposed Treatment - 80-90% runoff treated



Previous Community Impacts in Long Beach



Metro

Relocations

- Alternative 5A (6 residential/28 non-residential)
- Alternatives 6A/B/C (21 residential/48 non-residential)*

*15 relocations required due to safety improvements at the I-710/I-405 interchange connector ramps

Parks and Recreation

- Cesar E. Chavez Park: all build alternatives increase park acreage and improve accessibility
- Noise impacts at Golden Shore RV Park and Wrigley Greenbelt would require soundwall protection
- Rancho Rio Verde Riding Club: partial acquisition under Alternatives 6A/B/C

Access

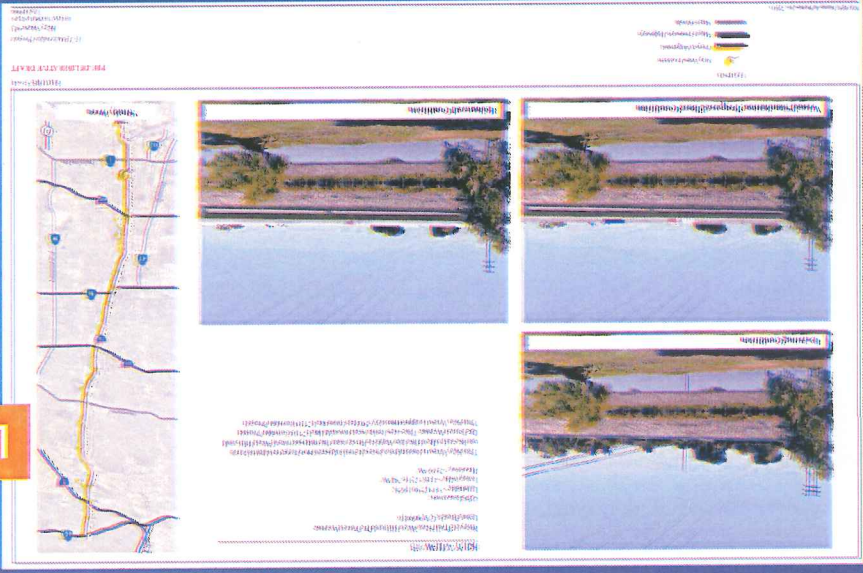
- I-710/I-405 interchange reconstruction results in:
 - Removal of ramp connecting Pacific Place to I-710
 - Removal of ramps at I-710/Wardlow interchange and Santa Fe Avenue

Community Facilities

- Multi-Service Center on 12th Street requires relocation under Alternatives 6A/B/

Community Impacts in Long Beach

Previous Visual Impacts



Levee Bike Trail



Below River Levee

There are 30 visual simulations for City of Long Beach



Metro

I-710

**EARLY ACTION
SOUNDWALLS**

Community Impacts in Long Beach Sound Wall Locations



Preliminary Early Sound Wall Locations

Feasible or Proposed or Existing Walls (Miles)	Proposed or Existing Walls (Miles)
5.7 Miles	19.7 Miles

Proposed Walls (Caltrans MADP) 19.7 Miles
Existing Walls 13.3 Miles



7.0 Miles

4.1 Miles – Improvements & Aesthetics
2.9 Miles – Aesthetics only

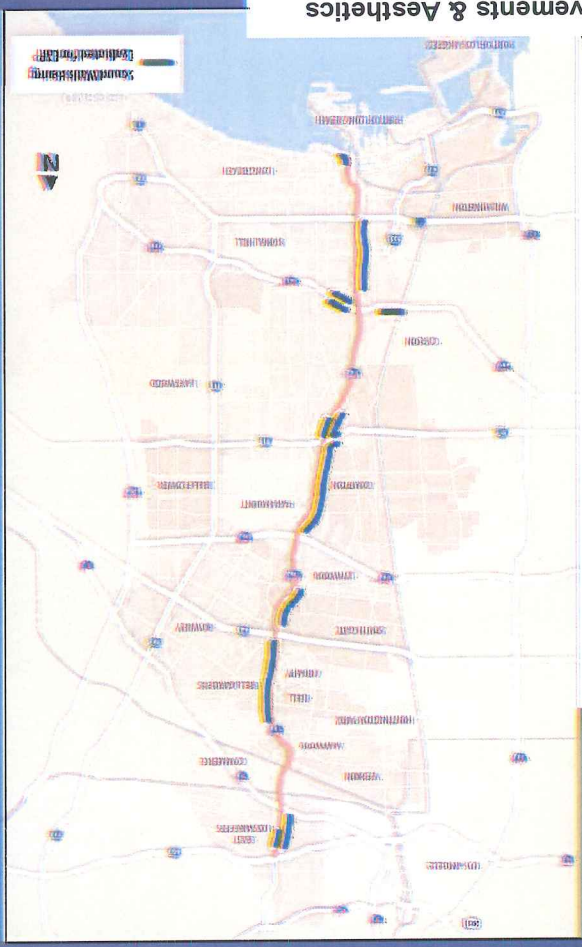


EXHIBIT 1-7

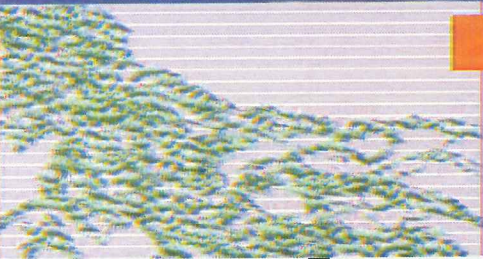
Community Impacts in Long Beach

Traffic Impacts – Freeways

Urban Aesthetics Tool Box Prepared

I-710 Corridor Committee for aesthetics being formed of local communities

Screen Walls

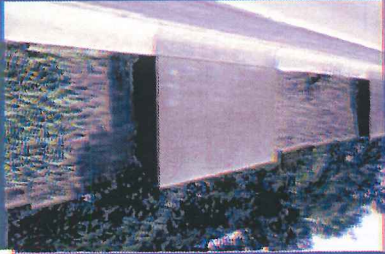


- Metal slat wall with holes or slits to block industrial or unsightly properties adjacent to the freeway

- I-710 Freeway Corridor
- Freight/Arts/Market
- LA River
- Potential Screen Wall Locations



Sound Walls with Vines



Potential design for masonry sound-wall with color and texture enhancements

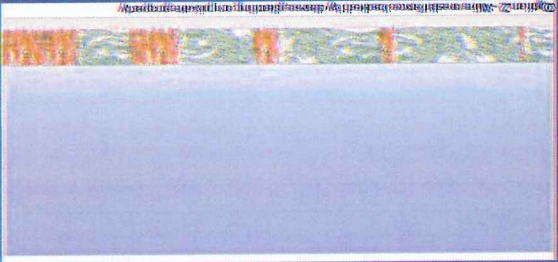
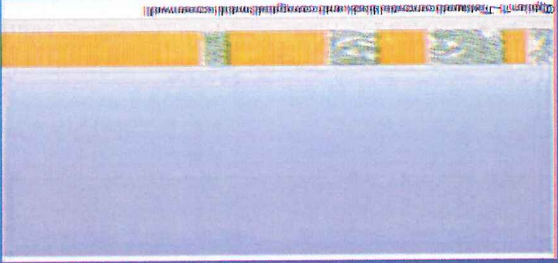


EXHIBIT 1-8

I-710

**EARLY ACTION
PROJECTS**

**SHOEMAKER BRIDGE
REPLACEMENT**

Shoemaker Bridge

I-710 Corridor

Project Location

- Freeway Entrance/Exit

Downtown

- Shoreline Drive

EXISTING SHOEMAKER

PROPOSED SHOEMAKER

Key Elements:



Solution: New Bridge Location

EXHIBIT 1-10

I-710 EIR/EIS
SHORELINE/6TH/7TH
INTERCHANGE
ALTERNATIVE 6 A/B/C



NEW BRIDGES



INTERNAL PROJECT DRAFT - NOT FOR PUBLIC DISTRIBUTION

LEGEND

	PROPOSED RIGHT OF WAY
	PROPOSED RIGHT OF WAY
	CITY BOUNDARY
	CITY BOUNDARY
	PROPOSED SWAN ON LOCAL STREET
	PROPOSED CORRIDOR
	ALTERNATIVE THROUGHROAD FROM

SHEET: 20 OF 24

Solution: Realign Shoreline Drive

Solution: New Bridge Location

I-710 EIR/EIS
SHORELINE/6TH/7TH
INTERCHANGE
ALTERNATIVE 6 A/D/

NEWLY USA

SHORELINE 24

NEW
SHORELINE

REMOVE 9TH & 10TH

BIF PARK AREA

OLD
SHORELINE



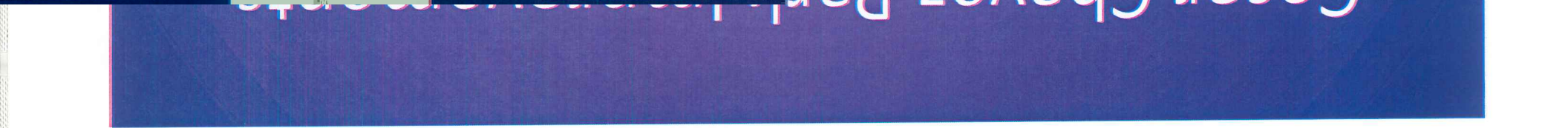
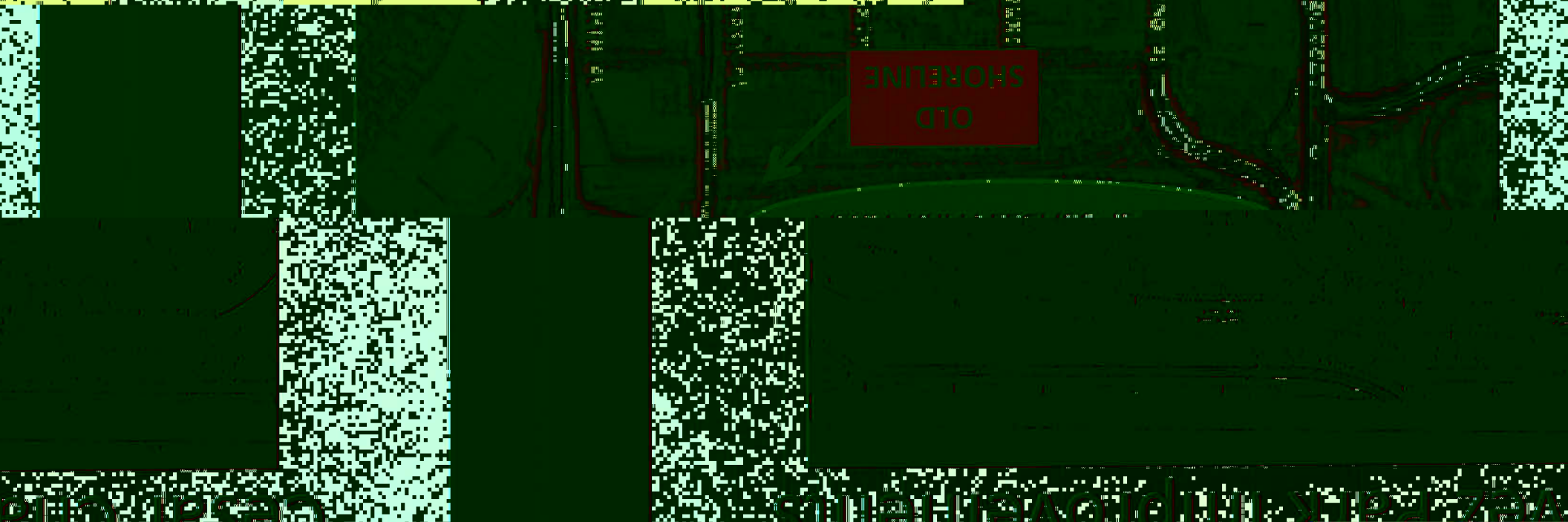


EXHIBIT 1-13

I-710

ZERO EMISSIONS

FREIGHT CORRIDOR

DRAFT MASTER PLAN
DRAFT

LOCATION	DATE	REVISION
1. COMMUNITY CENTER	11/11/11	1. INITIAL DESIGN
2. NATURE CENTER	11/11/11	2. INITIAL DESIGN
3. COMMUNITY CENTER	11/11/11	3. INITIAL DESIGN
4. NATURE CENTER	11/11/11	4. INITIAL DESIGN
5. COMMUNITY CENTER	11/11/11	5. INITIAL DESIGN
6. NATURE CENTER	11/11/11	6. INITIAL DESIGN
7. COMMUNITY CENTER	11/11/11	7. INITIAL DESIGN
8. NATURE CENTER	11/11/11	8. INITIAL DESIGN
9. COMMUNITY CENTER	11/11/11	9. INITIAL DESIGN
10. NATURE CENTER	11/11/11	10. INITIAL DESIGN

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- 100. NATURE CENTER

DRAKE | CHAVEZ GREENBELT
CITY OF LONG BEACH

ON
DOR



GREENBELT USE AREA MAP

I-710 / FREIGHT CORRIDOR

PLANS FOR 2024-2025



(4 LANES FOR ZERO EMISSION TRUCKS)



I-710 FREIGHT CORRIDOR

I-710 / FREIGHT CORRIDOR

I-710 FREIGHT CORRIDOR NEXT STEPS, STUDIES AND DEMO

■ For the I-710 Freight Corridor project, upcoming next steps, studies

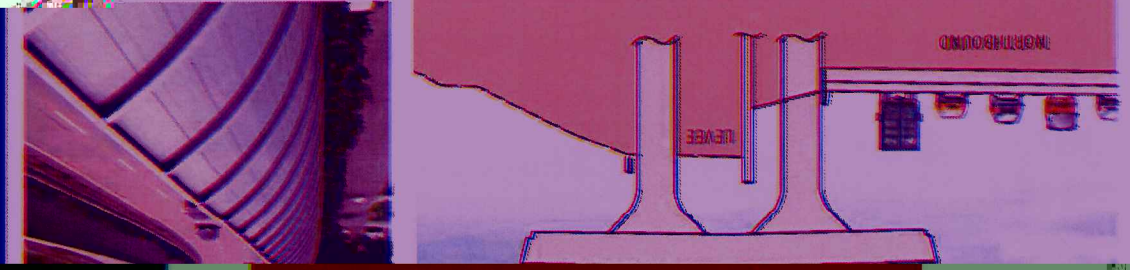
and demonstrations include:

- ◆ Siemens
- ◆ Commercialization Study
- ◆ I-710 Freight Corridor Automation
- ◆ Demonstration Projects

SIEMENS has deployed truck-caterpillar navigation systems (internationally) that can be scaled for the I-710 concept. Battery-operated trucks will be able to charge while they are on the Freight Corridor, thus extending their range to cover pick-ups and deliveries in the L.A. region.

TODAY

I-710 Freight Corridor Automation



(4 lanes for Zero Emission Trucks)
 • LIMITS—Ocean Blvd. t
 710 (approx. 18 miles)
 Freight Corridor is pla
 built along I-710 to ju
 Where the I-710 Freigh

OR NSTRATIONS



Connected Vehicle Technologies Example

Antennas (GPS, DSRC Communications)
 Internal and Navigational Sensors
 Actuators, Steering, Throttle, Brakes



ends, the current plan is to continue

AUTOMATED TRUCK RESEARCH PROJECT WITH TRUCK FLOW TECHNOLOGY



- ◆ Siemens
- ◆ Commercialization Study
- ◆ I-710 Freight Corridor Automation
- ◆ Demonstration Projects

I-710 Freight Corridor Automation



Internationally that can be scaled for the I-710 concept. Battery-operated trucks will be able to charge while they are on the Freight Corridor, thus extending their range to cover pick-ups and deliveries in the LA region.

TODAY

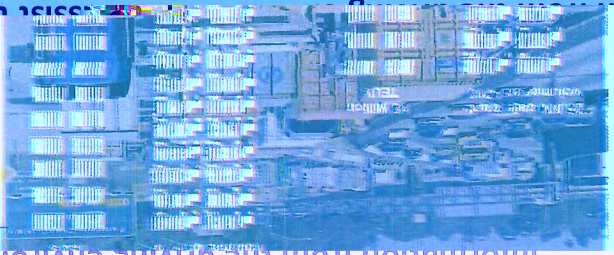
2005

Vehicle platooning or autonomous vehicles fall under the category of "intelligent vehicles" (IV) or "IV systems," terms that refer to trucks or other vehicles equipped with technology that gathers information from the driving environment to assist the driver in

TRUCK FLOW EFFICIENCY TEST CORRIDOR



es Example



Siemens, DSRC Communications

optimal vehicle operation. These IV systems are involved with the tactical part of driving (steering, throttle, brake) while navigation systems help with the strategic aspect (route choice) – both are relevant in vehicle platooning.

TRUCK FLOW CONCEPTUAL DIAGRAM EXAMPLE



Commercialization Study

A 2012 study by CALSTART indicated that development of a zero emission heavy duty vehicle or vehicle system for the I-710 freight corridor is feasible by 2035 with no major technological barriers if the project is recognized a "commercialization process" that must go through a series of



Connected Vehicle Technology

Internal and

Navigational Sensors

Actuators, Steering,

Throttle, Brake

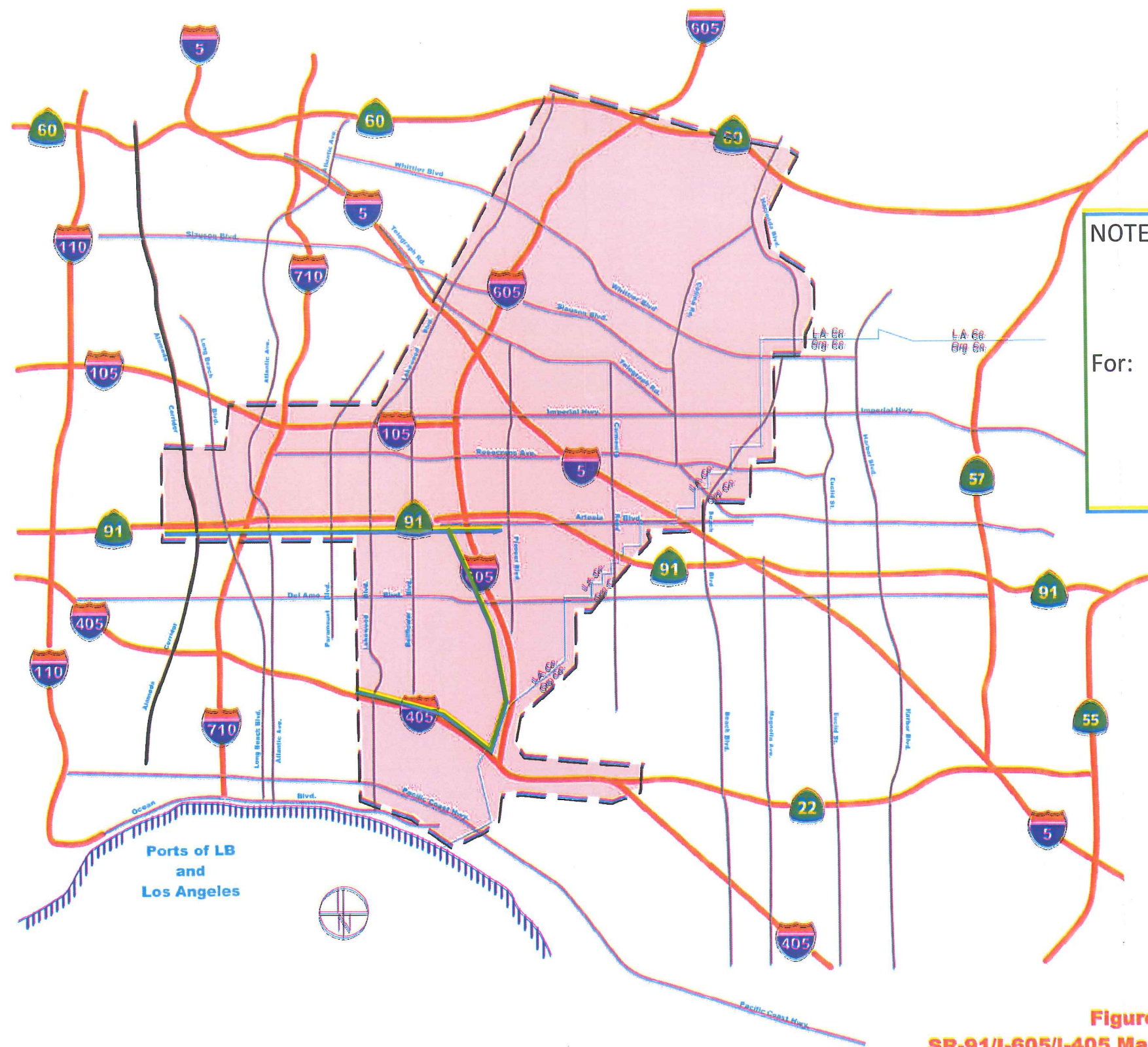
Autonomous Truck

Stage 1 Concept - Simple platoon and test and speed limits

SECTION 2

SR-91/I-605/I-405

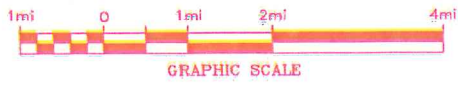
MAPS

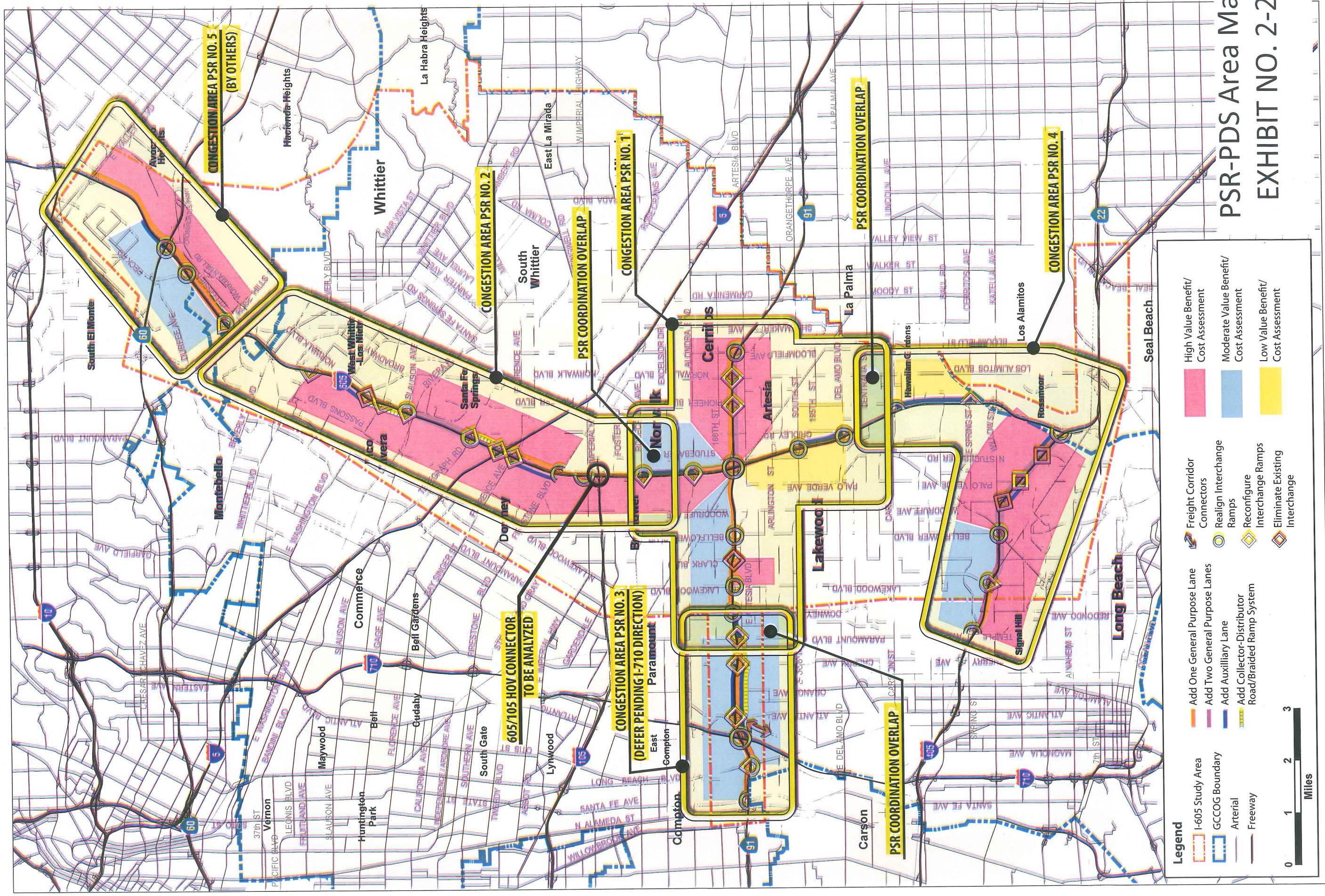


NOTE:
 Geometric Plans Developed
 for
 Long Beach
 For:
 I-405 (County Line to Lakewood Blvd.)
 SR-91 (Alameda St. to I-605)
 I-605 (I-405 to SR-91)

SR-91/I-605/I-405
 Study Area
 EXHIBIT NO. 2-1

Figure 2
SR-91/I-605/I-405 Major Corridor Study
Freeway Corridors Boundaries Map





**CONGESTION AREA PSR NO. 5
(BY OTHERS)**

CONGESTION AREA PSR NO. 2

CONGESTION AREA PSR NO. 1

CONGESTION AREA PSR NO. 4

**605/105 HOV CONNECTOR
TO BE ANALYZED**

**CONGESTION AREA PSR NO. 3
(DEFER PENDING I-710 DIRECTION)
Paramount**

Legend

- I-605 Study Area
- GCCOG Boundary
- Arterial
- Freeway
- Add One General Purpose Lane
- Add Two General Purpose Lanes
- Add Auxiliary Lane
- Add Collector-Distributor Road/Braided Ramp System
- Freight Corridor Connectors
- Realign Interchange Ramps
- Reconfigure Interchange Ramps
- Eliminate Existing Interchange
- High Value Benefit/ Cost Assessment
- Moderate Value Benefit/ Cost Assessment
- Low Value Benefit/ Cost Assessment

0 1 2 3 Miles

**PSR-PDS Area Map
EXHIBIT NO. 2-2**



SECTION 3

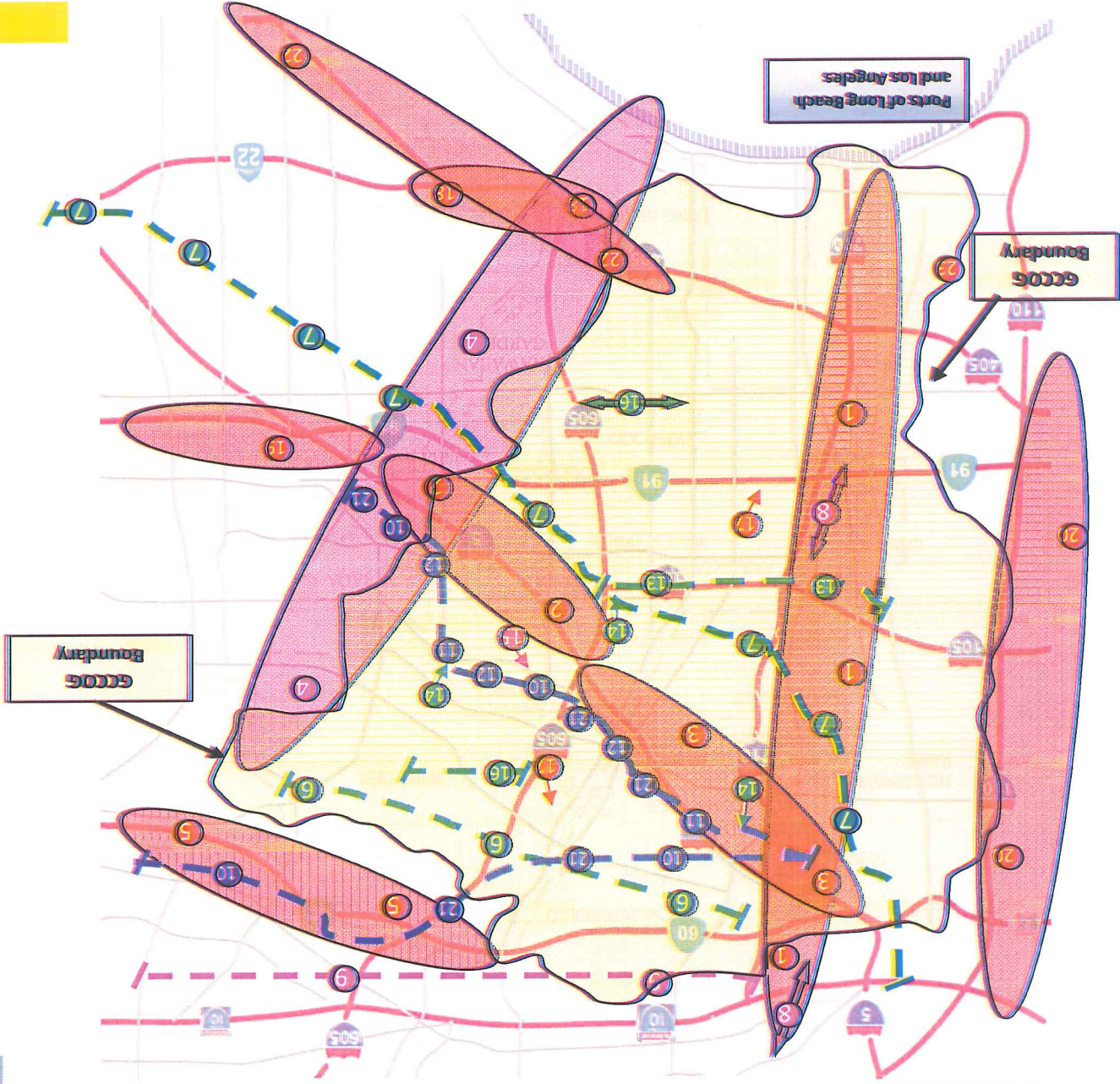
**PHASE II STRATEGIC
TRANSPORTATION
PLAN MAPS**

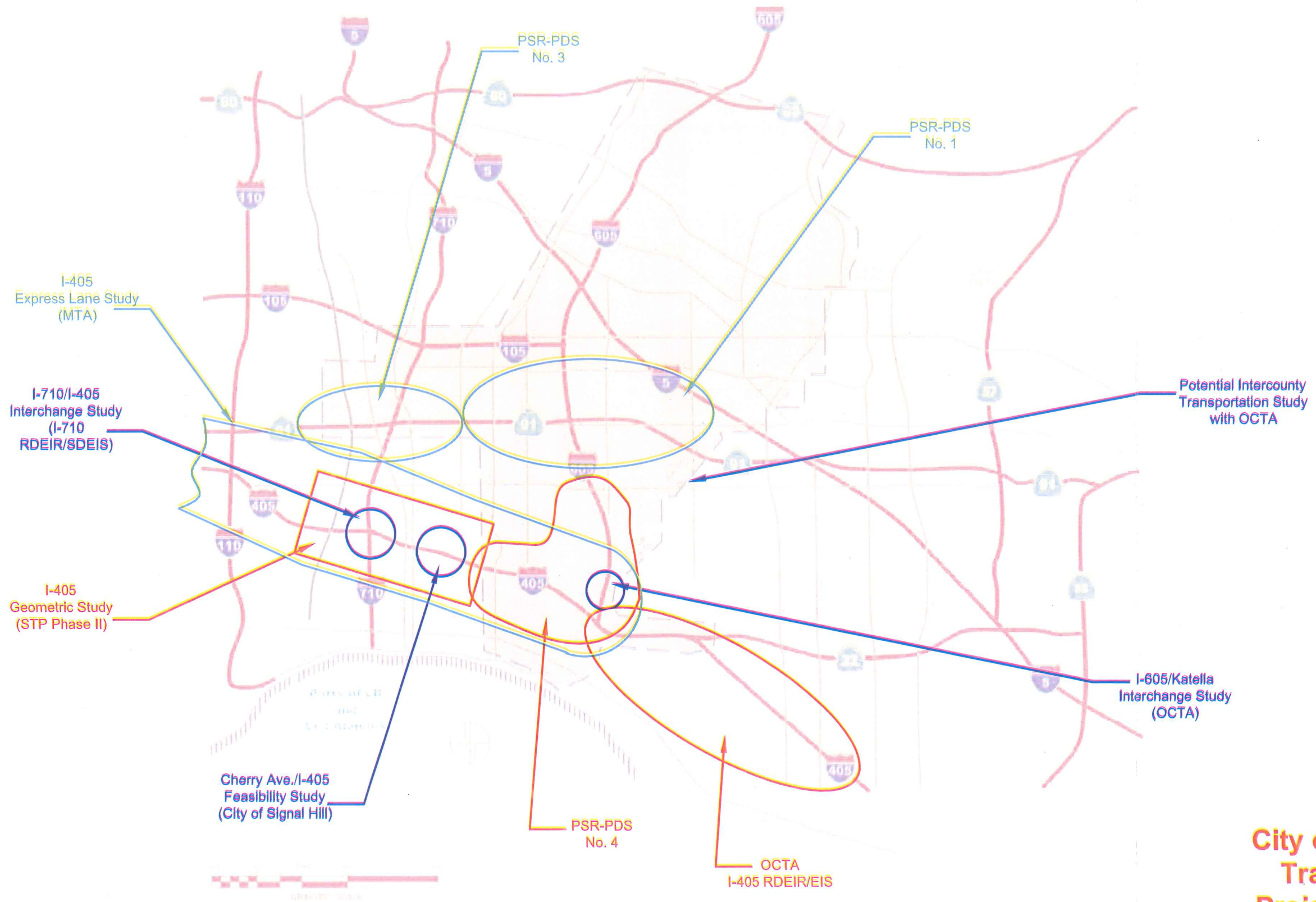
Gateway Cities Phase II Strategic Transportation Plan EXHIBIT NO. 3-2



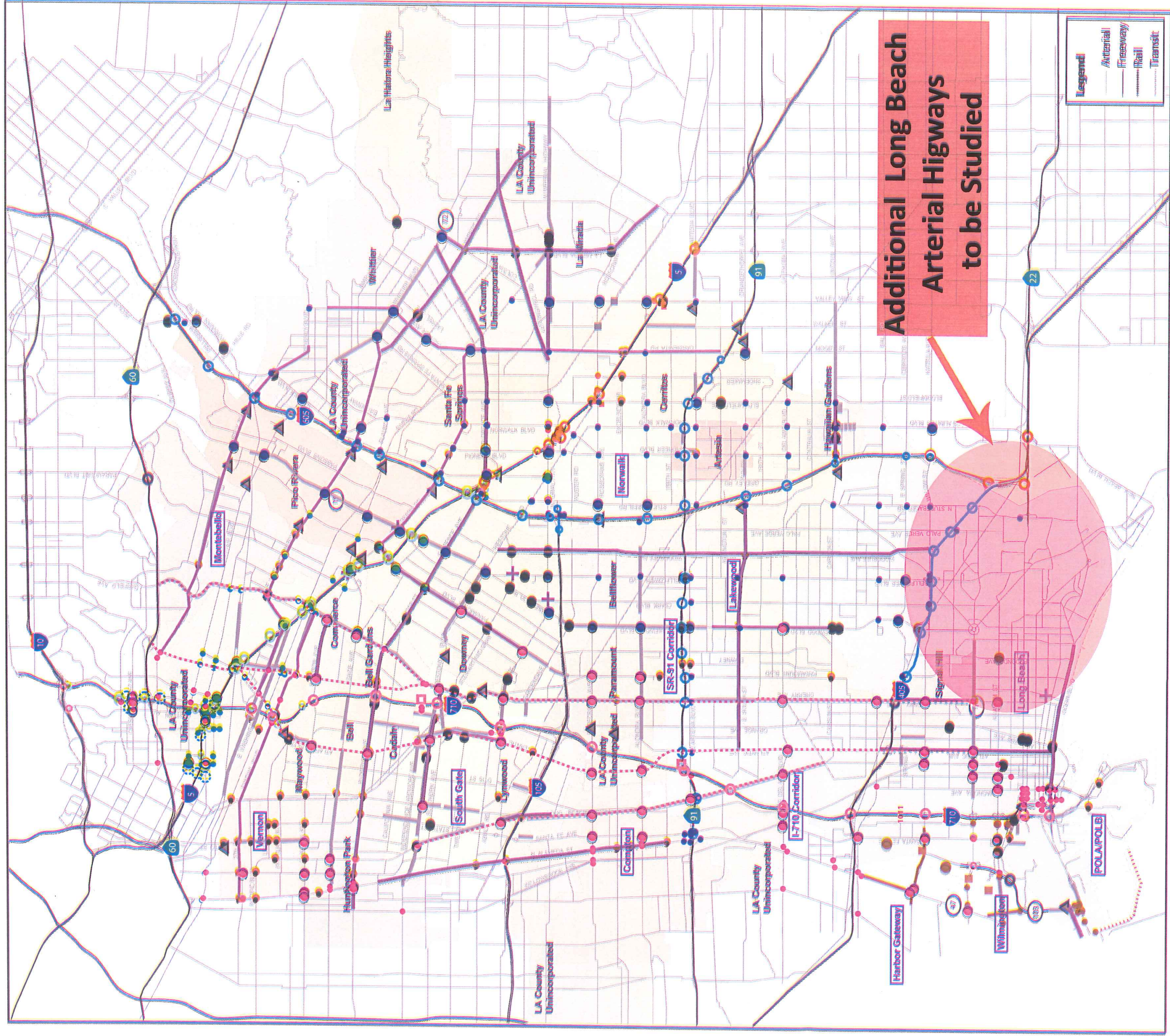
Legend 2013 Regional Transportation Projects

- 1 I-710 EIR/EIS (with freight corridor)
- 2 I-5 EIR/EIS (I-605 south to County Line) - Construction Project
- 3 I-5 EIR/EIS (I-605 to I-710) EIR/EIS
- 4 Orange and Los Angeles Intercounty Transportation Study
- 5 SR-60 Car-Road Lanes Additions
- 6 East Side Light Rail Study (alignment not selected)
- 7 OrangeLine Transit Study PE/W/Santa Ana Branch Study / (approximate alignment)
- 8 IHS Implementation Plan for Goods Movement
- 9 SCAG Comprehensive Regional Goods Movement Plan and Implementation Strategy with East/West Freight Corridor (no alignment selected)
- 10 Metrolink Expansion
- 11 California High Speed Rail
- 12 Amtrak
- 13 Green Line
- 14 Park-N-Ride Lots
- 15 Telegraph Rd. Signal Synchronization Project, typical (other arterial highway/signal synchronization projects not shown)
- 16 Local and Regional Transit (Bus) Service
- 17 SR-91/I-605/I-405 Congestion Hot-Spot Projects
- 18 SR-22/I-405/I-605 Car-Road Connector Ramp Project (by OCTA)
- 19 SR-91 Lane Additions (by OCTA)
- 20 I-10 Toll Lane Addition
- 21 BNSF or UFP mainline track additions, or change from freight trains and grade separation projects
- 22 I-405 Improvements (by OCTA)
- 23 Truck Enforcement Network System





**City of Long Beach
Transportation
Projects Summary
EXHIBIT NO. 3-3**



**Additional Long Beach
Arterial Highways
to be Studied**

Legend

- Interchange Improvements
- Intersection Improvements
- New Signals
- Studied Interchanges
- Studied Intersections
- Freight Corridor Interchanges
- Parking Restrictions
- Grade Separation
- Truck Impacted Intersections
- Street Improvements
- Bridge Improvements

I-710 91/605/405 I-5 South I-5 North I-405 City Projects

- I-710
- 91/605/405
- I-5 South
- I-5 North
- I-405
- City Projects

- Bridge Improvements
- Street Improvements
- Rail Improvements
- Freight Facility Expansion or Construction
- Freight Corridor Interchange
- Intersection Improvements
- Studied Intersections
- ITS Improvements
- Area-Wide ITS Upgrade
- Intersection ITS Upgrade

Goods Movement: ITS

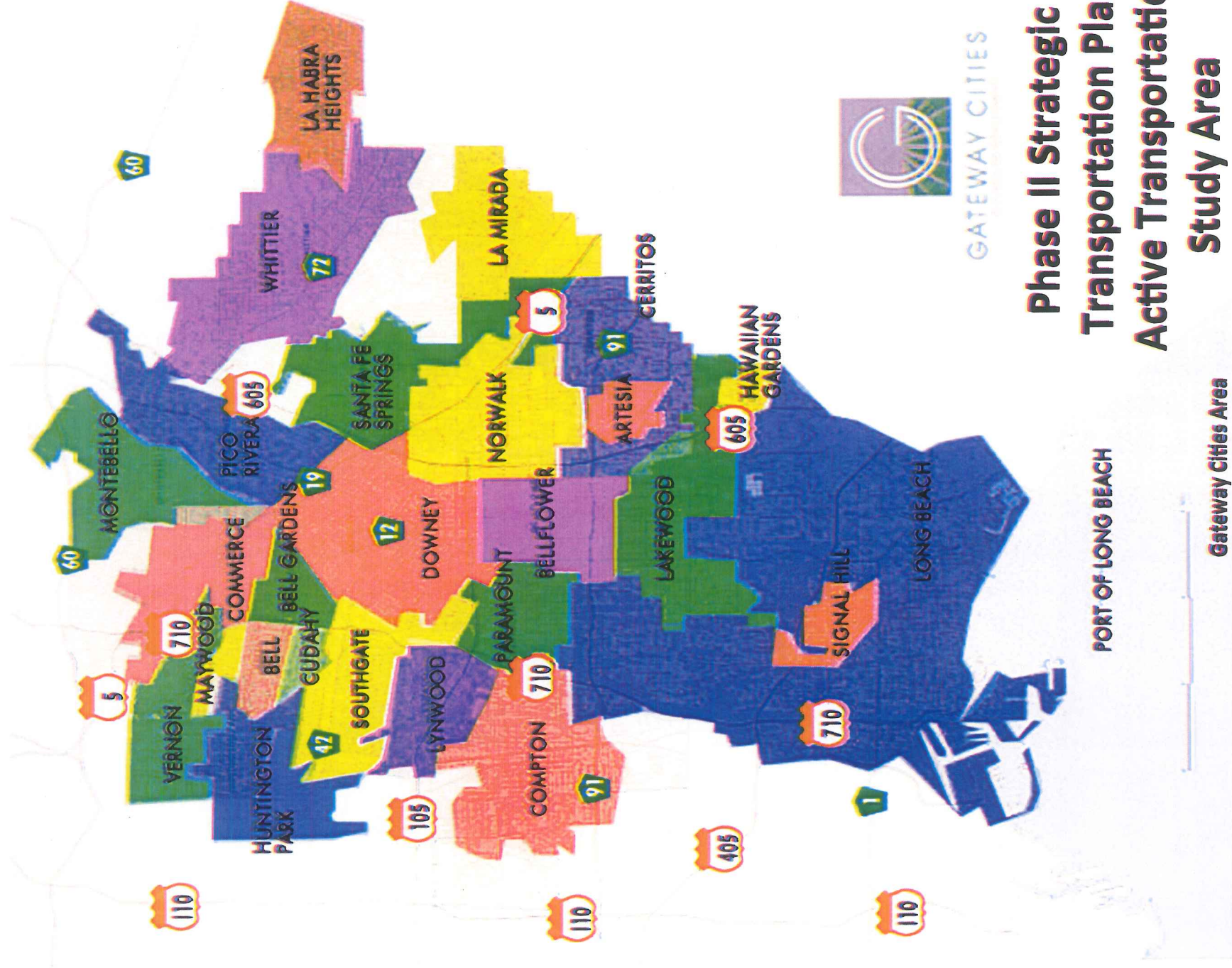
- Arterial
- Freeway
- Rail
- Transit



**Strategic Map
Composite Arterial Projects Map**

Gateway Cities

**Phase II Strategic Transportation Plan
EXHIBIT NO. 3-4**



**Phase II Strategic
Transportation Plan
Active Transportation
Study Area**

PORT OF LONG BEACH
Gateway Cities Area

GATEWAY CITIES

