TABLE OF CONTENTS - APPENDICES

A. Project List

B. Fact Sheets

B-1: Freight Rail

B-2: Trucking

B-3: Airports

B-3-1: Air Cargo

B-3-2: Aerotropolis

B-3-3: Bob Hope Airport

B-3-4: Fresno-Yosemite International Airport

B-3-5: John Wayne Airport

B-3-6: Long Beach Airport

B-3-7: Los Angeles International Airport

B-3-8: Los Angeles/Ontario International Airport

B-3-9: Norman Y. Mineta San Jose International Airport

B-3-10: Oakland International Airport

B-3-11: Sacramento International Airport

B-3-12: Sacramento Mather Airport

B-3-13: San Diego International Airport

B-3-14: San Francisco International Airport

B-4: Seaports

B-4-1: Port of Benicia

B-4-2: Port of Hueneme

B-4-3: Port of Humboldt Bay

B-4-4: Port of Long Beach

B-4-5: Port of Los Angeles

B-4-6: Port of Oakland

B-4-7: Port of Redwood City

B-4-8: Port of Richmond

B-4-9: Port of San Francisco

B-4-10: Port of Stockton

B-4-11: Port of West Sacramento

B-4-12: Unified Port of San Diego

B-5: Border Ports of Entry - Commercial Vehicles

B-5-1: Otay Mesa Port of Entry

B-5-2: Otay Mesa East Port of Entry/SR 11

B-5-3: Calexico East Port of Entry

B-6: Regional Summaries

B-6-1: Northern California

B-6-2: Sacramento Valley

B-6-3: San Francisco Bay Area

B-6-4: Central Coast

B-6-5: San Joaquin Valley

B-6-6: Los Angeles Basin

B-6-7: San Diego and Imperial Counties

B-7: Caltrans Districts

B-7-1: District 1 - Eureka

B-7-2: District 2 - Redding

B-7-3: District 3 - Marysville

B-7-4: District 4 - Oakland

B-7-5: District 5 - San Luis Obispo

B-7-6: District 6 - Fresno

B-7-7: District 7 - Los Angeles

B-7-8: District 8 - San Bernardino

B-7-9: District 9 - Bishop

B-7-10: District 10 - Stockton

B-7-11: District 11 - San Diego

B-7-12: District 12 - Orange County

C. Glossary

D. Acronyms

E. Metropolitan Planning Organizations and Regional Transportation Planning Agencies Map

F. Network Assets

G. Public Outreach and Stakeholder Participation

G-1: METRANS Stakeholder Survey

G-2: Community Organization Focus Groups

G-3: Public Workshop Materials

G-4: Primary Freight Network Letter

H. Statutory Authority

H-1: Federal Regulations

H-1-1: Moving Ahead for Progress in the 21st Century Freight Provisions

H-1-2: United States Code of Federal Regulations

H-2: State Regulations

H-2-1: Assembly Bill 14 - Statutory Authority for Freight Planning

H-2-2: Senate Bill 391

H-2-3: Senate Bill 1228

I. Freight Trend Analysis

I-1: Freight Trend Analysis Introduction

I-2: Farm-to-Market

I-3: California's Central Valley Profile

I-4: Cross-border Issues

I-5: Freight and Sustainability

I-6: Public-Private Partnerships (P3s) in Freight

I-7: Chicago Regional Environmental and Transportation Efficiency Program (CREATE)

I-8: Highway and Rail Intelligent Transportation Systems (ITS)

I-9: Last Mile Delivery/Pick-up Issues

I-10: Postponement

I-11: Air Cargo

I-12: Panama Canal Expansion

I-13: Nicaraguan Inter-Oceanic Canal

I-14: Inland Ports

I-15: Niche Ports and Bulk Commodities

I-16: Vessel Size and Impact on Ports

I-17: Chassis Management

I-18: Private Railroads and Public Agency Challenges

I-19: Railroad Abandonment and Preservation - State Ownership Strategies

I-20: Railroad Safety and Security Trends

I-21: Regional and Short Line Railroads

I-22: Railroad Perspectives on Shared Use

I-23: 3D Printing and Production

APPENDIX A: PROJECT LIST

In order to be eligible for certain funding benefits under MAP-21, freight projects must be included in an adopted state freight plan that is consistent with federal freight planning guidelines. The following comprehensive list of 707 projects with an estimated total cost of approximately $138 billion was created in anticipation of future federal or other freight funding programs. This list includes attributes to assist in sorting and prioritizing projects to help concentrate resources in areas of greatest freight activity and need. This categorization also provides the basis for establishing the need for the creation of specific, targeted funding based on specific expected outcomes tied to specific goals and objectives, and can assist decision makers and the public to better understand the types of freight projects that are being implemented and the amount of public and private funding being invested to achieve particular goals and objectives. This list will be regularly updated as needed to include freight projects contained in newly adopted or amended RTPs.

Summary of California Freight Mobility Plan Project List

Districts	Number of Projects	Sum of Total Project Cost (thousands)
1	25	$239,191
2	49	$2,757,400
3	56	$2,134,056
4	126	$11,929,940
5	55	$2,865,881
6	57	$7,017,259
7	66	$31,620,647
8	57	$6,428,401
9	7	$298,050
10	99	$4,596,935
11	97	$35,414,077
12	6	$1,195,520
7 & 8	2	$10,702,845
7, 8, 11 & 12	5	$20,900,000
Grand Total	**707**	**$138,100,201**

Network Type	Count of Network Type	Sum of Total Project Cost (thousands)
National Freight Network (NFN) not on PFN 27K	104	$19,134,152
Off the State Highway System (SHS)	217	$37,505,159
Primary Freight Network (PFN) 27K	227	$69,774,081
SHS not on PFN or NFN	82	$10,677,605
Unreported Data	77	$1,009,204
Grand Total	**707**	**$138,100,201**

Tier	Count of Tier	Sum of Total Project Cost (thousands)
Tier 1	95	$30,860,730
Tier 2	86	$14,325,572
Tier 3	94	$7,152,358
Non SHS	288	$70,557,118
SHS-No Tier	144	$15,204,424
Grand Total	**707**	**$138,100,201**

Project Type	Count of Project Type	Sum of Total Project Cost (thousands)
Capacity Expansion	340	$101,547,449
Community and Environmental	22	$5,485,645
Operations and Management	255	$14,317,056
Preservation	64	$15,560,838
Data Not Available	26	$1,189,213
Grand Total	**707**	**$138,100,201**

Primary Facility Type	Count of Primary Facility Type	Sum of Total Project Cost (thousands)
Broad Initiatives	12	$21,178,200
Corridors	421	$98,434,880
Gateways	58	$6,289,112
Hubs	19	$2,861,438
Last Mile Connectors	54	$2,708,721
Miscellaneous	143	$6,627,851
Grand Total	**707**	**$138,100,201**

CFMP Freight Project Definitions

DISCLAIMER: The attached project list is for discussion purposes only and does not represent a commitment by referenced agencies or the State to develop or deliver any of the listed projects.

Freight Project Definition

An improvement that significantly contributes to the freight system's economic activity or vitality; relieves freight congestion on the most congested segments of the freight network; improves the safety, security, or resilience of the freight system; improves or preserves the freight system infrastructure; implements technology or innovation to improve the freight system or reduce or avoid its negative impacts; or reduces or avoids the adverse environmental and community impacts of the freight system.

Project Timeframes

The timeframes defined below reflect the soonest implementation potential for each of the freight projects:

1. Short-term (0-3 years)
2. Intermediate-term (4-10)
3. Long-term (10+ years)

Network Type

The network types defined below reflect the location of the project in relation to the Primary Freight Network and the National Freight Network:

1. Off the State Highway System "O"
2. Primary Freight Network (PFN) 27k "P"
3. National Freight Network not included in the PFN 27k "N"
   http://www.ops.fhwa.dot.gov/freight/infrastructure/nfn/
4. State Highway System not included in the PFN 27k or NFN "S"

Network Tiers

- **Tier 1** - Highways having the highest truck volumes and/or providing essential connectivity to and between key freight gateways and regions. Most of Tier 1 highways have been identified by FHWA as components of the proposed Primary Freight Network (PFN). Not all of California's portion of the PFN routes is included in Tier 1.
- **Tier 2** - Those portions of the PFN that are not included in Tier 1 are designated as Tier 2, with Tier 2 including additional Interstate and State Routes.
- **Tier 3** - Represents the balance of the highway freight network.
- **SHS - No Tier** - Not identified as part of the highway freight network.
- **Non-SHS** - Freight modes distinct and separate from the State Highway System, e.g., Rail and General Aviation Projects.

CFMP Freight Project Definitions

Project Type

The freight project inventory has five project types: Safety and Security, System Preservation, Public Health and Environmental Stewardship, System Management, and System Expansion. They are listed below in the suggested priority order. The definition of the project categories and the goals that relate to each of those categories are:

System Preservation

- Definition: System Preservation projects are preventive maintenance projects, rehabilitation and reconstruction projects, and improvements required by regulatory mandates on the state freight transportation system.
- Related Goals: Economic Competitiveness, Congestion Relief, and Freight System Infrastructure and Preservation, Innovative Technology and Practices.

Community and Environmental Stewardship

- Definition: Projects in freight corridors that are specifically targeted to avoiding, reducing or mitigating freight impacts on the environment and community.
- Related Goals: Environmental Stewardship, Innovative Technology and Practices

Operations and Management

- Definition: Low-cost investments on the freight transportation system that can often be made in the near term to help reduce the need for more costly investments later on. Some major strategy areas under system management include Intelligent Transportation Systems (ITS) and Transportation Demand Management (TDM).
- Related Goals: Economic Competitiveness, Environmental Stewardship, Congestion Relief, Innovative Technology and Practices.

Capacity Expansion

- Definition: Projects that will expand the freight transportation system's capacity.
- Related Goals: Environmental Stewardship, Economic Contribution, Congestion Relief

Facility Type

The Primary Facility Type should be filled out for each project. The secondary Facility Type only needs to be provided as necessary. Both Primary and Secondary have the same options. The options are detailed below.

- **Gateways**: The national and international freight gateways for California are the State's seaports, airports, international border ports of entry, and major highway border points with neighboring states. "G"

- **Corridors**: Connecting to each gateway is one or more corridors that provide regional, state, and national connectivity. For the highway system, the corridors are part of the federal Primary Freight Network or are on the State Freight Network (Chapter 2-1). In addition to highways, the Class I railroad lines that provide connectivity to other regions and states are also included as part of the corridors. "C"
- **Last Mile Connectors**: Linking many of the gateways and corridors are the smaller locally owned roadways and short line railroads that serve as "last-mile" connectors. "L"
- **Hubs**: Large freight facilities, likely where multiple activities are taking place, such as intermodal facilities and railyards. "H"
- **Broad Initiatives**: Needed improvement actions that must take place across vast regions, sometimes the entire State, and occasionally, as with cargo ships, on an international scale. It can also include highly localized actions to address issues at specific freight facilities. "B"

Links to CFMP Goals

The following are project types that the plan would like to support and should be prioritized during programming. The project types are tied to the CFMP goal it most closely relates; but, it should be noted that many of the project types will serve several of the goals.

1. **Economic Competitiveness Related Project Types**
    a. Projects that eliminate bottlenecks and recurrent delay
    b. Operational improvements
    c. Projects that accelerate rapid incident response on priority freight corridors
    d. Capacity expansion of freight corridors, or subsections, where demand is at or exceeds capacity through infrastructure or operational improvements
    e. Improvements that eliminate unnecessary freight lifts or handling

2. **Safety and Security Related Project Types**
    a. Truck-only lanes and facilities
    b. Projects that encourage off-peak usage of freight facilities
    c. Expansion of the system of truck parking facilities
    d. Projects to abandon, armor, adapt, move, or replace freight facilities that are vulnerable to sea level rise and other natural disasters
    e. Positive train control as an addition to an existing project, not as a stand-alone project
    f. Expansion of the number and scope of cargo security screenings

3. **Freight System Infrastructure Preservation Related Project Types**
    a. Sustainable preventative maintenance, rehabilitation, and preservation projects on priority freight corridors with a focus on multi-purpose projects

CFMP Freight Project Definitions

4. **Environmental Stewardship Related Project Types**
    a. Corridor specific impact reduction projects
    b. Projects that maximize GHG, criteria pollutant, and air toxin emission reductions
    c. Projects that are specifically targeted to avoiding, reducing or mitigating freight impacts on the environment and community
    d. Projects that move transloading and rail facilities as close to the port as possible

5. **Congestion Relief Related Project Types**
    a. Improvements to relieve freight congestion on the most congested segments of the freight network
    b. Implementation of detection, system management, and expansion of freight travel information availability on priority corridors, particularly targeted to truck data
    c. Railroad grade crossings where there is a history of crashes and at crossings that have high volume of vehicle and train traffic
    d. Addition of mainline track and sidings to accommodate demand for freight and passenger rail services

6. **Innovative Technology and Practices Related Project Types**
    a. Implementation of state-of-the-art and demonstration technologies
    b. Deployment of new, non-fossil fuel distribution, recharging facilities, and shore-side power on the freight system, focusing on particular regions and corridors
    c. Implementation of new engine technologies that are cleaner and quieter

Caltrans District	County	Route or Facility ID	Project ID / Reference Number	Project / Program Title and Description	Total Project Cost (thousands)	Financially Constrained	Under Construction and Completely Funded	Short/Mid/ Long Term	Project of National and Regional Significance (PNRS)	Tier	Network Type	Project Type	Primary Facility Type	Secondary Facility Type	California Freight Mobility Plan Goals					
															Economic Competitiveness	Congestion Relief	Safety and Security	Freight System Infrastructure Preservation	Innovative Technology and Practices	Environmental Stewardship
1	Mendocino			Sierra RR. New loading facility. Develop tracks for passenger/freight loading in Willits.	$3,000			M		Non SHS	O									
1	Mendocino			Sierra RR. Rail Replacement. Replace worn curve rail.	$2,000			S		Non SHS	O									
1	Mendocino			Sierra RR. Culvert Replacement. Replace culvert and improve Salmon spawning sites.	$2,000			S		Non SHS	O									
1	Del Norte	SR-197	01-45490	PM3.2 to 4.0 Improve road curve, roadbed elevation,a nd roadway width for STAA access.	$955	Y	N	S	No	SHS-No Tier	N	Cap. Expan.	C					X			
1	Del Norte	SR-197	01-48110	PM4.5 Curve and shoulder lengthening for STAA access.	$551	Y	N	S	No	SHS-No Tier	N	Cap. Expan.	C					X			
1	Del Norte	US-199	01-4500U	PM 22.7-23.0 and 26.3-26.5 increase lane and shoulder width, and a cut slope for STAA access.	$4,512	Y	N	S	No	SHS-No Tier	N	Cap. Expan.	C					X			
1	Del Norte	US-199	01-47940	PM 20.5-25.7 Curve improvement and roadway widening for STAA access, Lane widening and realignment including a bridge replacement, and shoulder increase and curve realignment for STAA access.	$15,423	Y	N	S	No	SHS-No Tier	N	Cap. Expan.	C					X			
1	Lake	SR-29	01-2981U	Construct the remaining portion of the Lake 29 Expressway Project - an eight mile segment between Diener Drive and SR 175.	$130,000	N	N	M	No	Tier 3	N	Cap. Expan.	C				X	X			
1	Humboldt	SR-299	01-0A320	Near Willow Creek on Cedar Creek Rd. — Cedar Gap curve improvement.	$1,000	Y	N	S	No	Tier 3	N	O.M.	C					X			
1	Humboldt	SR-299	01-0A360	Near Blue Lake, Near Bair Rd. — Acorn curve improvement.	$3,000	Y	N	S	No	Tier 3	N	O.M.	C					X			
1	Humboldt	SR-299	01-0A490	Near Willow Creek, Near Shezem Rd. — Circle Point curve improvement.	$4,000	Y	N	S	No	Tier 3	N	O.M.	C					X			
1	Humboldt	SR-299	01-0A520	Near Blue Lake, Chezem Rd. — Lupton curve improvement.	$2,000	Y	N	S	No	Tier 3	N	O.M.	C					X			
1	Humboldt	US-101	01-46480	Near Garberville, Near Richardson Grove: STAA Operational Improvement Project.	$5,500	Y	N	S	No	Tier 3	N	O.M.	C					X	X		
1	Lake	SR20/29	01-48860	SR 20/SR 29 Intersection Safety and Operational Improvements.	$3,840	Y	N	S	No	Tier 3	N	O.M.	C					X			

Caltrans District	County	Route or Facility ID	Project ID / Reference Number	Project / Program Title and Description	Total Project Cost (thousands)	Financially Constrained	Under Construction and Completely Funded	Short/Mid/ Long Term	Project of National and Regional Significance (PNRS)	Tier	Network Type	Project Type	Primary Facility Type	Secondary Facility Type	California Freight Mobility Plan Goals					
															Economic Competitiveness	Congestion Relief	Safety and Security	Freight System Infrastructure Preservation	Innovative Technology and Practices	Environmental Stewardship
1	Humboldt	US-101		South Fork Eel River Bridge: Strengthen bridges.	$1,000	N	N	S	No	Tier 3	N	Preservation	C					X	X		
1	Humboldt	Humboldt Harbor District Marine Terminal		Establish a multipurpose, publicly-owned marine terminal with two berths. Develop a single multipurpose berth for the short-term, designed to be integrated into long-term terminal development.	$35,000	N	N	L	No	Non SHS	O	Cap. Expan.	G		X					
1	Humboldt	Countywide		Evaluate which ITS application(s) would be most valuable and feasible for the region to pursue first such as: traveler info websites, satellite positions tech. emergency vehicle preemption, & variable msg. signs.		N	N	S	No	Non SHS	O	O.M.	B				X		X	
1	Humboldt	Humboldt Harbor District Marine Terminal		Improve to Major Collector standards to serve marine terminals.	$634	N	N	L	No	Non SHS	O	O.M.	G		X			X		
1	Humboldt	Humboldt Harbor District Marine Terminal		Improve to Major Collector standards to serve marine terminals.	$4,869	N	N	L	No	Non SHS	O	O.M.	G		X			X		
1	Humboldt	Humboldt Harbor District Marine Terminal		Acquire title to property; improve to Major Collector standards to serve marine terminals.	$2,235	N	N	S	No	Non SHS	O	O.M.	G		X			X		
1	Humboldt	Humboldt Harbor District Marine Terminal		Acquire title to property; improve to Major Collector standards to serve marine terminals	$3,502	N	N	S	No	Non SHS	O	O.M.	G		X			X		
1	Humboldt	Humboldt Harbor District Marine Terminal		Acquire title to property; improve to Major Collector standards to serve marine terminals	$3,703	N	N	S	No	Non SHS	O	O.M.	G		X			X		

Caltrans District	County	Route or Facility ID	Project ID / Reference Number	Project / Program Title and Description	Total Project Cost (thousands)	Financially Constrained	Under Construction and Completely Funded	Short/Mid/ Long Term	Project of National and Regional Significance (PNRS)	Tier	Network Type	Project Type	Primary Facility Type	Secondary Facility Type	California Freight Mobility Plan Goals					
															Economic Competitiveness	Congestion Relief	Safety and Security	Freight System Infrastructure Preservation	Innovative Technology and Practices	Environmental Stewardship
1	Humboldt	Humboldt Harbor District Marine Terminal		Acquire title to property; improve to Major Collector standards to serve marine terminals	$10,468	N	N	S	No	Non SHS	O	O.M.	G		X			X		
1	Humboldt	Humboldt Harbor District Marine Terminal		Project seeks to reduce shoaling in Humboldt Bay (thereby enhancing navigation efficiency and safety), and rehabilitate the Northern Corridor of the NWP railroad from the Port of Humboldt Bay to South Fork. The project would also open up the potential for excursion passenger train service within the NCRA's Northern Corridor Rail (per 2008 RTP).		N	N	L	No	Non SHS	O	Preservation	G		X			X	X	
1	Humboldt	Humboldt Harbor District Marine Terminal		Repair facilities and resume service on the Eel River Division of the NWP Railroad (far Northern Portion (South Fork to Samoa) and Canyon Portion).		N	N	L	No	Non SHS	O	Preservation	G		X			X		
2	Trinity	299/off-system		Rail from Coast to UPRR.	$500,000					Non SHS	O	Cap. Expan.			X					
2	Shasta	I-5		Reconfigure Interchange: Direct Connector Flyover Ramp and Correct Vertical Clearance - I-5/44 Interchange.	$51,000	N	N	L	No	Tier 2	P	Cap. Expan.	C		X	X	X			
2	Shasta	I-5	02-0002-0003	Reconfigure overcrossing and interchange - Knighton Road and Truck Stop.	$6,000	N	N	L	No	Tier 2	P	Cap. Expan.	C		X	X		X		
2	Shasta	I-5		Reconstruct Interchange - Phase 2 - Southbound Roundabout - Deschutes Interchange.	$10,500	N	N	L	No	Tier 2	P	Cap. Expan.	C		X	X		X		
2	Siskiyou	I-5		Add northbound truck climbing lane - Shasta County Line to Dunsmuir (PM 0-3.8)	$3,000	N	N	L	No	Tier 2	P	Cap. Expan.	C		X	X				
2	Tehama/Shasta	I-5		Expand freeway to six lanes Corning to Mountain Gate (TEH PM 9.0-SHA PM R24)	$750,000	N	N	L	Proposed	Tier 2	P	Cap. Expan.	C		X	X				

Caltrans District	County	Route or Facility ID	Project ID / Reference Number	Project / Program Title and Description	Total Project Cost (thousands)	Financially Constrained	Under Construction and Completely Funded	Short/Mid/ Long Term	Project of National and Regional Significance (PNRS)	Tier	Network Type	Project Type	Primary Facility Type	Secondary Facility Type	California Freight Mobility Plan Goals					
															Economic Competitiveness	Congestion Relief	Safety and Security	Freight System Infrastructure Preservation	Innovative Technology and Practices	Environmental Stewardship
2	Shasta	I-5		Shasta County Implement I-5 ITS System 6 CCTV, 4 RWIS, 4 CMS, 1 HAR, Northern Redding TMS fiber and Fiber Micro Hub connect CRI. Includes projects under development and unfunded.	$4,500	N	N	M	No	Tier 2	P	O.M.	C		X				X	
2	Shasta	I-5	02-0C870	Fawndale HAR Extender & Simulcast upgrade to Redding HAR at Various Locations.	$200	Y	N	S	No	Tier 2	P	O.M.	C		X				X	
2	Shasta	I-5		Correct Vertical Clearance Central Redding Interchange. (PM 15.43)	$8,000	N	N	L	No	Tier 2	P	O.M.	C				X	X		
2	Shasta	I-5		Chain on area	$3,200	N	N	L	No	Tier 2	P	O.M.	C				X			
2	Shasta	I-5		Replace I-5/UPRR OH. Widen Structure to 6 lanes and eliminate encroachment into Union Pacific Railroad R/W - Anderson OH 6-98.	$28,700	N	N	M	No	Tier 2	P	O.M.	C		X	X		X		
2	Siskiyou	I-5		Siskiyou County Implement I-5 ITS System 4 CCTV, 5 RWIS, 3 CMS, Microwave Backbone. Includes projects under development and unfunded.	$3,000	N	N	M	No	Tier 2	P	O.M.	C		X				X	
2	Tehama	I-5		Interstate 5 (I-5) /South Ave. Interchange, Corning (PM R 3.5-R10.0) — Phase 2.	$15,500	N	N	L	No	Tier 2	P	O.M.	C		X	X			X	
2	Tehama	I-5		Tehama County Implement I-5 ITS System 2 CCTV, 2 CMS. Includes projects under development and unfunded.	$1,000	N	N	M	No	Tier 2	P	O.M.	C		X				X	
2	Shasta	I-5		Expand Truck Parking at existing Safety Roadside Rest Areas and Add SRRA at Faundale.	$6,000	N	N	M	No	Tier 2	P	Preservation	C		X	X	X	X		
2	Shasta	I-5		Replace Pit River Bridge. (PM R28.14)	$500,000	N	N	L	Proposed	Tier 2	P	Preservation	C		X		X	X		
2	Shasta	I-5		Extend SB Auxiliary Lane from Lake Blvd SB On Ramp to Central Redding Interchange.	$3,900	N	N	L	No	Tier 2	P	Preservation	C		X	X		X		
2	Shasta	I-5		Extend multiple NB & SB intermittent truck climbing lanes between PMs 26 and 50 (between Jct SR 299 and LaMoine north of Lakehead).	$22,000	N	N	L	No	Tier 2	P	Preservation	C		X	X		X		
2	Siskiyou	I-5	02-1300-0095	14 - Super-Strengthen (permit) (PPGOO) 02-0032L&R North Edgewood OH (PM R 25.22).	$3,000	Y	N	L	No	Tier 2	P	Preservation	C				X	X		

Caltrans District	County	Route or Facility ID	Project ID / Reference Number	Project / Program Title and Description	Total Project Cost (thousands)	Financially Constrained	Under Construction and Completely Funded	Short/Mid/ Long Term	Project of National and Regional Significance (PNRS)	Tier	Network Type	Project Type	Primary Facility Type	Secondary Facility Type	California Freight Mobility Plan Goals					
															Economic Competitiveness	Congestion Relief	Safety and Security	Freight System Infrastructure Preservation	Innovative Technology and Practices	Environmental Stewardship
2	Lassen	36	02-0000-0015	Susanville Relief Route (PM 18-29.5)	$35,000	N	N	L	No	Tier 3	S	Cap. Expan.	C		X	X	X			
2	Lassen	US-395		2C/E to 4E - SIE/LAS County line Jct. SR 36 (PM 0-61.09)	$125,000	N	N	L	No	Tier 3	S	Cap. Expan.	C		X	X				
2	Shasta	44		Passing lanes EB (PMs 14.8-15.9)	$2,000	N	N	L	No	Tier 3	S	Cap. Expan.	C		X	X				
2	Shasta	44		Passing lanes - Shingletown EB & WB (PMs 21.4-32.1)	$4,000	N	N	L	No	Tier 3	S	Cap. Expan.	C		X	X				
2	Shasta	44		2E to 4F - Airport Road to Stillwater Road (PM 3.6-7)	$15,000	N	N	L	No	Tier 3	S	Cap. Expan.	C		X	X				
2	Tehama	99		Realign to 4 lane expressway - South Ave. From End Freeway in Butte County (BUT 99 PM T37.77 Garner Lane) to I-5.	$500,000	N	N	L	Proposed	Tier 3	S	Cap. Expan.	C		X	X				
2	Trinity	299		Capacity Expansion (TBD) - Weaverville (PM 50.62-53.43)	TBD	N	N	L	No	Tier 3	S	Cap. Expan.	C		X	X				
2	Plumas	70		CCTV - Beldon Area & Lee Summit, RWIS Lee Summit	$500	N	N	L	No	SHS-No Tier	S	O.M.	C		X				X	
2	Plumas	70		Turnouts at Various Locations	$5,000	N	N	L	No	SHS-No Tier	S	O.M.	C				X	X		
2	Shasta	89		1 CCTV, 1 HAR, and 3 CMS signs at Old Station at Jct SR44-SR89. Includes projects under development and unfunded.	$15,000	N	N	M	No	SHS-No Tier	S	O.M.	C		X				X	
2	Siskiyou	89	02-39160	1 CCTV, 2 RWIS	$500	Y	N	M	No	SHS-No Tier	S	O.M.	C		X				X	
2	Siskiyou	89		Establish chain on/off areas - Deadhorse Summit.	$1,000	N	N	M	No	SHS-No Tier	S	O.M.	C				X	X		
2	Siskiyou	US-97		RWIS - Mt Hebron Summit	$300	N	N	M	No	SHS-No Tier	S	O.M.	C		X				X	
2	Lassen	US-395		Develop additional Truck Parking areas in the vicinity of Susanville to accommodate trucks on 395 during wind and other road closures.	$3,000	N	N	L	No	Tier 3	S	O.M.	C				X	X		
2	Shasta	44		SR 44 ITS East of Redding Area (3 CMS, 3CCTV, 1HAR & 2RWIS) Jct 89 N&S. Includes projects under development and unfunded.	$1,000	N	N	M	No	Tier 3	S	O.M.	C		X				X	

Caltrans District	County	Route or Facility ID	Project ID / Reference Number	Project / Program Title and Description	Total Project Cost (thousands)	Financially Constrained	Under Construction and Completely Funded	Short/Mid/ Long Term	Project of National and Regional Significance (PNRS)	Tier	Network Type	Project Type	Primary Facility Type	Secondary Facility Type	California Freight Mobility Plan Goals					
															Economic Competitiveness	Congestion Relief	Safety and Security	Freight System Infrastructure Preservation	Innovative Technology and Practices	Environmental Stewardship
2	Shasta	44		Redding ITS Backbone (Connect I-5 Fiber Backbone to District Office 44/299, TMSFiberSpurs, 3CCTV & 1CMS)	$8,000	N	N	M	No	Tier 3	S	O.M.	C		X				X	
2	Shasta	299		ITS elements West of I-5 on SR 299 in SHA (3 CCTV & 1 RWIS). Includes projects under development and unfunded.	$700	N	N	M	No	Tier 3	S	O.M.	C		X				X	
2	Trinity	299		ITS elements West of I-5 on SR 299 In TRI (1 CCTV & 2 RWIS) Includes Microwave TMS wireless backbone, in addition to Hillside lighting @ Burnt Ranch.	$8,600	N	N	M	No	Tier 3	S	O.M.	C		X				X	
2	Shasta	89	02-0000-0236	Replace bridge and realign roadway - Lake Britton Bridge (PM 26.3-30.7)	$80,000	N	N	L	No	SHS-No Tier	S	Preservation	C					X		X
2	Siskiyou	US-97		Extend existing SB truck climbing lane to the bottom of Mt Hebron Grade (PM 33-33.7)	$1,800	N	N	L	No	SHS-No Tier	S	Preservation	C		X	X		X		
2	Siskiyou	US-97		Extend the existing southbound climbing lane on US 97 (PM 21.63-21.88)	$3,000	N	N	L	No	SHS-No Tier	S	Preservation	C		X	X		X		
2	Siskiyou	US-97		Extend the existing southbound climbing lane on US 97 (PM 5.17-5.57)	$3,000	N	N	L	No	SHS-No Tier	S	Preservation	C		X	X		X		
2	Siskiyou	US-97		Extend existing southbound climbing lane - Dorris Hill (PM 51.64-52.64)	$3,000	N	N	L	No	SHS-No Tier	S	Preservation	C		X	X		X		
2	Lassen	36		Modify at-grade intersection at Jct. SR 36/ US 395	$1,500	N	N	M	No	Tier 3	S	Preservation	C		X		X	X		
2	Shasta	44		Remove STAA barriers - Deschutes to Jct. SR 89	TBD	N	N	M	No	Tier 3	S	Preservation	C		X			X		
2	Trinity	299		Extend westbound truck climbing lane - Oregon Mountain (PM 49.8-51.1)	$5,000	N	N	L	No	Tier 3	S	Preservation	C		X	X		X		
2	Trinity	299		Extend eastbound truck climbing lane - La Grange Marker (PM 47.8-48.8)	$6,000	N	N	L	No	Tier 3	S	Preservation	C		X	X		X		
2	Trinity	299		Provide WB Shoulder and horizontal curve improvements necessary for STAA Access (PM 12.4-12.6)	$2,000	Y	N	M	No	Tier 3	S	Preservation	C		X			X		
2	Trinity	299		Provide EB Shoulder and horizontal curve improvements necessary for STAA Access (PM 12.5-12.7)	$4,000	Y	N	M	No	Tier 3	S	Preservation	C		X			X		
2	Trinity	299		Provide EB Shoulder and horizontal curve improvements necessary for STAA Access (PM 20.5-20.6)	$4,000	Y	N	M	No	Tier 3	S	Preservation	C		X			X		

Caltrans District	County	Route or Facility ID	Project ID / Reference Number	Project / Program Title and Description	Total Project Cost (thousands)	Financially Constrained	Under Construction and Completely Funded	Short/Mid/ Long Term	Project of National and Regional Significance (PNRS)	Tier	Network Type	Project Type	Primary Facility Type	Secondary Facility Type	California Freight Mobility Plan Goals					
															Economic Competitiveness	Congestion Relief	Safety and Security	Freight System Infrastructure Preservation	Innovative Technology and Practices	Environmental Stewardship
3	Butte	SR-99	Not Available	Passing Lane Projects - The scope of these projects is to provide for passing lanes between Gridley and the junction at SR 149.	$80,000	N	N	L	Proposed	SHS-No Tier	S	Cap. Expan.	C			X	X			
3	Butte	SR-70	Not Available	SR 70 Passing Lane - Segment 3. New Project. Terminus at SR 70 Passing Lane Project to Yuba County line. Includes 2 of the 3 bridges, 3rd bridge is located in Yuba County (3.37 miles). Total estimate for year 2030 is $116m to be jointly funded with Caltrans; (BegPM=000.000; EndPM=003.690)	$50,000	Y	N	L	No	Tier 3	S	Cap. Expan.	C		X	X	X			
3	Butte	SR-70	Not Available	Phase 1: SR 70 Passing Lane. Terminus at Ophir Rd Project to .1 miles south of Palermo Rd. (2.7 miles) Total estimate for year 2018 is $39.3m to be jointly funded at 50% with Caltrans	$27,700	Y		M	No	Tier 3	S	Cap. Expan.	C		X	X	X			
3	Butte	SR-70	EFIS IS 0312000155 / EA 03-3F280	Phase 2: Widen SR 70 to 4 lanes with continuous two-way left turn lane	$28,425	Y	N	L	Proposed	Tier 3	S	Cap. Expan.	C		X	X	X			
3	Butte	SR-70	Not Available	Georgia Pacific Interchange - The scope of this project is to provide for a new interchange	$30,000	N	N	L	No	Tier 3	S	Cap. Expan.	C			X				
3	Butte	SR-70	Not Available	Ophir Rd Interchange Project - The scope of this project is to provide for a new interchange at Ophir Rd near Oroville	$30,000	N	N	L	No	Tier 3	S	Cap. Expan.	C			X				
3	Butte	SR-99	Not Available	New Interchange: Southgate Ave interchange; extend Otterson Drive, Entler Drive, Hegan Road and Speedway	$29,000	Y	N	L		Tier 3	S	Cap. Expan.	C			X	X			
3	Butte	SR-99	Not Available	Widen Eaton Rd Interchange at SR 99 from 2 to 4 lanes	$16,000	Y	N	S		Tier 3	S	Cap. Expan.	C		X	X				
3	Butte	SR-99	Not Available	Phase 1: Chico Auxiliary lanes from Skyway/Park Ave Interchange to East 20th St.	$5,000	N	N	L	No	Tier 3	S	O.M.	C		X	X				
3	Colusa	I-5	03-0F380	Improve Vertical Clearance	$7,658	N	N	M	No	Tier 2	P	Preservation	C				X	X		
3	Colusa	SR-20	Not Available	Install passing lanes west of Williams	$3,000			L		Tier 3	S	O.M.	C			X	X			

Caltrans District	County	Route or Facility ID	Project ID / Reference Number	Project / Program Title and Description	Total Project Cost (thousands)	Financially Constrained	Under Construction and Completely Funded	Short/Mid/ Long Term	Project of National and Regional Significance (PNRS)	Tier	Network Type	Project Type	Primary Facility Type	Secondary Facility Type	California Freight Mobility Plan Goals					
															Economic Competitiveness	Congestion Relief	Safety and Security	Freight System Infrastructure Preservation	Innovative Technology and Practices	Environmental Stewardship
3	Colusa	SR-20	Not Available	Install passing lanes west of Colusa	$3,000			L		Tier 3	S	O.M.	C			X	X			
3	El Dorado	US-50	ELD19291/CIP71345	Final phase of new interchange: construction of eastbound diagonal and westbound loop on-ramps to US 50.	$12,070	Y	N	M	No	SHS-No Tier	N	Preservation	C		X	X				
3	El Dorado	US-50	ELD 15610/CIP 71328	New Interchange: Phase 1 includes US 50 on-/off-ramps, overcrossing, and US 50 aux lanes.	$56,817	Y	Y	S	No	SHS-No Tier	N	Preservation	C		X	X				
3	Nevada	SR-20	Not Available	Construct passing and truck climbing lanes near Washington Ridge Road	$1,500	N	N	L	No	Tier 3	S	Cap. Expan.	C		X	X	X			
3	Placer	Union Pacific Railroad Track	CAL18320	On the UP mainline, from Elvas Tower in Sacramento County to Roseville Station in Placer County: Construct third track. Project involves: extension of freight lead track; construction of track and signal improvements; construction of satellite maintenance facility and other associated improvements; and possible relocation of the Roseville rail station to address conflicting train movements that affect capacity. Project improvements will permit service capacity increases for Capitol Corridor in Placer County, with up to ten round trips to Roseville.	$250,800	Y	N	M	No	Tier 1	O	Cap. Expan.	C		X	X				
3	Placer	Sierra College Blvd	Not Available	Construct 4 lane overcrossing / undercrossing at UPRR Tracks.	$4,112	N	N	L	No	Non SHS	O	Cap. Expan.	L			X	X			X
3	Placer	I-80	CAL20424	Near Colfax on Route 80, from the Long Ravine UP to east of Magra Road OC - Construct eastbound truck climbing lane and related improvements. (PM 35.1/38.0)	$49,050	Y	N	M	No	Tier 1	P	Cap. Expan.	C		X	X	X			
3	Placer	I-80	PLA25440	I-80/SR 65 Interchange Improvements. In Placer County: Increase interchange capacity by adding one lane to each of the existing four freeway-to-freeway connectors and construct new carpool lane direct connectors between I-80 and SR 65.	$535,000	N	N	L	Proposed	Tier 1	P	Cap. Expan.	C		X	X	X			

Caltrans District	County	Route or Facility ID	Project ID / Reference Number	Project / Program Title and Description	Total Project Cost (thousands)	Financially Constrained	Under Construction and Completely Funded	Short/Mid/ Long Term	Project of National and Regional Significance (PNRS)	Tier	Network Type	Project Type	Primary Facility Type	Secondary Facility Type	California Freight Mobility Plan Goals					
															Economic Competitiveness	Congestion Relief	Safety and Security	Freight System Infrastructure Preservation	Innovative Technology and Practices	Environmental Stewardship
3	Sacramento	SR-51	Not Available	SR 51: Widen structure over Arden Way to 8 lanes plus 2 bus/carpool lanes and construct a Transition Lane: NB, from Exposition Blvd. off ramp to Arden Way on ramp	$75,000	N	N	L	Proposed	SHS-No Tier	N	Cap. Expan.	C		X	X	X			
3	Sacramento	SR-51	CAL20501	On SR 51 (Capital City Freeway), close E Street northbound onramp and extend the northbound transition lane from near E Street on-ramp to just south of Elvas Underpass near the American River. Modify intersection at E Street and 30th Street. Also build local roadway improvements on 30th St	$8,300	N	N	L	Proposed	SHS-No Tier	N	O.M.	C		X	X	X			
3	Sacramento	SR-51	Not Available	SR 51 Transition Lane: NB, from the Elvas Underpass to Exposition Blvd.	$7,500	N	N	L	Proposed	SHS-No Tier	N	O.M.	C		X	X	X			
3	Sacramento	SR-51	Not Available	SR 51 Auxiliary Lane: SB, from Exposition Blvd. to E St.	$84,200	N	N	L	Proposed	SHS-No Tier	N	O.M.	C		X	X	X			
3	Sacramento	SR-51	Not Available	Transition Lane: NB and SB, from Marconi Ave. to Watt Ave.	$84,700	N	N	L	Proposed	SHS-No Tier	N	O.M.	C		X	X	X			
3	Sacramento	I-5	SAC24094	Construct new 4 lane Kammerer Rd extension from Bruceville Rd to I-5 (at Hood Franklin Rd), modifying the I-5/Hood Franklin interchange, and construction of a railroad grade separation at UP railroad tracks.	$37,581	Y		S		Tier 1	P	Cap. Expan.	C		X	X	X			
3	Sacramento	I-5	EFIS ID 0300001102	Auxiliary lane on I-5, in the City and County of Sacramento, from Florin Road to Pocket Road Southbound - Operational improvements, lane extension.	$8,576	N		L		Tier 1	P	O.M.	C		X	X				
3	Sacramento	I-5	Not Available	Extend Southbound connector ramp from U.S. 50 connector-ramp to the Sutterville Rd. off-ramp	$3,745	N		L		Tier 1	P	O.M.	C		X	X				
3	Sacramento	I-5	2016-19	Construct 1500' length deceleration lane to Airport Blvd off ramp from SR 99 connector-ramp to Airport Blvd.	$1,249	N	N	L	No	Tier 2	P	O.M.	C			X	X			

Caltrans District	County	Route or Facility ID	Project ID / Reference Number	Project / Program Title and Description	Total Project Cost (thousands)	Financially Constrained	Under Construction and Completely Funded	Short/Mid/ Long Term	Project of National and Regional Significance (PNRS)	Tier	Network Type	Project Type	Primary Facility Type	Secondary Facility Type	California Freight Mobility Plan Goals					
															Economic Competitiveness	Congestion Relief	Safety and Security	Freight System Infrastructure Preservation	Innovative Technology and Practices	Environmental Stewardship
3	Sacramento	I-5	4F400	Weigh-In-Motion repairs and concrete pavement replacement at WIM station on Sac-5 at PM 33.1 located in the NB lanes.	$1,500		N	M	No	Tier 2	P	O.M.	C					X	X	
3	Sacramento	SR-99	Not Available	SR 99 Transition Lane: NB, from WB 47th Ave. slip on ramp to EB Fruitridge Rd. slip on ramp, and from WB Fruitridge Rd. loop off ramp to WB Fruitridge Rd. slip on ramp. Right-of-way acquisition required. Soundwall relocation required.	$4,107	N	N	L		Tier 2	P	O.M.	C		X	X	X			
3	Sacramento	SR-99	Not Available	SR 99 auxiliary lane: NB from WB Florin Rd. slip on ramp to EB 47th Ave. slip off ramp. Right-of-way acquisition required. Soundwall relocation required.	$4,107	N	N	L		Tier 2	P	O.M.	C		X	X	X			
3	Sacramento	SR-99	Not Available	SR 99 Auxiliary Lane extension: SB, from Martin Luther King Blvd on ramp. to WB 47th Ave. slip off ramp. Right-of-way acquisition required. Soundwall relocation required.	$4,107	N	N	L		Tier 2	P	O.M.	C		X	X	X			
3	Sacramento	SR-99	3F640	SR 99 No. Dillard Road WIM, near Elk Grove from 0.1 to 0.2 mile south of Badger Creek Bridge. Replace Weight in Motion station sensors and associated electronics	$1,250					Tier 2	S	O.M.	C					X	X	
3	Sacramento	US-50	Not Available	US 50 Westbound Transition Lane: from Sunrise Blvd. slip off-ramp to Sunrise Blvd. slip on-ramp.	$4,107	N	N	L		Tier 2	P	O.M.	C		X	X	X			
3	Sacramento	US-50	Not Available	Auxiliary Lane: EB and WB, from Sunrise Blvd. to Zinfandel Dr.	$6,844	N		L		Tier 2	P	O.M.	C		X	X	X			
3	Sacramento	US50 and I-80	3F690	US 50 and I-80 ramp WIM. Near West Sacramento, 0.4 mile west of the westbound Route 80 on-ramp onto eastbound Route 50. Relocate weight in motion (WIM) station	$2,000		N	M	No	Tier 2	N	O.M.	C					X	X	
3	Sierra	US-395	Not Available	Expand to 4 lane expressway - Nevada State Line to Lassen County Line	$7,175	N	N	L	No	Tier 3	S	Cap. Expan.	C		X	X				
3	Sierra	SR-89	Not Available	Construct truck turnouts south of Sierraville	$1,000	Y	N	S	No	SHS-No Tier	S	O.M.	C			X	X			

Caltrans District	County	Route or Facility ID	Project ID / Reference Number	Project / Program Title and Description	Total Project Cost (thousands)	Financially Constrained	Under Construction and Completely Funded	Short/Mid/ Long Term	Project of National and Regional Significance (PNRS)	Tier	Network Type	Project Type	Primary Facility Type	Secondary Facility Type	California Freight Mobility Plan Goals					
															Economic Competitiveness	Congestion Relief	Safety and Security	Freight System Infrastructure Preservation	Innovative Technology and Practices	Environmental Stewardship
3	Sutter	SR-20 and SR-99	CAL20429	ROW Acquisition and Construction: Railroad Crossing. North of SR 99 Intersection	$10,000	Y	N	L	No	Tier 3	O	Cap. Expan.	C		X					
3	Sutter	Lomo Crossing	Not Available	ROW Acquisition and Construction: Railroad Crossing. North of SR 99 / Live Oak Blvd. intersection.	$12,486			L	No	Non SHS	O	Cap. Expan.	C		X					
3	Sutter	SR-20	SUT16960	Widen State Route 20 from 4 to 6 lanes from Stabler Lane to State Route 99.	$1,199	N	N	L	No	Tier 3	N	Cap. Expan.	C			X	X			
3	Yolo			Sierra RR. Yolo Rail Replacement	$4,000			S		Non SHS	O									
3	Yolo			Sierra RR. Locomotive & MOW Shop. Build shop and offices.	$4,000			S		Non SHS	O									
3	Yolo	Port of West Sacramento	YOL19223	Dredging remainder of 35 miles of 43 mile ship channel an additional 5' to 35' in depth. This 15% increase in channel depth will allow larger ships and thus will increase allowable ship capacity by 40% (from 25,000 tons to 35.000 tons). Ship channel boundaries are from Collinsville (just above Suisun Bay) up to West Sacramento.	$157,464	Y	N	S	No	Non SHS	O	Cap. Expan.	C		X					
3	Yolo	Port of West Sacramento	Not Available	This project includes the construction of a new port entrance, including the installation of a new rail crossing near Beacon and Industrial Boulevards. This project will increase the efficiency and safety of travel to, from and within the Port, and is required prior to the construction of a new area project. This project will improve transportation operations, and is likely to lead to significant positive economic benefits.	$3,285			L	No	Non SHS	O	Cap. Expan.	H		X		X			
3	Yolo	Port of West Sacramento	Not Available	Port of West Sacramento to purchase a new barge as part of the joint Marine Highway - Barge Container Service project between the Ports of Oakland, Stockton and West Sacramento. Phase 2.	$5,000			S	No	Non SHS	O	Cap. Expan.	H		X					X

Caltrans District	County	Route or Facility ID	Project ID / Reference Number	Project / Program Title and Description	Total Project Cost (thousands)	Financially Constrained	Under Construction and Completely Funded	Short/Mid/ Long Term	Project of National and Regional Significance (PNRS)	Tier	Network Type	Project Type	Primary Facility Type	Secondary Facility Type	California Freight Mobility Plan Goals					
															Economic Competitiveness	Congestion Relief	Safety and Security	Freight System Infrastructure Preservation	Innovative Technology and Practices	Environmental Stewardship
3	Yolo	UPRR right of way	Not Available	Yolo County, west of existing Yolo Causeway, parallel to I-80 on UPRR right of way, between mile post 75.35 and 90.06: construct universal crossover to allow trains to switch tracks.	$5,150			S	No	Tier 1	O	O.M.	C		X					
3	Yolo	Port Wharf	Not Available	Replacement and upgrade of 3000' of wharf fendering to accommodate larger vessels calling at Port.	$5,217	Y		S	No	Non SHS	O	Preservation	H		X			X		
3	Yolo	I-5 and SR-113	CAL15881	Phase 2 - Construct northbound I-5 to southbound SR 113 freeway to freeway connection.	$68,012	Y		L	No	Tier 2	P	Cap. Expan.	C		X	X				
3	Yolo	I-5 and SR-113	CAL15882	Phase 3 - Construct New Interchange: NB SR 113 to SB I-5 freeway to freeway connection.	$3,020	Y		L	No	Tier 2	P	Cap. Expan.	C		X	X				
3	Yolo	I-5	03-0F360	Improve Vertical Clearance	$4,100	N	N	M	No	Tier 2	P	Preservation	C				X	X		
3	Yuba	SR-70	CAL18815/1E890	Construct passing lanes with continuous two way left-turn.	$37,457	Y	N		No	Tier 3	S	Cap. Expan.	C			X	X			
3	Yuba	SR-70	Not Available	Widen Marysville UPRR underpass.	$12,486	Y	N		No	Tier 3	S	Cap. Expan.	C			X	X	X		
3	Yuba	SR-20/99	CAL18824/3E010	Phase 1 Feather River Expressway: New 2 lane expressway on a new alignment SR 70, south of Marysville to SR 20 at the 10th St. Bridge, YUB 70,14.08/15.35	$75,000	Y	N	L	Proposed	Tier 3	S	Comm. And Env't Mit.	C		X	X	X			X
3	Yuba	SR-70	3E010	Phase 2 Feather River Expressway: continue from 10th St. Bridge northeasterly along levee system to SR 70 north of Marysville, YUB 70, 15.30	$80,000		N	L	Proposed	Tier 3	S	Comm. And Env't Mit.	C		X	X	X			X
3	Yuba	SR-70	3E010	Phase 3 Feather River Expressway: extension using existing and proposed levees SR 70 10th St. Bridge north easterly along levee system to SR 70 north of Marysville, YUB 70,15.3C	$80,000		N	L	Proposed	Tier 3	S	Comm. And Env't Mit.	C		X	X	X			X
4	Contra Costa	local	98133	Widen Pacheco Blvd from 2 to 4 lanes	$58,000	Y	N	M		Non SHS	O	Cap. Expan.	L			X				
4	Contra Costa	OFF	230318	Extend North Richmond truck route from Market Avenue to Parr Boulevard, involves two lanes, shoulders on both sides and sidewalk on west side.	$19,900	Y	N	M		Non SHS	O	Cap. Expan.	L			X				

Caltrans District	County	Route or Facility ID	Project ID / Reference Number	Project / Program Title and Description	Total Project Cost (thousands)	Financially Constrained	Under Construction and Completely Funded	Short/Mid/ Long Term	Project of National and Regional Significance (PNRS)	Tier	Network Type	Project Type	Primary Facility Type	Secondary Facility Type	California Freight Mobility Plan Goals					
															Economic Competitiveness	Congestion Relief	Safety and Security	Freight System Infrastructure Preservation	Innovative Technology and Practices	Environmental Stewardship
4	Santa Clara	Local	240403	Widen Dixon Landing bt North Milpitas Bl and I-880	$6,700	Y		S		Non SHS	O	Cap. Expan.	L			X				
4	Santa Clara	local	240404	Widen Calaveras Blvd Overpass bt I-680/I-880	$83,700	Y		S		Non SHS	O	Cap. Expan.	L			X				
4	Sonoma	Local	240668	Widen Airport Blvd bt Ordiance Rd and Aviation Blvd	$36,400	Y	N	S		Non SHS	O	Cap. Expan.	L			X				
4	Alameda	Port of Oakland		Electric Power Reliability: New Feeder from Downtown Oakland	$10,000	N	N	M		Non SHS	O	Comm. And Env't Mit.	G		X		X		X	
4	Alameda	Local	230103	Dakota Road grade separation	$191,700	Y		M		Non SHS	O	Comm. And Env't Mit.				X	X			X
4	Alameda	Multi	230091	Central ALA Co ICM and Adaptive Ramp Metering	$47,200	Y		M		Non SHS	O	O.M.	C			X			X	
4	Alameda	OFF	21103	Construct grade separation structure on Central Avenue at Union Pacific Railroad crossing.	$19,300	Y		M		Non SHS	O	O.M.	C			X	X			X
4	Contra Costa	rail	21210	Capitol Corridor Station in Hercules	$18,700		N	L		Non SHS	O	O.M.	C		X	X				
4	Regional	OFF		BNSF Railway Stockton Subdivision Rail Improvements	$30,000	N	N	M		Non SHS	O	O.M.	C		X	X		X		
4	Regional	OFF		Union Pacific Martinez Subdivision Rail Improvements	$100,000	N	N	M		Non SHS	O	O.M.	C		X	X		X		
4	Regional	OFF		Union Pacific Oakland, Niles & Coast Subdivision Rail Improvements	$100,000	N	N	M		Non SHS	O	O.M.	C		X	X		X		
4	Alameda	OAK Airport		OAK Airport Perimeter Dike Improvements and Resiliency	$47,000	N	N	S		Non SHS	O	O.M.	G		X		X	X		X
4	Alameda	OFF	22082	Implement Outer Harbor Intermodal Terminals project (includes 7th Street grade separation and roadway improvements).	$332,100	Y		M		Non SHS	O	O.M.	G		X					
4	Alameda	Port of Oakland		Oakland Global Trade and Logistics Center - Phase 2	$500,000	N	N	M	Proposed	Non SHS	O	O.M.	G		X		X		X	
4	Alameda	Port of Oakland		Adeline Street, Embarcadero Road and Middle Harbor Road Port Access Improvements	$50,000	N	N	M		Non SHS	O	O.M.	G		X	X		X		
4	Alameda	Local	21114	Construct grade separations on Washington Boulevard/Paseo Padre Parkway at the Union Pacific railroad tracks and proposed BART extension.	$108,600	Y				Non SHS	O	O.M.	L				X			

Caltrans District	County	Route or Facility ID	Project ID / Reference Number	Project / Program Title and Description	Total Project Cost (thousands)	Financially Constrained	Under Construction and Completely Funded	Short/Mid/ Long Term	Project of National and Regional Significance (PNRS)	Tier	Network Type	Project Type	Primary Facility Type	Secondary Facility Type	California Freight Mobility Plan Goals					
															Economic Competitiveness	Congestion Relief	Safety and Security	Freight System Infrastructure Preservation	Innovative Technology and Practices	Environmental Stewardship
4	Contra Costa	OFF	230084	Construct a railroad grade separation at the Richmond Waterfront on the Marina Bay Parkway.	$39,200	Y	Y	S		Non SHS	O	O.M.	L		X	X	X			X
4	Contra Costa	OFF	230249	Construct grade separation underpass at Lone Tree Way and Union Pacific Railroad.	$19,000	Y	Y	S		Non SHS	O	O.M.	L			X	X			X
4	Contra Costa	OFF	230291	Construct northbound truck climbing lane from Clearbrook Drive in Concord to crest of Kirker Pass Road, includes 12-foot dedicated truck climbing lane, bike lane and 8-foot paved shoulder.	$10,200	Y	Y	S		Non SHS	O	O.M.	L			X	X			
4	Regional	SMART Rail		SMART Freight Spurs (Installation of additional freight spurs along publically owned SMART rail corridor in Marin, Napa and Sonoma Counties to comply with required Positive Train Control and promote economic competitiveness).	$5,000	Y		S		Non SHS	O	O.M.	L		X	X	X	X	X	X
4	Alameda	local		Alameda County Local Road Program						Non SHS	O	Preservation	B		X	X	X	X		
4	Alameda	Rail		RR ROW preservation and track improvements	$110,000					Non SHS	O	Preservation	C			X		X		
4	Alameda	Rail	230101	Union City Passenger Rail Station and Dumbarton Rail Segment G improvement;	$231,500	Y		M		Non SHS	O	Preservation	C							
4	Sonoma	SMART Rail		SMART Windsor Freight Sidings (expands mainline and siding capacity for freight rail to facilitate required Positive Train Control implementation and access to regional trans-shipment station).	$10,000	Y		S		Non SHS	O	Preservation	H		X	X	X	X	X	X
4	Alameda	local		Woodland/81st Avenue Industrial Zone Street Reconstruction						Non SHS	O	Preservation	L			X		X		
4	Alameda	local		Tidewater District Street Reconstruction						Non SHS	O	Preservation	L			X		X		
4	Alameda	local		Mandela Parkway/3rd Street Street Reconstruction						Non SHS	O	Preservation	L			X		X		
4	Regional	SMART Rail		Rail Bridge Systems Replacement Sonoma/Napa (replace and upgrade systems equipment on Blackpoint and Brazos bridges to include necessary signal systems, security monitoring and remote control equipment).	$5,000	N		S		Non SHS	O	Preservation	L		X	X	X	X	X	X

Caltrans District	County	Route or Facility ID	Project ID / Reference Number	Project / Program Title and Description	Total Project Cost (thousands)	Financially Constrained	Under Construction and Completely Funded	Short/Mid/ Long Term	Project of National and Regional Significance (PNRS)	Tier	Network Type	Project Type	Primary Facility Type	Secondary Facility Type	California Freight Mobility Plan Goals					
															Economic Competitiveness	Congestion Relief	Safety and Security	Freight System Infrastructure Preservation	Innovative Technology and Practices	Environmental Stewardship
4	Sonoma	OFF	240667	Implement Windsor River Road/Windsor Road/NWPRR Intersection improvements. Re-configure intersection and improve railroad, vehicle, pedestrian interface.	$8,800	Y	N	S		Non SHS	O	Preservation	L			X	X	X		X
4	Sonoma	SMART Rail		SMART Track Relocation off HWY 12 (relocate public rail line to remove two at-grade crossings of HWY 12 and accommodate growing freight traffic on HWY 12 and on rail)	$50,000	N		L		Non SHS	O	Preservation	L		X	X	X	X	X	X
4	Sonoma	SMART Rail		Shellville Yard Climate Adaptation (Rising sea levels jeopardize the functionality of the publically-owned SMART Brazos Junction branch line, with the Shellville yard rendered unusable during extreme wet weather. Long term needs may include relocation, raising or other treatment).	$75,000	N		L		Non SHS	O	Preservation	L		X	X	X	X	X	X
4	Sonoma	SMART Rail		Replace Russian River Rail Bridge in Healdsburg (enable freight services north of Windsor and connect publically-owned NCRA track to the CA and national rail network).	$25,000	Y		S		Non SHS	O	Preservation	L		X	X	X	X	X	X
4	Contra Costa	4	240355	Add an eastbound mixed-flow lane on Route 4 from the lane drop 1,500 feet west of Port Chicago Highway to east of Willow Pass Road (west) on-ramp.	$34,000	Y	N	M		SHS-No Tier	P	Cap. Expan.	C			X				
4	Contra Costa	4	240584	Add a westbound mixed-flow lane from east of Willow Pass Road (West) to the lane-add west of Willow Pass Road (West).	$27,000	Y	N	M		SHS-No Tier	P	Cap. Expan.	C			X				
4	Contra Costa	4	230206	Construct Route 4 Interchange at Balfour Road (Phase 1).	$46,400	Y	N	S		SHS-No Tier	P	Cap. Expan.	C			X				
4	Contra Costa	4	98999	Widen Route 4 from Somersville Road to Route 160 including improvements to interchanges.	$442,000	Y	Y	S		SHS-No Tier	P	Cap. Expan.	C			X				
4	Contra Costa	4	230202	State Route 4 Bypass: Widen from 2 to 4 lanes from Laurel Rd. to Sand Creek Rd.	$19,800	Y	Y	S		SHS-No Tier	P	Cap. Expan.	C			x				

Caltrans District	County	Route or Facility ID	Project ID / Reference Number	Project / Program Title and Description	Total Project Cost (thousands)	Financially Constrained	Under Construction and Completely Funded	Short/Mid/ Long Term	Project of National and Regional Significance (PNRS)	Tier	Network Type	Project Type	Primary Facility Type	Secondary Facility Type	California Freight Mobility Plan Goals					
															Economic Competitiveness	Congestion Relief	Safety and Security	Freight System Infrastructure Preservation	Innovative Technology and Practices	Environmental Stewardship
4	Contra Costa	4	230203	Construct Route 4 Bypass Interchange at Sand Creek Road.	$35,200	Y	Y	S		SHS-No Tier	P	Cap. Expan.	C			X				
4	Sonoma	37	TBD	State Route 37 corridor protection and enhancement project.	$2,000,000	N	N	L	Proposed	SHS-No Tier	P	Cap. Expan.	C		X	X	X	X	X	X
4	Alameda	580	21100	Modify I-580/Vasco Road interchange, includes widening I-580 overcrossing to provide 8 lanes and bike lanes/shoulders, constructing auxiliary lanes on I-580 between Vasco and First Street, widening Vasco Road to 8 lanes between Northfront Road and Las Positas Road.	$63,900	Y		M		Tier 1	P	Cap. Expan.	C		X	X	X	X		
4	Alameda	580	21116	Widen I-580 for HOV and auxiliary lanes eastbound from Hacienda Road to Greenville Road and westbound from Greenville Road to Foothill Road.	$226,000	Y		S		Tier 1	P	Cap. Expan.	C			X				
4	Alameda	580	240076	Construct auxiliary lanes on I-580 eastbound between Isabel Avenue and North Livermore Avenue, and North Livermore Avenue and First Street (includes widening the Arroyo Las Positas Bridge at two locations and providing additional improvements to accommodate future express lanes).	$41,300	Y		S		Tier 1	P	Cap. Expan.	C			X				
4	Solano	I-80	230468	Provide auxiliary lanes on I-80 in eastbound and westbound directions from I-680 to Airbase Parkway, add eastbound mixed-flow lane from Route 12 East to Airbase Parkway, and remove I-80/auto Mall hook ramps and C-D slip ramp.	$51,600	Y	N	M		Tier 1	P	Cap. Expan.	C			X	X			
4	Alameda	880	240047	Reconstruct I-880/A Street interchange, includes widening of A Street from 5 lanes to 6 lanes underneath overpass, adding additional freeway lane in each direction, modifying intersection and signal.	$64,000	Y		M		Tier 2	P	Cap. Expan.	C			X		X		
4	Alameda	880	230052	Construct auxiliary lanes on I-880 near Winton Avenue in Hayward.	$23,200	Y		M		Tier 2	P	Cap. Expan.	C			X				

Caltrans District	County	Route or Facility ID	Project ID / Reference Number	Project / Program Title and Description	Total Project Cost (thousands)	Financially Constrained	Under Construction and Completely Funded	Short/Mid/ Long Term	Project of National and Regional Significance (PNRS)	Tier	Network Type	Project Type	Primary Facility Type	Secondary Facility Type	California Freight Mobility Plan Goals					
															Economic Competitiveness	Congestion Relief	Safety and Security	Freight System Infrastructure Preservation	Innovative Technology and Practices	Environmental Stewardship
4	Alameda	880	230054	Construct auxiliary lanes on I-880 between Whipple Road and Industrial Parkway West.	$9,800	Y		S		Tier 2	P	Cap. Expan.	C			X				
4	Alameda	880/680	230114	Auto Mall Prkwy Cross Connector widening bt I-680 and I-880.	$25,000	Y		S		Tier 2	P	Cap. Expan.	C			X				
4	San Mateo	101	21603	US 101/ Woodside Road interchange improvements.	$72,540	Y	N	M	No	Tier 2	P	Cap. Expan.	C	C	X	X	X			
4	San Mateo	101	21606	US 101/ Willow Road interchange reconstruction.	$60,700	Y	N	S	No	Tier 2	P	Cap. Expan.	C	C	X	X	X			
4	San Mateo	101	240160	Construct southbound on-and off-ramps to U.S. 101 at Peninsula Avenue to add on and off ramps from southbound U.S. 101.	$6,400	Y	N	L		Tier 2	P	Cap. Expan.	C		X	X				
4	San Mateo	101	22279	Construct new interchange at U.S. 101/Produce Avenue.	$161,600	Y	N	M		Tier 2	P	Cap. Expan.	C		X	X				
4	San Mateo	101	21604	Add northbound and southbound modified auxiliary lanes on U.S. 101 from Oyster Point to San Francisco County line.	$76,700	Y	N	S		Tier 2	P	Cap. Expan.	C		X	X				
4	San Mateo	101	21608	Construct auxiliary lanes (one in each direction) on U.S. 101 from Marsh Road to Embarcadero Road.	$131,800	Y	Y	S		Tier 2	P	Cap. Expan.	C		X	X				
4	Santa Clara	101	22134	Construct a lane on southbound U.S. 101 using the existing median from south of Story Road to Yerba Buena Road; modify the U.S. 101/Tully Road Interchange to a partial cloverleaf.	$96,500	Y		M		Tier 2	P	Cap. Expan.	C			X		X		
4	Santa Clara	101	21714	Widen U.S. 101 from Monterey Street to Route 129 - project development.	$7,000	Y		S		Tier 2	P	Cap. Expan.	C			X				
4	Sonoma	101	98147	Implement Marin/Sonoma Narrows project Phase 2 (Sonoma County).	$220,000	Y	N	M		Tier 2	P	Cap. Expan.	C		X	X		X		
4	Contra Costa	680	22602	Construct auxiliary lane on I-680 in both directions between Sycamore Valley Road in Danville to Crow Canyon Road in San Ramon.	$34,000	Y	Y	S		Tier 3	P	Cap. Expan.	C			X				
4	Alameda	880/local	240264	Widen Fremont Blvd from I-880 to Grimmer Blvd.	$4,800	Y		M		Non SHS	P	Cap. Expan.	C			X				
4	Contra Costa	4	230205	Widen Route 4 Bypass form 2 to 4 lanes from Sand Creek to Balfour Rd.	$22,400		N	S		SHS-No Tier	P	Cap. Expan.	H			X				

Caltrans District	County	Route or Facility ID	Project ID / Reference Number	Project / Program Title and Description	Total Project Cost (thousands)	Financially Constrained	Under Construction and Completely Funded	Short/Mid/ Long Term	Project of National and Regional Significance (PNRS)	Tier	Network Type	Project Type	Primary Facility Type	Secondary Facility Type	California Freight Mobility Plan Goals					
															Economic Competitiveness	Congestion Relief	Safety and Security	Freight System Infrastructure Preservation	Innovative Technology and Practices	Environmental Stewardship
4	Solano	I-80	22632	Widen American Canyon Rd overpass at I-80.	$12,300	Y		M		Tier 1	P	Cap. Expan.	L			X		X		
4	Alameda	880	22779	Improve Route 262/I-880 interchange (Phase 2), which involves grade separation at Warren Avenue/Union Pacific Rail Road.	$80,000	Y		S		Tier 2	P	Comm. And Env't Mit.	C			X				
4	Solano	I-80		WB truck scales relocation	$160,000	N			No	Tier 1	P	O.M.	B			X	X			
4	Alameda	OFF	240394	Implement Alameda County's Goods Movement Program (includes improvements for goods movement by truck and coordinated with rail and air).	$80,000	Y		M		Non SHS	P	O.M.	B							
4	Alameda	580	230132	Improve I-580/Isabel/Route 84 interchange, includes providing 6-lanes over I-580 at Isabel/Route 84 interchange and 4-lanes over I-580 at Portola flyover.	$31,000	Y		M		Tier 1	P	O.M.	C			X		X		
4	Alameda	580		I-580/Fallon and I-580/Hacienda Interchange Improvements.						Tier 1	P	O.M.	C			X		X		
4	Alameda	580	21475	I-580/First St Interchange Improvements.	$44,000			L		Tier 1	P	O.M.	C			X				
4	Alameda	580	21489	I-580/Santa Rita Rd Interchange Improvements.	$3,700	Y		S		Tier 1	P	O.M.	C			X				
4	Alameda	880	230066	Improve I-880/Marina Boulevard interchange (includes on-and off-ramp improvements, overcrossing modification and street improvements).	$33,900	Y		S		Tier 1	P	O.M.	C							
4	Contra Costa	80	230597	Implement I-80 Integrated Corridor Mobility Project (includes the installation/upgrade of corridor management elements along the I-80 corridor (Phase 1) and along parallel and connecting arterials (Phase 2) to allow sharing of real-time traveler information among public agencies and the public).	$28,200	Y	Y	S	No	Tier 1	P	O.M.	C							X	
4	Contra Costa	I-80	22360	Reconstruct I-80/San Pablo Dam Rd Interchange.	$114,000	Y	N	S		Tier 1	P	O.M.	C			X		X		
4	Contra Costa	I-80	22355	Modify I-80/Central Avenue Interchange	$24,700	Y	N	S		Tier 1	P	O.M.	C			X				
4	Solano	80/680/12		I-80/I-680/SR 12 Interchange	$600,000					Tier 1	P	O.M.	C			X				

Caltrans District	County	Route or Facility ID	Project ID / Reference Number	Project / Program Title and Description	Total Project Cost (thousands)	Financially Constrained	Under Construction and Completely Funded	Short/Mid/ Long Term	Project of National and Regional Significance (PNRS)	Tier	Network Type	Project Type	Primary Facility Type	Secondary Facility Type	California Freight Mobility Plan Goals					
															Economic Competitiveness	Congestion Relief	Safety and Security	Freight System Infrastructure Preservation	Innovative Technology and Practices	Environmental Stewardship
4	Solano	I-80	230326	Improve I-80/I-680/Route 12 Interchange (Phase 1), includes widen I-80 and I-680 and improve direct freeway to freeway connections.	$578,000	Y		S		Tier 1	P	O.M.	C			X	X			
4	Solano	I-80	240213	I-80/Lagoon Valley Rd Interchange Improvements.	$10,300	Y		S		Tier 1	P	O.M.	C			X		X		
4	Alameda	880	240052	I-880/Whipple Rd Interchange Improvements.	$61,900	Y		S		Tier 2	P	O.M.	C			X				
4	Marin	101	98154	Implement Marin Sonoma Narrows Phase 1 (Marin County).	$222,000	Y		S		Tier 2	P	O.M.	C			X				
4	Marin	US-101	240691	Implement Marin Sonoma Narrows HOV lane and corridor improvements.	$119,000	Y		M		Tier 2	P	O.M.	C			X				
4	San Mateo	101	22282	Improve operations at U.S. 101 near Route 92.	$221,300	Y	N	M		Tier 2	P	O.M.	C		X	X		X		
4	Santa Clara	101	240436	Improve southbound US 101 between San Antonio Road and Carlston Road/Rengstorff Road.	$51,400	Y		L		Tier 2	P	O.M.	C			X		X		
4	Santa Clara	101	240441	Improve interchange at US 101/Oregon Expressway/Embarcadero Road.	$128,300	Y		L		Tier 2	P	O.M.	C			X		X		
4	Santa Clara	101	22979	Improve interchange at U.S. 101/Zanker Road/Skyport Drive/Fourth Street.	$112,500	Y		M		Tier 2	P	O.M.	C			X		X		
4	Santa Clara	101	22845	Construct auxiliary lane on southbound U.S. 101 from Ellis Street to eastbound Route 237.	$4,100	Y		M		Tier 2	P	O.M.	C			X				
4	Santa Clara	101	230410	Construct auxiliary lane on southbound U.S. 101 from Great America Parkway to Lawrence Expressway.	$3,100	Y		M		Tier 2	P	O.M.	C			X				
4	Santa Clara	880	230363	Interchange at I-880 and Montague Expressway.	$14,300	Y		M		Tier 2	P	O.M.	C			X				
4	Contra Costa	680	21205	Improve I-680/Route 4 interchange (includes connecting northbound I-680 to westbound State Route 4, connecting eastbound State Route 4 to southbound I-680, and widening SR4 between Morello and SR242).	$204,700	Y	N	S		Tier 3	P	O.M.	C			X		X		

Caltrans District	County	Route or Facility ID	Project ID / Reference Number	Project / Program Title and Description	Total Project Cost (thousands)	Financially Constrained	Under Construction and Completely Funded	Short/Mid/ Long Term	Project of National and Regional Significance (PNRS)	Tier	Network Type	Project Type	Primary Facility Type	Secondary Facility Type	California Freight Mobility Plan Goals					
															Economic Competitiveness	Congestion Relief	Safety and Security	Freight System Infrastructure Preservation	Innovative Technology and Practices	Environmental Stewardship
4	Contra Costa	680	22350	Improve I-680/Route 4 interchange Phases 4 and 5 (includes connecting southbound I-680 to eastbound State Route 4, connecting westbound State Route 4 to northbound I-680, and constructing HOV flyover ramps from westbound State Route 4 to I-680 southbound from I-680 northbound to eastbound State Route 4.	$220,700	Y	N	M		Tier 3	P	O.M.	C			X					
4	Santa Clara	680	230370	Improve interchange at I-680/Montague Expressway.	$27,300	Y		M		Tier 3	P	O.M.	C			X		X		
4	Alameda	880	98207	Construct Bus Rapid Transit facility from Alameda Naval Station to 12th Street BART station, improve freeway weaving at I-880/I-980 interchange, construct new on-ramp at Market Street/6th Street and off-ramp at Martin Luther King Way/5th Street, improve operations at Posey and Webster Tubes, construct park and ride on Mariner Square Drive near Posey Tube entrance, add Intelligent Transportation Systems (ITS) elements on Webster Street, Ralph Appezatto Memorial Parkway, 6th Street, 5th Street, Broadway, Harrison Street, and 7th Street (Phase 1).	$83,000	Y		S		Tier 1	P	O.M.	L		X	X				
4	Contra Costa	I-80	240624	Implement I-80 Integrated Corridor Mobility (ICM) Project Operations and Management - Local Portion - Maintenance.	$3,200	Y	Y	S		Tier 1	P	O.M.	L			X				
4	Sonoma	101	240529	Improve interchange at Hearn Avenue at US 101.	$46,000	Y	N	M		Tier 2	P	O.M.	L			X		X		

Caltrans District	County	Route or Facility ID	Project ID / Reference Number	Project / Program Title and Description	Total Project Cost (thousands)	Financially Constrained	Under Construction and Completely Funded	Short/Mid/ Long Term	Project of National and Regional Significance (PNRS)	Tier	Network Type	Project Type	Primary Facility Type	Secondary Facility Type	California Freight Mobility Plan Goals					
															Economic Competitiveness	Congestion Relief	Safety and Security	Freight System Infrastructure Preservation	Innovative Technology and Practices	Environmental Stewardship
4	Alameda	OFF	230170	Improve 42nd Avenue and High Street, includes extending and aligning 42nd Avenue with Alameda Avenue to create road parallel to High Street, widening High Street between Oakport Street and Coliseum Way, realigning E. 8th Street near Alameda Avenue, and modifying traffic signals and other intersection improvements.	$17,700	Y		S		Non SHS	P	O.M.	L			X				
4	Alameda	580		I-580/Santa Rita Rd Interchange Improvements	NA				No	Tier 1	P	Preservation	C			X		X		
4	Alameda	580	21477	Reconstruct I-580/Greenville road interchange	$53,900	Y		L		Tier 1	P	Preservation	C					X		
4	Alameda	880	22100	Replace overcrossing structure at I-880/Davis Street interchange and add additional travel lanes on Davis Street (includes ramp, intersection and signal improvements).	$10,900	Y		S		Tier 1	P	Preservation	C				X	X		
4	Alameda	I-80	21144	I-80/Gilman St Reconfiguration	$26,000	Y		S		Tier 1	P	Preservation	C		X	X	X	X		X
4	Alameda	880	240025	Reconstruct interchange at I-880/Industrial Parkway to provide a northbound off-ramp and a southbound HOV bypass lane on the southbound loop off-ramp (includes reconstruction of bridge over I-880).	$64,800	Y		M		Tier 2	P	Preservation	C			X		X		
4	Alameda	880	240037	Reconstruct I-880/West Winton Avenue interchange	$25,600	Y		M		Tier 2	P	Preservation	C					X		
4	San Mateo	101	22756	Reconstruct U.S. 101/Candlestick Point interchange to full all-directional interchange.	$209,000	Y	N	M		Tier 2	P	Preservation	C			X		X		
4	Santa Clara	101	230531	Construct auxiliary lanes on U.S. 101 in Mountain View and Palo Alto, from Route 85 to Embarcadero Road.	$105,600	Y		S		Tier 2	P		C							
4	Solano	505	240210	I-505/Vaca Valley Parkway Interchange Improvements	$1,500	Y		S		Tier 3	P									
4	Alameda	SR-92	240015	New interchange at Route 92/Whitesell Street	$78,300	Y		M		SHS-No Tier	S	Cap. Expan.	C			X				

Caltrans District	County	Route or Facility ID	Project ID / Reference Number	Project / Program Title and Description	Total Project Cost (thousands)	Financially Constrained	Under Construction and Completely Funded	Short/Mid/ Long Term	Project of National and Regional Significance (PNRS)	Tier	Network Type	Project Type	Primary Facility Type	Secondary Facility Type	California Freight Mobility Plan Goals					
															Economic Competitiveness	Congestion Relief	Safety and Security	Freight System Infrastructure Preservation	Innovative Technology and Practices	Environmental Stewardship
4	Contra Costa	160	98222	Construct freeway-to-freeway direct connectors between Route 4 Bypass and Route 160	$53,300	Y	Y	S		SHS-No Tier	S	Cap. Expan.	C			X				
4	Napa	12/29	94075	Constructs an interchange at the intersection of Route 12/29/ Airport Road, grade separated in Napa County. Environmental underway.	$5,900	Y		S		SHS-No Tier	S	Cap. Expan.	C			X				
4	San Mateo	SR-84	21612	Improve access to and from the west side of Dumbarton Bridge on Route 84 connecting to U.S. 101, includes flyovers, interchange improvements, and conversion of Willow Road between Route 84 and U.S. 101 to expressway.	$64,400	Y	N	L		SHS-No Tier	S	Cap. Expan.	C		X	X				
4	San Mateo	SR-92	21613	Widen Route 92 between San Mateo-Hayward Bridge to I-280, includes uphill passing lane from U.S. 101 to I-280.	$35,300	Y	N	L		SHS-No Tier	S	Cap. Expan.	C		X	X		X		
4	San Mateo	SR-92	94644	Construct a westbound slow vehicle lane on Route 92 between Route 35 and I-280.	$20,900	Y	N	L		SHS-No Tier	S	Cap. Expan.	C		X	X				
4	Santa Clara	152	230294	Widen and create new alignment for Route 152 (from Route 156 to U.S. 101)	$917,500	Y		M		Tier 2	S	Cap. Expan.	C			X		X		
4	Solano	OFF	240739	Dredge Channel to Port of Stockton	$17,500	Y		M		Non SHS	S	Cap. Expan.	G		X					
4	Alameda	262	230110	Improve Route 262 Mission Boulevard cross connector, includes widening Mission Boulevard to 3 lanes in each direction through I-680 interchange, extend westbound right turn lane from Warm Springs to Mohave, extend westbound left turn lanes at Warm Springs, rebuild northbound and southbound I-680 on and off ramps .	$20,100	Y		S		SHS-No Tier	S	Cap. Expan.	L			X				
4	Alameda	local		Berkeley Railroad Crossing Improvements		N				Non SHS	S	O.M.	B		X			X		
4	Alameda	OFF	240208	Improve highway-rail grade crossings at four crossings in Fremont.	$3,200	Y		S		Non SHS	S	O.M.	B		X		X	X		X
4	Santa Clara	237	240468	Improve connector ramp at Route 237 westbound to Route 85 southbound (includes auxiliary lanes on Route 85 between El Camino Real and Route 87).	$94,100	Y		L		SHS-No Tier	S	O.M.	C			X		X		
4	Alameda			Mowry Avenue Railroad Overpass		N				Non SHS	S	O.M.	C		X			X		

Caltrans District	County	Route or Facility ID	Project ID / Reference Number	Project / Program Title and Description	Total Project Cost (thousands)	Financially Constrained	Under Construction and Completely Funded	Short/Mid/ Long Term	Project of National and Regional Significance (PNRS)	Tier	Network Type	Project Type	Primary Facility Type	Secondary Facility Type	California Freight Mobility Plan Goals					
															Economic Competitiveness	Congestion Relief	Safety and Security	Freight System Infrastructure Preservation	Innovative Technology and Practices	Environmental Stewardship
4	Santa Clara	OFF	22811	Improve railroad crossing at Church Avenue/Monterey Highway (includes adjusting grade).	$800	Y		S		Non SHS	S	O.M.	C			X		X		
4	Alameda	Port of Oakland		Cool Port Oakland: Frozen/Refrigerated Logistics Facility.	$75,000	N	N	S		Non SHS	S	O.M.	G		X				X	X
4	Solano	rail		Cannon Road Grade Separation (Fairfield)	$20,000					Non SHS	S	O.M.	L			X				X
4	Alameda	262	22990	Widen Route 262 from I-880 to Warm Springs Boulevard (includes reconstructing Route 262/I-880 and Route 262/Kato Road interchanges) and reconstruct Union Pacific Railroad underpasses.	$61,900	Y		S		SHS-No Tier	S	Preservation	C			X		X		
4	Alameda	SR-92	240562	Rt 92/Clawiter Rd/Whitesell St Interchange Improvements (Phase 2)	$55,400	Y		M		SHS-No Tier	S	Preservation	C							
4	Alameda	SR-92	21093	Rt 92/Clawiter Rd/Whitesell St Interchange Improvements (Phase 1)	$27,500	Y		S		SHS-No Tier	S	Preservation	C							
4	Alameda	Port of Oakland		Berths 60-63 Seismic Replacement and Berth Deepening	$100,000	N	N	M		Non SHS	S	Preservation	G		X		X	X		
4	Contra Costa	239	22400	Conduct environmental and design studies to create a new alignment for SR239 and develop corridor improvements from Brentwood to Tracy - project development	$30,000	Y	N	M		SHS-No Tier	S	Cap. Expan.	C							
4	Santa Clara	152	240532	Improve interchanges on Route 152 at Frazier Lake Road, Bloomfield Road, Watsonville Road, and Ferguson Road	$10,300	Y		M		Tier 2	N	O.M.	C			X		X		
4	Alameda	local	240055	Tennyson Road Grade Separation	$14,000			M		Non SHS	O	O.M.	L		X	X				X
4	Solano	rail		A Street Grade Separation (Dixon)	$35,000					Non SHS	O	O.M.	L			X				X
5	Monterey	MON	N/A	Add Capacity: Construct intermodal truck-to-rail transfer facility in Gonzales or Chualar along Union Pacific Coast Mainline.	$20,000	N		L		Non SHS	O				X			X	X	
5	San Luis Obispo			SMVRR. Rebuild San Luis Obispo Rail Yard Facility. New Track.	$3,479			M		Non SHS	O									
5	Santa Barbara			SMVRR. Rebuild Betteravia Yard Track and extend lead tracks. New Track and Track rehab	$5,949			L		Non SHS	O									
5	Santa Barbara			SMVRR. Build new rail yard facility and industrial Park. New Track.	$5,545			M		Non SHS	O									

Caltrans District	County	Route or Facility ID	Project ID / Reference Number	Project / Program Title and Description	Total Project Cost (thousands)	Financially Constrained	Under Construction and Completely Funded	Short/Mid/ Long Term	Project of National and Regional Significance (PNRS)	Tier	Network Type	Project Type	Primary Facility Type	Secondary Facility Type	California Freight Mobility Plan Goals					
															Economic Competitiveness	Congestion Relief	Safety and Security	Freight System Infrastructure Preservation	Innovative Technology and Practices	Environmental Stewardship
5	Santa Barbara			SMVRR. Upgrade Ray Road Crossing	$315			S		Non SHS	O									
5	Santa Barbara			SMVRR. Upgrade Betteravia Junction Crossing	$514			S		Non SHS	O									
5	Santa Barbara			SMVRR. Upgrade Track Main Line - Fourth h Phase. Upgrade main line track from Betteravia Junction Crossing to Sinton Road Crossing. Track Rehabilitation.	$561			S		Non SHS	O									
5	Santa Barbara			SMVRR. Upgrade Track Main Line - Fifth Phase. Upgrade Main Line Track From Sinton Crossing to Black Road Crossing. Track Rehabilitation.	$561			S		Non SHS	O									
5	Santa Barbara			SMVRR. Upgrade Brown Road Crossing	$659			S		Non SHS	O									
5	Santa Barbara			SMVRR. Upgrade Track Main Line - Second Phase. Upgrade main line track from Green Canyon Trestle to Brown Road Crossing. Track Rehabilitation.	$1,031			S		Non SHS	O									
5	Santa Barbara			SMVRR. Upgrade Track Main Line - Third Phase. Upgrade main line track from Brown Road Crossing to Betteravia Junction. Track Rehabilitation.	$1,054			S		Non SHS	O									
5	Santa Barbara			SMVRR. Upgrade Track Main Line - First Phase. Upgrade Main Line Track. Track Rehabilitation.	$1,211			S		Non SHS	O									
5	Santa Barbara			SMVRR. Double Track Main Line - Second Phase. Double track main line from Brown Road Crossing and tie into Gum Siding. New Track.	$2,614			S		Non SHS	O									
5	Santa Barbara			SMVRR. Double Track Main Line - First Phase. Double track main line from south end of SMV Interchange Yard to Green Canyon. New Track	$3,120			S		Non SHS	O									
5	San Benito	SBT_156	CT036SB	Add Capacity & Access Control: widen to 4 lanes to address congestion and truck mobility	$69,611	Y		S		SHS-No Tier	N	Cap. Expan.			X	X				
5	Santa Barbara	SB_166	CT-IL-106	Add Capacity & Access Control: widen to 4 lanes to address congestion and truck mobility.	$50,000	N				SHS-No Tier	N	Cap. Expan.			X	X				

Caltrans District	County	Route or Facility ID	Project ID / Reference Number	Project / Program Title and Description	Total Project Cost (thousands)	Financially Constrained	Under Construction and Completely Funded	Short/Mid/ Long Term	Project of National and Regional Significance (PNRS)	Tier	Network Type	Project Type	Primary Facility Type	Secondary Facility Type	California Freight Mobility Plan Goals					
															Economic Competitiveness	Congestion Relief	Safety and Security	Freight System Infrastructure Preservation	Innovative Technology and Practices	Environmental Stewardship
5	Monterey	MON_101	CT031, CT044	Freeway Conversion: new frontage roads (Phase 1) & new interchange at Harris Rd (Phase 2) to address corridor and truck mobility.	$169,700	Y		L		Tier 3	N	Cap. Expan.			X	X	X			
5	Monterey	MON_156	CT022, CT036	Add Capacity & Control Access: widen to 4 lanes & freeway conversion to address congestion and truck mobility; modify interchange. Phases 1 & 2.	$304,000	N				Tier 3	N	Cap. Expan.			X	X				
5	San Luis Obispo	SLO_101	NTH-HWYS-021	Freeway Conversion: new interchange to address corridor and truck mobility	$32,350	N				Tier 3	N	Cap. Expan.			X	X	X	X	X	
5	San Luis Obispo	SLO_46	NTH-HPRI-003	Add Capacity: widen to 4 Lanes; expressway conversion; modify intersection to address congestion and truck mobility	$44,800	Y			Proposed	Tier 3	N	Cap. Expan.			X	X	X	X	X	X
5	San Luis Obispo	SLO_46	NTH-HPRI-004	Add Capacity: widen to 4 lanes to address congestion and truck mobility.	$69,900	Y			Proposed	Tier 3	N	Cap. Expan.			X	X	X	X	X	X
5	Santa Barbara	SB_101	CT-MA-100	Add Capacity: add part time HOV lanes to address commuter travel and truck congestion; modify interchange at Hot Springs Rd/Cabrillo Blvd and Sheffield Drive.	$477,200	Y		S	Proposed	Tier 3	N	Cap. Expan.			X	X		X	X	
5	Santa Barbara	Union Pacific	CT-IL-701	Track realignment; overpass replacement (Highway 1)	$62,000	N				Non SHS	N	Cap. Expan.			X			X		
5	Santa Barbara	Union Pacific	CT-IL-702	Rail siding extension; Island CTC (Guadalupe)	$20,000	N				Non SHS	N	Cap. Expan.			X			X		
5	Santa Barbara	Union Pacific	CT-IL-703	Rail siding extension; Island CTC (Waldorf)	$12,000	N				Non SHS	N	Cap. Expan.			X			X		
5	Santa Barbara	Union Pacific	CT-IL-705	Rail siding extension; Island CTC (Tangair)	$12,000	N				Non SHS	N	Cap. Expan.			X			X		
5	Santa Barbara	Union Pacific	CT-IL-708	Rail siding extension; Island CTC (Capitan)	$10,000	N				Non SHS	N	Cap. Expan.			X			X		
5	Santa Barbara	Union Pacific	CT-IL-709	Track extension (Goleta)	$10,000	N				Non SHS	N	Cap. Expan.			X			X		
5	Santa Barbara	Union Pacific	CT-700	Construct new rail siding (Ortega)	$14,450	Y		S	Proposed	Non SHS	N	Cap. Expan.			X					
5	Santa Barbara	Union Pacific	CT-701	Construct new rail siding (Seacliff)	$9,870	Y		S	Proposed	Non SHS	N	Cap. Expan.			X					
5	Santa Barbara	Union Pacific	CT-IL-704	Track realignment (Devon to Tangair)	$196,000	N				Non SHS	N	Cap. Expan.			X					

Caltrans District	County	Route or Facility ID	Project ID / Reference Number	Project / Program Title and Description	Total Project Cost (thousands)	Financially Constrained	Under Construction and Completely Funded	Short/Mid/ Long Term	Project of National and Regional Significance (PNRS)	Tier	Network Type	Project Type	Primary Facility Type	Secondary Facility Type	California Freight Mobility Plan Goals					
															Economic Competitiveness	Congestion Relief	Safety and Security	Freight System Infrastructure Preservation	Innovative Technology and Practices	Environmental Stewardship
5	Santa Barbara	Union Pacific	CT-IL-706	Track realignment (various locations in SB County)	$677,000	N				Non SHS	N	Cap. Expan.			X					
5	Santa Barbara	Union Pacific	CT-IL-710	Construct new rail siding (Sandyland)	$15,000	N				Non SHS	N	Cap. Expan.			X					
5	Santa Barbara	Union Pacific	CT-IL-712	Construct new rail siding (Carpinteria)	$10,000	N				Non SHS	N	Cap. Expan.			X					
5	Santa Cruz	Union Pacific	RTC-P41	Upgrade to Class 2 rail	$20,000	N				Non SHS	N	Cap. Expan.			X					
5	Monterey	MON_1	MYC099	Operational Improvements: modify SR 1 interchange to add EB connection to SR 156; modify SR 183 intersection to address corridor connectivity and truck mobility.	TBD	N				SHS-No Tier	N	O.M.			X	X	X			X
5	San Luis Obispo	SLO_166	STH-HWYS-010	Operational Improvements: new passing lanes.	$36,660	N				SHS-No Tier	N	O.M.			X	X	X	X	X	X
5	Monterey	MON_101	SNS122	Operational Improvements: modify SB off-ramps to address truck congestion.	$3,100	Y				Tier 3	N	O.M.			X	X	X			
5	Monterey	MON_101	CT030	Operational Improvements: modify interchanges; ramp metering.	$52,000	Y		L		Tier 3	N	O.M.						X		
5	Monterey	MON_156	MYC107	Operational Improvements: modify interchange to address corridor and truck connectivity.	TBD	N				Tier 3	N	O.M.			X	X				
5	San Luis Obispo	SLO_101	STH-HWYS-007	Operational Improvements: TBD from 4th St in Pismo Beach to Avila Beach Dr.	$60,000	N				Tier 3	N	O.M.			X	X	X	X	X	X
5	San Luis Obispo	SLO_101	TBD	Operational Improvements: intersection control evaluation.	$8,940	N				Tier 3	N	O.M.			X	X	X	X	X	X
5	San Luis Obispo	SLO_41	NTH-HPRI-006	Operational Improvements: new climbing lane.	$32,760	Y				Tier 3	N	O.M.			X	X	X	X	X	X
5	San Luis Obispo	SLO_46	NTH-HPRI-007	Operational Improvements: new overcrossing.	$43,130	N			Proposed	Tier 3	N	O.M.			X	X	X	X	X	X
5	San Luis Obispo	SLO_46	NTH-HPRI-008	Operational Improvements: new interchange to improve corridor and truck mobility.	$60,380	N			Proposed	Tier 3	N	O.M.			X	X	X	X	X	X
5	Santa Barbara	SB_101	CT-PL-100	Relocate and expand roadside rest area	$20,800	N		L		Tier 3	N	O.M.					X			
5	Santa Barbara	SB_101	SM-MA-101	Operational Improvements: modify NB on-ramp to address truck congestion	$7,617	Y		S		Tier 3	N	O.M.				X				
5	San Luis Obispo	Union Pacific	SLO-R-001	Centralized Traffic Control (PM 205-230).	$25,000	N		S		Non SHS	N	O.M.			X	X	X	X	X	

Caltrans District	County	Route or Facility ID	Project ID / Reference Number	Project / Program Title and Description	Total Project Cost (thousands)	Financially Constrained	Under Construction and Completely Funded	Short/Mid/ Long Term	Project of National and Regional Significance (PNRS)	Tier	Network Type	Project Type	Primary Facility Type	Secondary Facility Type	California Freight Mobility Plan Goals					
															Economic Competitiveness	Congestion Relief	Safety and Security	Freight System Infrastructure Preservation	Innovative Technology and Practices	Environmental Stewardship
5	San Luis Obispo	Union Pacific	SLO-R-002	Centralized Traffic Control (PM 245-276).	$36,000	N		S		Non SHS	N	O.M.			X	X	X	X	X	
5	San Luis Obispo	Union Pacific	SLO-R-007	Install power switches (McKay East).	$3,000	Y		S		Non SHS	N	O.M.			X	X	X	X	X	
5	San Luis Obispo	Union Pacific	SLO-R-004	Add second track on north side of Cuesta Ridge to accommodate a second main rail line.	$75,000	N		L		Non SHS	N	O.M.			X	X	X	X		
5	San Luis Obispo	Union Pacific	SLO-R-005	Rail siding extension (Templeton)	$10,000	Y		M		Non SHS	N	O.M.			X	X	X	X		
5	San Luis Obispo	Union Pacific	SLO-R-006	Rail siding extension (Wellsona)	$11,000	Y		M		Non SHS	N	O.M.			X	X	X	X		
5	Monterey	MON_156	MYC147	Add Capacity: Blackie Road extension to SR 156 to provide connection from Castroville industrial area to SHS.	$18,000	Y				Tier 3	O	Cap. Expan.			X					
5	Santa Barbara	Union Pacific	CT-IL-707	Centralized Traffic Control	$30,000	N				Non SHS	O	O.M.							X	
6	Kern	SR 119	58 / KER08RTP022	Widen SR 119 from 2 to 4 lanes btw SR 33 to Cherry Ave, and to Elk Hills Rd	$115,000	N	N	L	No	SHS-No Tier	O	Cap. Expan.	C		X	X				
6	Kern	SR 119	59 / KER08RTP086	Widen SR 119 from 2 to 4 lanes from Elk Hills Rd to I-5, and to Buena Vista.	$80,000	N	N	L	No	SHS-No Tier	O	Cap. Expan.	C		X	X				
6	Kern	SR 223	54	Widen SR 223 from 2 to 4 lanes and associated improvements.	$125,000	N	N	L	No	SHS-No Tier	O	Cap. Expan.	C		X	X				
6	Kern	SR 43	66 / KER08RTP030	Widen SR 43 from SR 119 to Shafter.	$37,000	N	N	M	No	SHS-No Tier	O	Cap. Expan.	C		X	X				
6	Kern	SR 14	KER08RTP006 KER08RTP017	Redrock/Iyk Rd to SR-178, widen to 4-lane expressway.	$110,710	Y	N	L	No	Tier 3	O	Cap. Expan.	C		X		X			
6	Kern	SR 46	67 / Various	Widen SR 46 from 2 to 4 lanes between SR 99 and Lost Hills.	$490,000	N	N	M	No	Tier 3	O	Cap. Expan.	C		X	X				
6	Kern	7th Standard Rd	45 / KER08RTP072	Widen 7th Standard Road from I-5 to Sante Fe Way.	$90,000	N	N	M	No	Non SHS	O	Cap. Expan.	C		X	X				
6	Kern	RAIL (UPRR)	P. 5-18	Double-track sections from Bakersfield to Mojave.	$112,000	Y	Y	S	No	Non SHS	O	Cap. Expan.	C			X				

Caltrans District	County	Route or Facility ID	Project ID / Reference Number	Project / Program Title and Description	Total Project Cost (thousands)	Financially Constrained	Under Construction and Completely Funded	Short/Mid/ Long Term	Project of National and Regional Significance (PNRS)	Tier	Network Type	Project Type	Primary Facility Type	Secondary Facility Type	California Freight Mobility Plan Goals					
															Economic Competitiveness	Congestion Relief	Safety and Security	Freight System Infrastructure Preservation	Innovative Technology and Practices	Environmental Stewardship
6	Kern	West Beltway	85 / Various	Develop Bakersfield West Beltway	$450,000	N	N	M	No	Non SHS	O	Cap. Expan.	C		X	X				
6	Kern	Inland Port	92/ P. 5-23	Shafter Inland Port Phase II and III	$60,000	N	N	M	No	Non SHS	O	Cap. Expan.	H		X				X	
6	Kern	Inland Port	none	Shafter Intermodal Rail Facility	$30,000	Y	Y	S	No	Non SHS	O	Cap. Expan.	H		X	X				
6	Kern	Rail (Intermodal)	91 / P. 5-23	Expansion of Railex Facility at Delano.	$3,000	Y	N	M	No	Non SHS	O	Cap. Expan.	H		X				X	
6	Kern	Rail (SJVR)	94	Expand capacity for new unit oil trains (Buttonwillow / Sunset hub) Phases 1 & 2.	$14,000	Y	Y	S	No	Non SHS	O	Cap. Expan.	H		X				X	
6	Fresno	Regional Transportation Center	z	Construction of a clean air alternative fueling center for compressed natural gas (CNG), ultra Low Sulfer Diesel, bio-diesel and E-85 ethanol fuel.	$1,195	Y	Y	M	No	Non SHS	O	Comm. And Env't Mit.							X	X
6	Kern	SR 155	KER08RTP120	Rt 155 @ UPRR - construct grade separation.	$40,000	N	N	L	No	SHS-No Tier	O	O.M.	C			X	X			
6	Kern	SR-184	KER08RTP108	At Union Pacific Railroad - construct grade separation .	$26,000	Y	Y	M	No	SHS-No Tier	O	O.M.	C			X	X			X
6	Kern	SR 58	KER08RTP118	Rosedale Hw y @ Minkler Spur / Landco - construct grade separation.	$27,000	Y	N	L	Proposed	Tier 2	O	O.M.	C		X	X				
6	Kern	SR 46	KER08RTP119	Rt 46 @ BNSF - construct grade separation upgrade / widening.	$40,000	N	N	L	No	Tier 3	O	O.M.	C			X	X			
6	Kern	Mojave Spaceport	56 / P. 5-23	Mojave Airport Rail Access Improvements.	$1,500	N	N	M	No	Non SHS	O	O.M.	H		X				X	
6	Kern	Rail (Intermodal)	57	Meadows Field Airport Cargo Improvements.	$100,000	N	N	M	No	Non SHS	O	O.M.	H		X				X	
6	Kern	Rail (SJVR)	89 / P. 5-23	SJVR-Shortline Rail Improvements - throughout Southern SJV.	$8,535	N	N	M	No	Non SHS	O	O.M.	H		X			X		
6	Kern	SR 65	77/ KER08RTP039	Widen SR 65 to 4 lanes Merle Haggard Drive to County Line.	$216,000	N	N	S	No	SHS-No Tier	P	Cap. Expan.	C		X	X				
6	Tulare	SR 65	106	Widen SR 65 in Tulare County (4 phases), county line to SR 190.	$255,000	Y	N	M		SHS-No Tier	P	Cap. Expan.	C		X	X				
6	Kern	I-5	15e / KER08RTP027	Widen I-5 between Fort Tejon and SR 99.	$86,000	N	N	M	Proposed	Tier 1	P	Cap. Expan.	C		X	X				
6	Kern	SR 99	99h / KER08RTP138	Widen SR 99 from Beardsley Canal to 7th Standard Road.	$90,800	Y	N	L	Proposed	Tier 1	P	Cap. Expan.	C		X	X				
6	Kern	SR 99	99i	Widen SR 99 between SR 223 and SR 119.	$52,000	N	N	S	Proposed	Tier 1	P	Cap. Expan.	C		X	X				

Caltrans District	County	Route or Facility ID	Project ID / Reference Number	Project / Program Title and Description	Total Project Cost (thousands)	Financially Constrained	Under Construction and Completely Funded	Short/Mid/ Long Term	Project of National and Regional Significance (PNRS)	Tier	Network Type	Project Type	Primary Facility Type	Secondary Facility Type	California Freight Mobility Plan Goals					
															Economic Competitiveness	Congestion Relief	Safety and Security	Freight System Infrastructure Preservation	Innovative Technology and Practices	Environmental Stewardship
6	Kings	I-5	NEW	Widen I-5 from 2 to 4 lanes between Kern and Fresno Counties.	$80,000	N	N	M		Tier 1	P	Cap. Expan.	C	C	X	X	X			
6	Tulare	SR 99	99g	Widen SR 99 from Kern County line to Avenue 200.	$332,500	N	N	L		Tier 1	P	Cap. Expan.	C		X	X				
6	Tulare	SR 99	99f	Widen SR 99 from Avenue 200 to 1.2m south of Avenue 280.	$186,800	Y	N	M		Tier 1	P	Cap. Expan.	C		X	X				
6	Kern	SR 58	73 / KER08RTP034	New SR 58 Truck Weigh Station (near General Beale Road).	$11,000	N	N	L	Proposed	Tier 2	P	Cap. Expan.	C		X		X			
6	Kern	SR 58	68 / KER08RTP038	Widen SR 58 (Rosedale Hwy) I-5 to Allen Road	$31,000	N	N	S	Proposed	Tier 2	P	Cap. Expan.	C		X	X				
6	Kern	SR 58 - Centennial Corridor	51 / KER08RTP114	Centennial Corridor West - SR 58 Freeway I-5 to Westside Parkway.	$500,000	N	N	S	Proposed	Tier 2	P	Cap. Expan.	C		X					X
6	Kern	SR-58	KER08RTP035	East of Tehachapi to General Beale Rd - truck auxiliary lanes / escape ramp.	$86,000	N	N	L	Proposed	Tier 2	P	Cap. Expan.	C		X		X			
6	Fresno	SR 198	NEW	Widen SR 198 from 2 to 4 lanes from Lemoore Naval Air Station to I-5 (Fresno County Portion).	$193,000	N	N	M	Proposed	Tier 3	P	Cap. Expan.	C	C	X	X	X			
6	Kern	US-395	KER08RTP050	SBD line to SR-14, construct/widen to 4-lane expressway.	$244,000	N	N	L	No	Tier 3	P	Cap. Expan.	C		X		X			
6	Kings	SR 198	63	Widen SR 198 from 2 to 4 lanes from Lemoore Naval Air Station to I-5 (Kings County Portion).	$31,000	N	N	M	Proposed	Tier 3	P	Cap. Expan.	C	C	X	X	X			
6	Kings	SR 41	65	Widen SR 41 from 2 to 4 lanes from SR 198 to I-5.	$68,000	N	N	M		Tier 3	P	Cap. Expan.	C	C	X	X	X			
6	Tulare	SR 137	60	Widen SR 137 between Lindsay and Tulare.	$145,000	N	N	L		SHS-No Tier	P	Cap. Expan.	L		X	X				
6	Tulare	SR 190	62	Widen SR 190 from 2 to 4 lanes between SR 65 and SR 99.	$140,000	N	N	L		SHS-No Tier	P	Cap. Expan.	L		X	X				
6	Tulare	Rail	93	Extend existing track, add new track in Tulare	$45,000	N	N	M		Non SHS	P	Cap. Expan.	L		X				X	
6	Fresno	SR 145	32	Widen SR 145 between the UP and Shaw Ave.				S	No	SHS-No Tier	P	Cap. Expan.			X	X				
6	Fresno	SR 180 (east)	FRE021107/20	Widen SR 180 to 4 lane expressway Quality Ave. to Trimmer Springs.	$133,600	Y	Y	S	No	SHS-No Tier	P	Cap. Expan.			X	X				
6	Fresno	SR 180 (west)	FRE500514/21	Extend SR 180 from Mendota to I-5	$223,000	Y	N	M	No	SHS-No Tier	P	Cap. Expan.			X					X

Caltrans District	County	Route or Facility ID	Project ID / Reference Number	Project / Program Title and Description	Total Project Cost (thousands)	Financially Constrained	Under Construction and Completely Funded	Short/Mid/ Long Term	Project of National and Regional Significance (PNRS)	Tier	Network Type	Project Type	Primary Facility Type	Secondary Facility Type	California Freight Mobility Plan Goals					
															Economic Competitiveness	Congestion Relief	Safety and Security	Freight System Infrastructure Preservation	Innovative Technology and Practices	Environmental Stewardship
6	Fresno	I-5	15d	Widen I-5 between Kings County and Merced County lines	$198,000			S	No	Tier 1	P	Cap. Expan.			X	X				
6	Fresno	SR 99	99e	Widen SR 99 from 6 to 8 lanes from Central Ave to Bullard Ave.	$283,000	N	N	S	No	Tier 1	P	Cap. Expan.			X	X				
6	Madera	SR 99	99d1	Widen SR 99 from 4 to 6 lanes from Ave. 12 to Ave. 17, & Ave. 17 Intersection Impvmts	$40,000			S		Tier 1	P	Cap. Expan.			X	X				
6	Madera	SR 99	99d2	Widen SR 99 from 4 to 6 lanes from Avenue 7 to Avenue 12	$41,000			S		Tier 1	P	Cap. Expan.			X	X				
6	Fresno	SR 41	FRE500516 &FRE500767/25	Widen SR 41 from 6 to 8 lanes btw Divisadero and Ashland, & widen SB Divis. Off-ramp	$43,000	Y	N	S	No	Tier 3	P	Cap. Expan.			X	X				
6	Madera	SR 41	24	Widen SR 41 from 4 to 6 lanes between Madera County line and Avenue 12				S		Tier 3	P	Cap. Expan.			X	X				
6	Tulare	Rail	95	West Isle Line Track Upgrades				M		Non SHS	P	O.M.	L		X			X		
6	Kern	I-5		I-5 Truck Corridor Improvements in Kern County - (87 miles)	$1,000,000	N	N	L	Proposed	Tier 1	P		C							
6	Fresno	SR-99	n/a	City of Fresno Herndon SR 99 to Millburn 4 LU to 6 LD expressway w/ bridge at UPRR & widen BNSF bridge	$36,000			L	No	Tier 1	N	Cap. Expan.				X				
6	Fresno	SR-99	Fresno, City of / FRE111328	Freeway Interchange and Grade; separation UPRR	$105,619	Y	N	M	No	Tier 1	N	Cap. Expan.				X	X			X
6	Madera	SR 99		Widen SR 99 from 4 to 6 lanes from Avenue 17 to Avenue 21						Tier 1	N	Cap. Expan.			X	X				
6	Madera	SR 99		Widen SR 99 from 4 to 6 lanes from Avenue 23 to Madera County Line						Tier 1	N	Cap. Expan.			X	X				
6	Fresno		n/a	Construct interchange improvements including structure replacement, widening, ramp signalization, and railroad grade separation	$97,000			L	No	Non SHS	O	O.M.				X	X	X		
6	Fresno		n/a	Construct interchange improvements including structure replacement, widening, ramp signalization, and railroad grade separation	$63,000			L	No	Non SHS	O	O.M.			X	X	X			
7	Ventura	Hueneme Road	VEN011202	Hueneme Road from Oxnard city limits to Rice Road — widen from 2 to 4 lanes.	$6,953	Y	N	L	Proposed	Non SHS	O	Cap. Expan.	C		X	X	X	X		X

Caltrans District	County	Route or Facility ID	Project ID / Reference Number	Project / Program Title and Description	Total Project Cost (thousands)	Financially Constrained	Under Construction and Completely Funded	Short/Mid/ Long Term	Project of National and Regional Significance (PNRS)	Tier	Network Type	Project Type	Primary Facility Type	Secondary Facility Type	California Freight Mobility Plan Goals					
															Economic Competitiveness	Congestion Relief	Safety and Security	Freight System Infrastructure Preservation	Innovative Technology and Practices	Environmental Stewardship
7	Los Angeles	Port of Long Beach	1O0701	Pier B Rail Yard (12th Street Alternative) expansion of Pier B Street intermodal railyard	$309,100	Y	N	L	Proposed	Non SHS	O	Cap. Expan.	G	H	X	X	X	X		X
7	Los Angeles	Port of Long Beach	LA0G171 - 1AL04	Navy Mole Road Storage Yard - the proposed project includes three new tracks along the west side of Pier T. This project will also involve relocating the existing utilities	$12,800	Y	N	L	Proposed	Non SHS	O	Cap. Expan.	G	H	X	X	X	X		X
7	Los Angeles	Port of Long Beach	LA0G172 - 1AL04	Terminal Island Wye Track Realignment - this project will provide for double tracking the south leg of the Wye to accommodate simultaneous train switching moves from these various activities on Terminal Island	$11,900	Y	N	L	Proposed	Non SHS	O	Cap. Expan.	G	H	X	X	X	X		X
7	Los Angeles	Port of Long Beach	100710	Pier G South Working Yard Rehabilitation	$66,000	Y	N	M	Proposed	Non SHS	O	Cap. Expan.	G	H	X	X	X	X		X
7	Los Angeles	Port of Long Beach	100710	Pier G Metro Track Improvements	$10,200	Y	N	S	Proposed	Non SHS	O	Cap. Expan.	G	H	X	X	X	X		X
7	Los Angeles	Port of Long Beach	LA0C8094	Pier B Street Realignment - Pier B Street Intermodal Railyard Expansion. Project will expand Pier B Street Intermodal Railyard to facilitate additional rail shipments and realign and widen Pier B Street	$91,600	Y	N	S	Proposed	Non SHS	O	Cap. Expan.	G	H	X	X	X	X		X
7	Los Angeles	Port of Long Beach	100710	Middle Harbor Terminal Rail Yard (3 Phases)	$110,000	Y	Y	S	Proposed	Non SHS	O	Cap. Expan.	G	H	X	X	X	X		X
7	Los Angeles	Port of Long Beach	LA0G170 - 1AL04	Track Realignment at Ocean Blvd - this project will create improved lead tracks to the Metropolitan Stevedoring Co. (Metro) rail yard and to Pier F on-dock rail yard	$56,400	Y	Y	S	Proposed	Non SHS	O	Cap. Expan.	G	H	X		X	X		
7	Los Angeles	Port of Long Beach	LA0G173 - 1ITS04	Reconfiguration of Control Point (CP) Mole - the new control point at the Mole will enable increased train speeds and reduced train delays caused by manual switch operations	$20,000	Y	N	L	Proposed	Non SHS	O	Cap. Expan.	G	H	X	X		X		X

Caltrans District	County	Route or Facility ID	Project ID / Reference Number	Project / Program Title and Description	Total Project Cost (thousands)	Financially Constrained	Under Construction and Completely Funded	Short/Mid/ Long Term	Project of National and Regional Significance (PNRS)	Tier	Network Type	Project Type	Primary Facility Type	Secondary Facility Type	California Freight Mobility Plan Goals					
															Economic Competitiveness	Congestion Relief	Safety and Security	Freight System Infrastructure Preservation	Innovative Technology and Practices	Environmental Stewardship
7	Los Angeles	Port of Long Beach	LA0G169 - 1AL04	Pier F Support Yard - this project provides storage tracks on the Pier F Road cul-de-sac, which are useful for support functions such as set out of bad order rail cars and possibly engine tie-up	$31,400	Y	Y	S	Proposed	Non SHS	O	Cap. Expan.	G	H	X			X		
7	Los Angeles	-	-	Glendale Slide Relocation and Glendale Station Modifications	$23,300	N	N	L	No	Non SHS	O	Cap. Expan.	L		X	X	X	X		
7	Los Angeles	-	-	CP Brighton to CP Roxford Double Track	$108,600	N	N	S	No	Non SHS	O	Cap. Expan.	L		X	X	X	X		
7	Los Angeles	-	-	Via Princessa to Vincent Grade Double Track	$5,000	N	N	M	No	Non SHS	O	Cap. Expan.	L			X	X	X		
7	Los Angeles	-	-	Palmdale Siding Installation	$7,000	N	N	M	No	Non SHS	O	Cap. Expan.	L			X		X		
7	Los Angeles	-	-	Vincent Siding Extension	$11,200	N	N	M	No	Non SHS	O	Cap. Expan.	L		X	X				
7	Los Angeles	-	-	Santa Clarita to Via Princessa Double Track	$12,000	N	N	M	No	Non SHS	O	Cap. Expan.	L		X	X				
7	Los Angeles	-	-	Santa Clarita to Newhall Double Track	$40,200	N	N	M	No	Non SHS	O	Cap. Expan.	L		X	X				
7	SCAG Regional Initiative	-	RRC0703	GOODS MOVEMENT TECHNOLOGY DEMONSTRATION AND INITIAL DEPLOYMENT - Zero-Emission Container Movement: near-term technology demonstration and initial deployment. Demonstration by 2013; initial deployment by 2015.	$35,000	Y	N	M	No	Non SHS	O	Comm. And Env't Mit.	B						X	X
7	Los Angeles	Port of Los Angeles	100706	Ports rail system: Pier 400 Lead Track	$12,000	Y	N	M	Proposed	Non SHS	O	Comm. And Env't Mit.	G		X	X		X		X
7	Los Angeles	Port of Los Angeles	100705	BNSF SCIG Facility (intermodal railyard)	$500,000	Y	N	M	No	Non SHS	O	Comm. And Env't Mit.	G	H	X	X		X	X	X
7	Los Angeles	Port of Los Angeles	100705	UPPR ICTF Modernization (intermodal railyard)	$500,000	Y	N	M	No	Non SHS	O	Comm. And Env't Mit.	G	H	X	X		X	X	X
7	Los Angeles	Port of Los Angeles	100710	WBCT terminal wharf improvement and on-dock rail expansion; YTI terminal wharf improvement and on-dock rail expansion; Pier 300 wharf improvement & on-dock rail expansion; Pier 400 on-dock rail expansion; Evergreen Terminal on-dock rail expansion (all of these projects are contained in the RTP-their respective truck trip reductions are included in the RTP)	$644,250	Y	N	M	Proposed	Non SHS	O	Comm. And Env't Mit.	G		X	X		X	X	X

Caltrans District	County	Route or Facility ID	Project ID / Reference Number	Project / Program Title and Description	Total Project Cost (thousands)	Financially Constrained	Under Construction and Completely Funded	Short/Mid/ Long Term	Project of National and Regional Significance (PNRS)	Tier	Network Type	Project Type	Primary Facility Type	Secondary Facility Type	California Freight Mobility Plan Goals					
															Economic Competitiveness	Congestion Relief	Safety and Security	Freight System Infrastructure Preservation	Innovative Technology and Practices	Environmental Stewardship
7	Los Angeles	Ports of Los Angeles and Long Beach	100707	New Cerritos Channel Rail Bridge	$170,000	Y	N	M	Proposed	Non SHS	O	Comm. And Env't Mit.	G	L	X	X		X		X
7	Los Angeles	Ports of Los Angeles and Long Beach	100708	TRIPLE TRACK S/O THENARD	$16,500	Y	N	M	Proposed	Non SHS	O	Comm. And Env't Mit.	G	L	X	X		X		X
7	Los Angeles	Baldwin Avenue (in City of El Monte)	1120008	Baldwin Avenue (in City of El Monte) - Alameda Corridor East Grade Separation.	$76,100	Y	Y	S	Proposed	Non SHS	O	O.M.	C	L	X	X	X	X		X
7	Los Angeles	Del Mar Avenue	1120011	Del Mar Avenue (San Gabriel Trench) - Alameda Corridor East Grade Separation.	Phased. See Total Cost in Proj ID 1120010	Y	Y	S	Proposed	Non SHS	O	O.M.	C	L	X	X	X	X		X
7	Los Angeles	Durfee Avenue	1120021	Durfee Avenue - Alameda Corridor East Grade Separation.	$78,400	Y	N	M	Proposed	Non SHS	O	O.M.	C	L	X	X	X	X		X
7	Los Angeles	Fairway Drive	1120017	Fairway Drive (Alhambra Subdiv.) - Alameda Corridor East Grade Separation	$176,000	Y	N	L	Proposed	Non SHS	O	O.M.	C	L	X	X	X	X		X
7	Los Angeles	Fairway Drive	1120019	Fairway Drive (Los Angeles Subdiv.) - Alameda Corridor East Grade Separation.	$143,000	Y	Y	S	Proposed	Non SHS	O	O.M.	C	L	X	X	X	X		X
7	Los Angeles	Fullerton Road	1120014	Fullerton Road - Alameda Corridor East Grade Separation.	$142,900	Y	N	M	Proposed	Non SHS	O	O.M.	C	L	X	X	X	X		X
7	Los Angeles	Greenwood Avenue	1120015	Greenwood Avenue or Montebello Boulevard & Maple Avenue - Alameda Corridor East Grade Separation.	$135,000	Y	N	M	Proposed	Non SHS	O	O.M.	C	L	X	X	X	X		X
7	Los Angeles	Hamilton Boulevard	1120016	Hamilton Boulevard - Alameda Corridor East Grade Separation.	$76,326	Y	N	M	Proposed	Non SHS	O	O.M.	C	L	X	X	X	X		X
7	Los Angeles	Mission Road	1120010	Mission Road (San Gabriel Trench) - Alameda Corridor East Grade Separation.	Phased. See Total Cost in Proj ID 1120009	Y	Y	S	Proposed	Non SHS	O	O.M.	C	L	X	X	X	X		X
7	Los Angeles	Nogales Street	1120013	Nogales Street - Alameda Corridor East Grade Separation.	$117,300	Y	Y	S	Proposed	Non SHS	O	O.M.	C	L	X	X	X	X		X
7	Los Angeles	Puente Avenue	1120020	Puente Avenue - Alameda Corridor East Grade Separation.	$99,600	Y	Y	S	Proposed	Non SHS	O	O.M.	C	L	X	X	X	X		X
7	Los Angeles	Ramona Street	1120009	Ramona Street (San Gabriel Trench) - Alameda Corridor East Grade Separation.	$336,900	Y	Y	S	Proposed	Non SHS	O	O.M.	C	L	X	X	X	X		X

Caltrans District	County	Route or Facility ID	Project ID / Reference Number	Project / Program Title and Description	Total Project Cost (thousands)	Financially Constrained	Under Construction and Completely Funded	Short/Mid/ Long Term	Project of National and Regional Significance (PNRS)	Tier	Network Type	Project Type	Primary Facility Type	Secondary Facility Type	California Freight Mobility Plan Goals					
															Economic Competitiveness	Congestion Relief	Safety and Security	Freight System Infrastructure Preservation	Innovative Technology and Practices	Environmental Stewardship
7	Los Angeles	Reeves Avenue	LA0G088-1AL04	Grade separation and closure for Reeves Corssing at Terminal Island would eliminate traffice conflicts and allow efficient movement of trains in Terminal Island without concern for impacts to vehicular traffic.	$110,580	Y	N	S	Proposed	Non SHS	O	O.M.	C	G	X	X	X	X		X
7	Los Angeles	San Gabriel Boulevard	1120012	San Gabriel Boulevard (San Gabriel Trench) - Alameda Corridor East Grade Separation.	Phased. See Total Cost in Proj ID 1120011	Y	Y	S	Proposed	Non SHS	O	O.M.	C	L	X	X	X	X		X
7	Los Angeles	Turnbull Canyon Road	1120018	Turnbull Canyon Road - Alameda Corridor East Grade Separation.	$96,000	Y	N	M	Proposed	Non SHS	O	O.M.	C	L	X	X	X	X		X
7	Los Angeles	Lakeland Blvd. e/o Bloomfield		Lakeland Blvd. e/o Bloomfield in Santa Fe Springs.	$25,000	N	N	L	No	Non SHS	O	O.M.	L		X	X		X		X
7	Los Angeles	Norwalk Blvd/Los Nietos		Norwalk Blvd/Los Nietos in Santa Fe Springs.	$80,000	N	N	L	No	Non SHS	O	O.M.	L		X	X		X		X
7	Los Angeles	Pioneer/River a		Pioneer/Rivera in County of LA/Santa Fe Springs.	$60,000	N	N	L	No	Non SHS	O	O.M.	L		X	X		X		X
7	Los Angeles	Rosecrans Ave/Marquardt		Rosecrans Ave/Marquardt in Santa Fe Springs.	$120,000	N	N	S	No	Non SHS	O	O.M.	L		X	X		X		X
7	Ventura	Rice Avenue	VEN54032	Rice Avenue from Pacific Coast Highway to Route 101 - replace pavement.	$17,100	Y	N	S	Proposed	Non SHS	O	Preservation	C		X			X		X
7	Los Angeles	Alameda Street	LAF5207 - 1AL04	Alameda Street between Interstate 10 and Seventh Street in City of Los Angeles. Project will provide congestion relief, improve mobility/reduce conflicts, and improve safety for both autos and trucks by providing intersection improvements, new signalization improvements and left turn only signals. Project will also remove abandoned rail lines, repair pavement, add new street lighting, and construct pedestrian improvements.	$18,916	Y	N	S	No	Non SHS	O	Preservation	L		X	X		X		

Caltrans District	County	Route or Facility ID	Project ID / Reference Number	Project / Program Title and Description	Total Project Cost (thousands)	Financially Constrained	Under Construction and Completely Funded	Short/Mid/ Long Term	Project of National and Regional Significance (PNRS)	Tier	Network Type	Project Type	Primary Facility Type	Secondary Facility Type	California Freight Mobility Plan Goals					
															Economic Competitiveness	Congestion Relief	Safety and Security	Freight System Infrastructure Preservation	Innovative Technology and Practices	Environmental Stewardship
7	Los Angeles	I-5	LA0G440 - LAE0465	I-5: Phase 2 and 3 of 3 — In LA/Santa Clarita: Phase 2 (northbound from SR-14 to Weldon Canyon Road; construct HOV lane) and Phase 3 (from SR-14 to Parker Road Overcrossing; construct HOV, truck, and auxiliary lanes.	$410,000	Y	N	L	Proposed	Tier 1	P	Cap. Expan.	C		X	X	X			
7	Los Angeles	I-5	S1120040	I-5 carpool and mixed flow lanes between I-605 and I-710.	$1,500,000	N	N	L	Proposed	Tier 1	P	Cap. Expan.	C		X	X		X		
7	Los Angeles	I-605	1M1004	I-605 Corridor "Hot Spot" interchanges in Gateway Cities.	$3,200,000	Y	N	M	No	Tier 1	P	Cap. Expan.	C		X	X				
7	Los Angeles	I-710	1C0401	Two alternatives are being evaluated in an EIR/EIS for capacity enhancements to the corridor: Alternative 5C- widen to 5 mixed flow lanes in each direction plus improvements at I-710/I-405 (including truck by-pass lanes), I-710/SR-91, I-710/I-5 and every local interchange between Ocean Blvd and SR-60; and Alternative 7 - two dedicated lanes for clean technology trucks (in each direction) from Ocean Boulevard in Long Beach to the intermodal railroad yards in Commerce/Vernon plus improvements at I-710/I-405, I-710/SR-91, I-710/I-5 and every local interchange between Ocean Blvd and SR-60.	$6,750,000	Y	N	L	Proposed	Tier 1	P	Cap. Expan.	C		X	X	X		X	X
7	Los Angeles	Ocean Blvd	LA000512	Ocean Boulevard, from the Los Angeles River over UPRR and Back Channel, to 0.1 mile east of SR-47; replace 5 lane existing Gerald Desmond Bridge with new 6 lane bridge (3 lanes in each direction); other improvements include construction of new approach structures and roads, reconstruction of the existing horseshoe interchange ramp connectors, reconstruction of the existing connectors to SR-710, and reconstruction of 2 ramp connections to Pico Avenue.	$1,263,000	Y	N	S	Proposed	Non SHS	P	Cap. Expan.	C	G	X	X	X	X	X	X

Caltrans District	County	Route or Facility ID	Project ID / Reference Number	Project / Program Title and Description	Total Project Cost (thousands)	Financially Constrained	Under Construction and Completely Funded	Short/Mid/ Long Term	Project of National and Regional Significance (PNRS)	Tier	Network Type	Project Type	Primary Facility Type	Secondary Facility Type	California Freight Mobility Plan Goals					
															Economic Competitiveness	Congestion Relief	Safety and Security	Freight System Infrastructure Preservation	Innovative Technology and Practices	Environmental Stewardship
7	SCAG Regional Initiative (Los Angeles)	-	7120014	East-West Freight Corridor - Segment 1 (between I-710 & west of I-605)	$2,413,086	Y	N	L	Proposed	Non SHS	P	Cap. Expan.	C		X	X	X		X	X
7	SCAG Regional Initiative (Los Angeles)	-	7120015	East-West Freight Corridor - Segment 2 (between west of I-605 and SR-57)	$9,102,359	Y	N	L	Proposed	Non SHS	P	Cap. Expan.	C		X	X	X		X	X
7	Los Angeles	SR 57/SR 60	FTIP: LA0D450 RTP: 1M0104	Reconstruct SR 60/Grand Ave.. interchange - Widen Grand Ave. SB add 1 thru-lane (2 EXISTING); NB ADD 1 thru-lane (3 EXISTING), Replace Grand Ave. OC, Add EB Loop on-ramp, construct additional EB thru-lane from Grand Ave. trap-lane to SR 57 ADD LN, Add two bypass ramp connectors.	$257,900	Y	Y	M	Proposed	Tier 1	P	Cap. Expan.	L		X	X					X
7	Los Angeles	SR-47	1M0430	SR 47/Navy Way Interchange: Construction of interchange at SR-47 / Navy Way to eliminate traffic signal and movement conflicts; this project was a S.CA Trade Corridor Tier II TCIF project as submitted to the CTC in 2008; project removes last signal on SR 47 between Desmond and V. Thomas Bridges; NHS Intermodal Connector Route	$50,000	Y	N	M	Proposed	SHS-No Tier	P	Comm. And Env't Mit.	G	C	X	X	X	X		X
7	Los Angeles	SR-47	1120007	SR 47-V. Thomas Bridge/Front St Interchange: New westbound SR 47 on-and-off-ramps at Front Street just west of the Vincent Thomas Bridge and eliminate the existing non-standard ramp connection to the Harbor Blvd. off-ramp; Front Street is an NHS Connector Route; V.Thomas Bridge is a State-owned bridge; on the USDOT PFN.	$35,000	Y	N	M	Proposed	Tier 1	P	Comm. And Env't Mit.	G	C	X	X	X	X		X
7	Los Angeles	SR-57/SR-60	1M0104	SR-57/SR-60 interchange improvements	$475,000	Y	N	L	Proposed	Tier 1	P	O.M.	C		X	X	X			X

Caltrans District	County	Route or Facility ID	Project ID / Reference Number	Project / Program Title and Description	Total Project Cost (thousands)	Financially Constrained	Under Construction and Completely Funded	Short/Mid/ Long Term	Project of National and Regional Significance (PNRS)	Tier	Network Type	Project Type	Primary Facility Type	Secondary Facility Type	California Freight Mobility Plan Goals					
															Economic Competitiveness	Congestion Relief	Safety and Security	Freight System Infrastructure Preservation	Innovative Technology and Practices	Environmental Stewardship
7	Los Angeles	I-210	7120005	Westbound I-210: connect and converge Altadena Drive on-ramps into a single on-ramp.	$1,328	Y	N	M	No	Tier 2	P	O.M.	C			X				
7	Los Angeles	I-210	7120005	Westbound I-210: connect and converge Santa Anita Avenue on-ramps into a single on-ramp.	$1,328	Y	N	M	No	Tier 2	P	O.M.	C			X				
7	Los Angeles	I-210	7120005	I-210: modify Rosemead Boulevard/Michilinda Avenue interchange; converge westbound I-210 on-ramps.	$3,922	Y	N	M	No	Tier 2	P	O.M.	C			X				
7	Los Angeles	I-210	7120005	I-210: modify north side of I-210 at Baldwin Avenue interchange and eliminate collector-distributor.	$6,536	Y	N	M	No	Tier 2	P	O.M.	C			X				
7	Los Angeles	I-210	7120005	I-210: construct westbound auxiliary lane from Santa Anita Avenue to Baldwin Avenue and eastbound auxiliary lane from Santa Anita Avenue to Huntington Drive.	$12,870	Y	N	M	No	Tier 2	P	O.M.	C			X				
7	Los Angeles	I-710	1M1002	I-710 Early Action Projects.	$687,000	Y	N	M	No	Tier 1	P	Preservation	C		X	X		X		
7	Los Angeles	SR-47	LA0D45	SR-47 Expressway: Replacement of Schuyler Heim Bridge (Segment 1) to include 2 through lanes and 1 auxiliary lane northbound; and 3 through lanes and 1 auxiliary lane southbound; ACTA completing PE, ROW, and design support during construction; bridge replacement - no additional lanes added. Construct Expressway (Segment 2 - ACTA only) and 2-Lane Flyover (Segment 3 - ACTA only).	$416,800	Y	N	L	No	Tier 1	P	Preservation	L					X		
7	Los Angeles	SR-47	LA0G600 - LA0D45	SR-47: Replacement of Schuyler Heim Bridge to include 2 through lanes and 1 auxiliary lane northbound; and 3 through lanes and 1 auxiliary lane southbound.	$278,993	Y	Y	S	No	Tier 1	P	Preservation	L					X		
7	Ventura	Rice Avenue	VEN040401	Rice Avenue at Fifth Street (Route 34) Railroad Grade Separation.	$35,000	Y	N	S	Proposed	Non SHS	S	O.M.	C		X	X	X	X		X
8	Riverside	Ellis Ave	3A04WT093	On Ellis Ave. from SR-74 to I-215: Construct 2 lane arterial and 2 lane Grade Separation over BNSF RR (keep Grade Separation in arterial section)	$15,407	Y	N	L	No	Non SHS	O	Cap. Expan.	C			X	X			X

Caltrans District	County	Route or Facility ID	Project ID / Reference Number	Project / Program Title and Description	Total Project Cost (thousands)	Financially Constrained	Under Construction and Completely Funded	Short/Mid/ Long Term	Project of National and Regional Significance (PNRS)	Tier	Network Type	Project Type	Primary Facility Type	Secondary Facility Type	California Freight Mobility Plan Goals					
															Economic Competitiveness	Congestion Relief	Safety and Security	Freight System Infrastructure Preservation	Innovative Technology and Practices	Environmental Stewardship
8	Riverside	Ethanac Rd	3A01WT152	On Ethanac Rd from Sherman Rd. to Matthews Rd.:Widen from 2 to 4 lanes including Grade Separation over BNSF RR (Grade Separation is not part of Grade Separation list and should remain in the arterial section).	$43,027	Y	N	L	No	Non SHS	O	Cap. Expan.	C			X	X			X
8	Riverside	McCall Blvd	3A04WT168	On McCall Blvd. from Menifee Rd. to SR-79 (Winchester R.): Construct 2 lane arterial including grade separation over BNSF RR (Grade Separation is not part of Grade Separation list and should remain in the arterial section).	$28,841	Y	N	L	No	Non SHS	O	Cap. Expan.	C			X	X			X
8	Riverside	McCall Blvd	3A04WT169	On McCall Blvd. from SR-79 (Winchester Rd.) to Warren Rd.: Construct 2 lane arterial including grade separation over BNSF RR (Grade Separation is not part of Grade Separation list and should remain in the arterial section).	$23,249	Y	N	L	No	Non SHS	O	Cap. Expan.	C			X	X			X
8	Riverside	Menifee Rd	3A01WT171	On Menifee Rd. from SR-74 (Pinacate Rd) to Simpson Rd: Widen from 2 to 4 lanes including Grade Separation over RR (Grade Separation is not part of Grade Separation list and should remain in the arterial section).	$39,176	Y	N	L	No	Non SHS	O	Cap. Expan.	C			X	X			X
8	San Bernardino	5th Street	201153	Widen 5th Street from City Creek to SR-210; Restripe 5th St from 4-6 lanes between Church Avenue and SR-210, Restripe SR-210 undercrossing from 4-5 lanes between ramps with additional turn lane. Construct truck acceleration lane on southbound SR-210 on-ramp and freeway mainline including widening of existing freeway bridge.	$5,070	Y	N	M	No	Non SHS	O	Cap. Expan.	C			X	X	X		
8	San Bernardino	Grove Avenue	SBD59006	Grove Avenue from State St. to 350' north of Holt Blvd. Widen from 4 to 6 lanes including RR bridge (1,450'), add left turn lanes at Holt.	$10,533	Y	N	S	No	Non SHS	O	Cap. Expan.	C			X	X			

Caltrans District	County	Route or Facility ID	Project ID / Reference Number	Project / Program Title and Description	Total Project Cost (thousands)	Financially Constrained	Under Construction and Completely Funded	Short/Mid/ Long Term	Project of National and Regional Significance (PNRS)	Tier	Network Type	Project Type	Primary Facility Type	Secondary Facility Type	California Freight Mobility Plan Goals					
															Economic Competitiveness	Congestion Relief	Safety and Security	Freight System Infrastructure Preservation	Innovative Technology and Practices	Environmental Stewardship
8	San Bernardino	-	200416	Southern California Logistics Airport (SCLA) rail service from Air Expressway Approximately 5 miles north of Colusa Road between Phantom East and Mojave River — put in new rail line from BNSF to SCLA (for freight); project in connection with new intermodal/multimodal facility on SCLA property.	$250,000	Y	N	L	No	Non SHS	O	Cap. Expan.	H		X					
8	Riverside	22nd Street	3G01G36	22nd Street	$27,151	Y	N	L	No	Non SHS	O	O.M.	C			X	X			X
8	Riverside	3rd Street	3G01G01	3rd Street	$37,302	Y	N	L	No	Non SHS	O	O.M.	C			X	X			X
8	Riverside	Adams Street	3G01G23	Adams Street	$110,337	Y	N	L	No	Non SHS	O	O.M.	C			X	X			X
8	Riverside	Avenue 62	3G0703	Avenue 62	$98,554	Y	N	L	No	Non SHS	O	O.M.	C			X	X			X
8	Riverside	Avenue 66	3G0705	Avenue 66	$25,000	Y	N	L	No	Non SHS	O	O.M.	C			X	X			X
8	Riverside	Bellgrave Avenue	3G01G40	Bellgrave Avenue	$117,159	Y	N	L	No	Non SHS	O	O.M.	C			X	X			X
8	Riverside	California Avenue	3G01G26	California Avenue	$32,465	Y	N	L	No	Non SHS	O	O.M.	C			X	X			X
8	Riverside	Chicago Avenue	3G01G05	Chicago Avenue	$223,893	Y	N	L	No	Non SHS	O	O.M.	C			X	X			X
8	Riverside	Hargrave Street	3G01G19	Hargrave Street	$32,318	Y	N	L	No	Non SHS	O	O.M.	C			X	X			X
8	Riverside	Joy Street	3G01G33	Joy Street	$32,318	Y	N	L	No	Non SHS	O	O.M.	C			X	X			X
8	Riverside	Jurupa Road	3120036	Jurupa Road	$101,228	Y	N	L	No	Non SHS	O	O.M.	C			X	X			X
8	Riverside	Madison Street	3G01G24	Madison Street	$61,629	Y	N	L	No	Non SHS	O	O.M.	C			X	X			X
8	Riverside	Mary Street	RIV071280 - 3G01G10	GRADE SEPARATION ON MARY ST BETWEEN MARGUERITE AVE AND INDIANA AVE	$38,000	Y	N	S	No	Non SHS	O	O.M.	C			X	X			X
8	Riverside	McKinley Street	RIV011240 - RIV011240	IN CORONA ON EXISTING MCKINLEY ST – CONSTRUCT GRADE SEPARATION AT BNSF RAILROAD CROSSING	$50,000	Y	N	L	No	Non SHS	O	O.M.	C			X	X			X
8	Riverside	Pierce Street	3G01G31	Pierce Street	$75,947	Y	N	L	No	Non SHS	O	O.M.	C			X	X			X
8	Riverside	San Gorgonio Avenue	3G01G43	San Gorgonio Avenue	$27,741	Y	N	L	No	Non SHS	O	O.M.	C			X	X			X
8	Riverside	Spruce Street	3G01G07	Spruce Street	$124,129	Y	N	L	No	Non SHS	O	O.M.	C			X	X			X
8	Riverside	Tyler Street	3G01G22	Tyler Street	$82,023	Y	N	L	No	Non SHS	O	O.M.	C			X	X			X
8	Riverside	Viele Avenue	3G0701	Viele Avenue	$36,560	Y	N	L	No	Non SHS	O	O.M.	C			X	X			X
8	San Bernardino	Beaumont Avenue	S4120014	UP Grade Separation at Beaumont Avenue (SB County/Loma Linda)	$25,000	Y	N	L	No	Non SHS	O	O.M.	C			X	X			X

Caltrans District	County	Route or Facility ID	Project ID / Reference Number	Project / Program Title and Description	Total Project Cost (thousands)	Financially Constrained	Under Construction and Completely Funded	Short/Mid/ Long Term	Project of National and Regional Significance (PNRS)	Tier	Network Type	Project Type	Primary Facility Type	Secondary Facility Type	California Freight Mobility Plan Goals					
															Economic Competitiveness	Congestion Relief	Safety and Security	Freight System Infrastructure Preservation	Innovative Technology and Practices	Environmental Stewardship
8	San Bernardino	Campus Avenue	4G0104/ 4G0112	UP Grade Separation at Campus Avenue (Ontario)	$24,000	Y	N	L	Proposed	Non SHS	O	O.M.	C			X				X
8	San Bernardino	Central Avenue	4G07421	Central Avenue (Montclair) on the Alhambra and Los Angeles lines to Holt Blvd to Mission Blvd. Widen Central Ave grade separation on the Alhambra/Los Angeles lines.	$5,930	Y	N	L	No	Non SHS	O	O.M.	C			X	X			X
8	San Bernardino	Eucalyptus St	SBD55026	Eucalyptus St from I-15 to Peach Avenue - reconstruct and widen from 2 to 4 lanes and construct railroad crossing (Hesperia)	$8,546	Y	N	L	No	Non SHS	O	O.M.	C			X	X			
8	San Bernardino	Lemon St/Mauna Loa St	201104	Lemon St/Mauna Loa St - New RR undercrossing and realignment /reconstruction of Lemon St/Mauna Loa St from 3rd Ave to just west of E Ave. (Hesperia)	$47,900	Y	N	S	No	Non SHS	O	O.M.	C			X	X			
8	San Bernardino	Main Street	4G04027	BNSF Grade Separation at Main Street in Grand Terrace	$18,100	Y	N	L	Proposed	Non SHS	O	O.M.	C			X	X			X
8	San Bernardino	Monte Vista	20010135	UP Grade Separation at Monte Vista (Montclair)	$18,100	Y	N	L	Proposed	Non SHS	O	O.M.	C			X	X			X
8	San Bernardino	Mt. Vernon Avenue	SBD31905	Mt. Vernon Avenue Bridge (overhead) at BNSF Crossing. Replace Grade Separation with new 4 lane bridge from 2nd St to 5th St (0.2 miles south of Route 66) (Bridge No 54C0066) (City of San Bernardino)	$40,112	Y	N	S	No	Non SHS	O	O.M.	C	L		X	X	X		X
8	San Bernardino	North 1st Avenue	20111810	North 1st Avenue over BNSF/UP/Amtrak (Barstow), 0.2 miles north of Main St. (Bridge No. 54C0088) - Replace existing 2 lane bridge with 4 lane bridge	$40,780	Y	N	L	No	Non SHS	O	O.M.	C			X	X			
8	San Bernardino	Riverside Avenue	200603	Riverside Avenue over UPRR, 0.1 mile south of I-10; Remove and replace existing 5 lane bridge with 7 lane bridge (PA&ED ONLY) scoping for project (Rialto)	$37,575	Y	N	L	No	Non SHS	O	O.M.	C			X		X		
8	San Bernardino	San Antonio Avenue	4G0103/ 4G0109	UP Grade Separation at San Antonio Avenue (Ontario)	$24,000	Y	N	L	Proposed	Non SHS	O	O.M.	C			X	X			X
8	San Bernardino	South Archibald Avenue	200804	Grade Separation at South Archibald Avenue (Ontario)	$57,932	Y	N	S	Proposed	Non SHS	O	O.M.	C			X	X			X

Caltrans District	County	Route or Facility ID	Project ID / Reference Number	Project / Program Title and Description	Total Project Cost (thousands)	Financially Constrained	Under Construction and Completely Funded	Short/Mid/ Long Term	Project of National and Regional Significance (PNRS)	Tier	Network Type	Project Type	Primary Facility Type	Secondary Facility Type	California Freight Mobility Plan Goals					
															Economic Competitiveness	Congestion Relief	Safety and Security	Freight System Infrastructure Preservation	Innovative Technology and Practices	Environmental Stewardship
8	San Bernardino	Valley Boulevard	-	BNSF Grade Separation at Valley Boulevard (Colton)	$40,000	Y	N	L	Proposed	Non SHS	O	O.M.	C			X	X			
8	San Bernardino	Vista Road	200837	BNSF Grade Separation at Vista Road in Helendale	$31,000	Y	N	L	No	Non SHS	O	O.M.	C			X	X			X
8	San Bernardino	I-10		I-10 Logistics Corridor	$1,900,000	Y	N	M	Proposed	Tier 1	P	Cap. Expan.	C		X	X	X	X	X	X
8	San Bernardino	I-10	4122003	On I-10 : Add a truck climbing lane from Live Oak Avenue to Riverside County Line	$30,500	Y	N	M	Proposed	Tier 1	P	Cap. Expan.	C		X	X	X			X
8	San Bernardino	I-10	4M01027	I-10/California Interchange reconstruction	$63,035	Y	N	L	Proposed	Tier 1	P	Cap. Expan.	C	L	X	X	X			
8	San Bernardino	I-10	4M01030	Improve I-10 interchange at Mountain View Avenue.	$40,300	Y	N	M	Proposed	Tier 1	P	Cap. Expan.	C	L	X	X	X			
8	San Bernardino	I-10	4M01031	Improve I-10 interchange at Mt. Vernon Avenue.	$28,750	Y	N	M	Proposed	Tier 1	P	Cap. Expan.	C	L	X	X	X			
8	San Bernardino	I-10	1830	I-10/Cedar Interchange/RR Grade Separation reconstruction	$71,947	Y	N	S	Proposed	Tier 1	P	Cap. Expan.	C	L	X	X	X			
8	San Bernardino	I-10	SBD41339	Improve I-10 interchange at Pepper Avenue.	$8,646	Y	N	S	Proposed	Tier 1	P	Cap. Expan.	C	L	X	X	X			
8	San Bernardino	I-10	2002160	I-10/4th-Grove Interchange and Grove Ave. goods movement corridor - relocate I-10 & 4th Street interchange to Grove Avenue and widen Grove Avenue between I-10 to Holt from 4-6 lanes	$156,000	Y	N	M	Proposed	Tier 1	P	Cap. Expan.	C	L	X					
8	San Bernardino	SR-60	201132-4M07017	SR-60/Archibald Interchange improvements	$14,363	Y	N	M	No	Tier 1	P	Cap. Expan.	C	L	X	X	X			
8	San Bernardino	SR-210	20111625, 4M01005	SR-210 lane addition - Add 1 mixed flow lane in each direction from Highland Ave. to San Bernardino Ave. (Redlands). Includes aux. lanes between Base Line and 5th Sts and an acceleration lane at 5th St. E/B on-ramp and a deceleration lane at Highland Ave. E/B off-ramp.	$143,939	Y	N	S	No	Tier 3	P	Cap. Expan.	C			X	X			
8	SCAG Regional Initiative (San Bernardino)	-	7120017	I-15 Freight Corridor (between SR-60 & I-10)	$856,570	Y	N	L	Proposed	Non SHS	P	Cap. Expan.	C		X	X	X		X	X

Caltrans District	County	Route or Facility ID	Project ID / Reference Number	Project / Program Title and Description	Total Project Cost (thousands)	Financially Constrained	Under Construction and Completely Funded	Short/Mid/ Long Term	Project of National and Regional Significance (PNRS)	Tier	Network Type	Project Type	Primary Facility Type	Secondary Facility Type	California Freight Mobility Plan Goals					
															Economic Competitiveness	Congestion Relief	Safety and Security	Freight System Infrastructure Preservation	Innovative Technology and Practices	Environmental Stewardship
8	Riverside	I-10	3M0722	I-10 at Landau between Vista Chino and Varner Rd.: Construct new 6-lane mixed flow, partial cloverleaf IC with auxiliary lanes and 4 two lane ramps plus 6 lane Grade Separation bridge over UPRR between Palm Dr. IC and Date Palm Dr. IC	$111,664	Y	N	L	No	Tier 1	P	Cap. Expan.	G	C		X	X			
8	Riverside	I-10	RIV070310 - 3TK04MA12	On I-10 near Beaumont: add/construct new eastbound truck climbing lane from San Bernardino County line to I-10/SR-60 junction.	$26,000	Y	N	M	No	Tier 1	P	Cap. Expan.	G			X	X			
8	Riverside	I-10/SR-60	3M04MA05	Construct new interchange at I-10/SR-60 junction/split.	$184,464	Y	N	L	No	Tier 1	P	Cap. Expan.	G			X	X			
8	Riverside	SR-60	RIV120201 - 3TK04MA13	On SR-60 near Beaumont: construct new eastbound and westbound truck lanes from Gilman Springs Road to 1.6 miles west of Jack Rabbit Trail.	$111,282	Y	N	S	No	Tier 1	P	Cap. Expan.	G			X	X			
8	Riverside	SR-86	- see comments	State Route 86 NAFTA Corridor and Safety Improvements in Riverside County. Submitted to State by region for PNRS nomination.	$512,909	Y	N	L	Proposed	Tier 2	S	Cap. Expan.	G	C	X	X	X	X		
9	Inyo	US 395	MOU/170 0900000030	Construct 4-lane expressway	$117,050	Y		S		Tier 3	N	Cap. Expan.			X		X			
9	Mono	US-395	900000096	Construct passing lanes	$20,000	Y		L		Tier 3	N	Cap. Expan.			X		X			
9	Mono	US-395	913000042	Construct passing lanes	$10,000	Y		L		Tier 3	N	Cap. Expan.			X		X			
9	Inyo	US-6		Construct truck parking area at US 395 US 6 Jct	$15,000	N		M		SHS-No Tier	S	O.M.					X			X
9	Inyo	US-395		Construct alternate truck route east of Bishop	$116,000	N		L		Tier 3	N	O.M.			X		X			
9	Kern	SR 14		raise bridge deck on Ave A overcrossing (current height is 15 ' 0")	$10,000	N		M		Tier 3	N	O.M.			X					
9	Kern	SR 14		raise bridge deck on Rosamond Blvd overcrossing (current height is 15 ' 4")	$10,000	N		M		Tier 3	N	O.M.			X					
10	Stanislaus			Sierra RR. Reload yard	$3,500			M		Non SHS	O									
10	Stanislaus & Tuolumne			Sierra RR. Sierra Line Tie Replacement/Surface	$4,000			S		Non SHS	O									
10	Tuolumne			Sierra RR. Loading Siding for Quarry	$3,000			S		Non SHS	O									
10	Tuolumne			Sierra RR. Sierra Line Rail Replacement	$10,000			S		Non SHS	O									

Caltrans District	County	Route or Facility ID	Project ID / Reference Number	Project / Program Title and Description	Total Project Cost (thousands)	Financially Constrained	Under Construction and Completely Funded	Short/Mid/ Long Term	Project of National and Regional Significance (PNRS)	Tier	Network Type	Project Type	Primary Facility Type	Secondary Facility Type	California Freight Mobility Plan Goals					
															Economic Competitiveness	Congestion Relief	Safety and Security	Freight System Infrastructure Preservation	Innovative Technology and Practices	Environmental Stewardship
10	Calaveras	SR 12		Construct new expressway south of Valley Springs.	$79	N		L		SHS-No Tier	O	Cap. Expan.	C		X	X				X
10	Calaveras	SR 4		Construct new expressway; road realignment	$50	Y		M		SHS-No Tier	O	Cap. Expan.	C		X	X				X
10	Stanislaus	SR 132	17	Widen SR 132 connecting SR 99 and I-580	$100,000	N		S		SHS-No Tier	O	Cap. Expan.	C		X	X				
10	Merced	SR 152	19	Widen SR 152 between SR 99 and US 101 (in Merced County)	N/A	N		S		Non SHS	O	Cap. Expan.	C		X	X				
10	Merced	SR-152		LOS BANOS BYPASS, SEGMENT 2 - NEW 4E	$155,000	N		L		Tier 1	O	Cap. Expan.	C			X				
10	Merced	SR-152		LOS BANOS BYPASS, SEGMENT 3 - INTERCHANGES	$191,000	N		L		Tier 2	O	Cap. Expan.	C			X				
10	Merced	SR-152		LOS BANOS BYPASS, SEGMENT 1 - NEW 4E	$44,000	N		M		Tier 1	O	Cap. Expan.	C			X				
10	San Joaquin	Altamont Pass Rail	38	Altamont Pass Rail Corridor/SJV Rail Shuttle (CIRIS)	N/A	N		M		Non SHS	O	Cap. Expan.	C		X				X	
10	Stanislaus	North County Corridor	13	New interregional expressway from SR 99 to SR 120/108	$380,031	Y		M		Non SHS	O	Cap. Expan.	C		X	X				
10	Stanislaus	South County Corridor	103	Expressway connector between SR 99 and I-5 from Turlock to Patterson	N/A	N		M		Non SHS	O	Cap. Expan.	C		X				X	
10	San Joaquin	CCT Rail	37	CCT Lodi Branch Upgrade (repair 1,200 ft of bridge trestle, upgrade 2.5 miles of rail).	N/A	N		M		Non SHS	O	Cap. Expan.	G		X		X	X		
10	San Joaquin	Port of Stockton	35	Port of Stockton West Complex Trackage	N/A	N		M		Non SHS	O	Cap. Expan.	G		X			X		
10	San Joaquin	Stockton Tower	102	New connections at Stockton Tower between UP and CCT	N/A	N		M		Non SHS	O	Cap. Expan.	G		X				X	
10	Stanislaus	Crows Landing Rail	33	Crows Landing Intermodal Rail Facility	$22,000	N		M		Non SHS	O	Cap. Expan.	H		X				X	
10	San Joaquin	Port of Stockton		Washington Street Widening	$3,000	N		M		Non SHS	O	Cap. Expan.	L		X	X	X			X
10	San Joaquin	CCT	Project #34	CCT rail upgrade for new aggregates business	N/A	N		M		Non SHS	O	O.M.	G		X			X		
10	San Joaquin	CCT Rail	34	CCT Rail Upgrades (for new aggregates business)	N/A	N		M		Non SHS	O	O.M.	G		X			X		
10	San Joaquin	Port of Stockton		Fyffe Avenue Grade Separation	$8,000	N		M		Non SHS	O	Preservation	C		X		X	X		
10	San Joaquin	Port of Stockton		Rail Bridge to Railroad Island Replacement	$13,000	N		M		Non SHS	O	Preservation	G		X		X	X		

Caltrans District	County	Route or Facility ID	Project ID / Reference Number	Project / Program Title and Description	Total Project Cost (thousands)	Financially Constrained	Under Construction and Completely Funded	Short/Mid/ Long Term	Project of National and Regional Significance (PNRS)	Tier	Network Type	Project Type	Primary Facility Type	Secondary Facility Type	California Freight Mobility Plan Goals					
															Economic Competitiveness	Congestion Relief	Safety and Security	Freight System Infrastructure Preservation	Innovative Technology and Practices	Environmental Stewardship
10	San Joaquin	Port of Stockton		Roberts Island Bridge Project	$10,000	N		M		Non SHS	O	Preservation	G		X		X			
10	San Joaquin	Port of Stockton		Overweight corridor Improvements	$4,000	N		S		Non SHS	O	Preservation	G		X					
10	San Joaquin		SJ07-3182	Replace Tracy East Overhead Bridge on Eleventh Street	$15,000	N		L		Non SHS	O	Preservation	L					X		
10	San Joaquin		SJ07-3111	Replace Tracy East Overhead Bridge at UPRR	$31,000	N		S		Non SHS	O	Preservation	L					X		
10	San Joaquin	SR 120	16	Widen SR 120 between I-5 and SR 99, with new interchange at SR 99	$115,191	N		S		SHS-No Tier	P	Cap. Expan.	C		X	X				
10	Merced	SR-99		Atwater-Merced Expressway - Remaining Phases	$269,800	N		M		Tier 2	P	Cap. Expan.	C			X				
10	San Joaquin	I-5	15a	Widen I-5 from 1 mile north of SR-12 to SR-120	$91,000	N		S		Tier 1	P	Cap. Expan.	C		X	X				
10	San Joaquin	I-5	15b	Widen I-5 between SR 120 and I-205	$207,970	N		S		Tier 1	P	Cap. Expan.	C		X	X				
10	San Joaquin	SR 99	99a	Widen SR 99 French Camp Rd to Mariposa Rd 6 to 8 lanes, with new interchange	$100,000	N		S		Tier 1	P	Cap. Expan.	C		X	X				
10	San Joaquin	SR 4	22	SR 4 Extension (cross town freeway) to the Port of Stockton, phase 2	$90,000	N		S		Tier 1	P	Cap. Expan.	C		X	X				
10	Stanislaus	I-5	15c	Widen I-5 from 4 to 6 lanes SJ County line to Sperry Ave	$300,063	N		M		Tier 1	P	Cap. Expan.	C		X				X	
10	Stanislaus	SR-99	ST03	Widen STA-99 between Hatch and Tuolumne Road to eight lanes	$102,701	N		L		Tier 1	P	Cap. Expan.	C			X				
10	Stanislaus	SR-99	ST04	Widen STA-99 between Tuolumne Road and Kansas Ave. to eight lanes	$128,243	N		L		Tier 1	P	Cap. Expan.	C			X				
10	Stanislaus	SR-99	ST05	Widen STA-99 between Kansas Ave. and Carpenter Road to eight lanes	$60,046	N		L		Tier 1	P	Cap. Expan.	C			X				
10	Stanislaus	SR-99	ST06	Widen STA-99 between Carpenter Road and the SJ County line to eight lanes	$82,278	N		L		Tier 1	P	Cap. Expan.	C			X				
10	Stanislaus	SR-99	ST02	Widen STA-99 between Mitchell and Hatch Road to eight lanes	$221,877	N				Tier 1	P	Cap. Expan.	C			X				
10	San Joaquin	SR 4	14	Port of Stockton highway access, widen Navy Drive to 4 lanes (from Wash. To Fresno Ave)	$180,000	N		S		Tier 1	P	Cap. Expan.	G		X				X	
10	San Joaquin	CCT	101	New CCT trackage at Port of Stockton	N/A	N		M		Non SHS	P	Cap. Expan.	G		X	X			X	
10	San Joaquin		SJ11-3065	Navy Drive Corridor Improvements	$4,633	Y		M		Non SHS	P	Cap. Expan.	G		X		X	X		X
10	San Joaquin	Roth Road	41	Improve connection between UP Lathrop Yard and SR 99 (widen from 2 to 4 lanes)	N/A	N		S		Non SHS	P	Cap. Expan.	H		X			X		

Caltrans District	County	Route or Facility ID	Project ID / Reference Number	Project / Program Title and Description	Total Project Cost (thousands)	Financially Constrained	Under Construction and Completely Funded	Short/Mid/ Long Term	Project of National and Regional Significance (PNRS)	Tier	Network Type	Project Type	Primary Facility Type	Secondary Facility Type	California Freight Mobility Plan Goals					
															Economic Competitiveness	Congestion Relief	Safety and Security	Freight System Infrastructure Preservation	Innovative Technology and Practices	Environmental Stewardship
10	Stanislaus	SR 132	42	SR 132 West Freeway/Expressway Project from SR 99 to Dakota Avenue	$335,009			S		SHS-No Tier	P	Cap. Expan.			X	X				
10	Merced	I-5		Widen I 5 from 4 to 6 lanes in Merced County		N	N	L		Non SHS	P	Cap. Expan.			x					
10	San Joaquin	I-205/I-580	6	I-580 Truck Climbing Lanes	$114,200	N		M		Tier 1	P	Cap. Expan.			X	X				X
10	San Joaquin	I-5	15c	Widen I-5 from 4 to 6 lanes from 1 mile north of SR-12 to Sacramento County line	$94,000	N		M		Tier 1	P	Cap. Expan.			X	X				
10	Stanislaus	SR 99	99b	Widen SR 99 from 6 to 8 lanes in Stanislaus County	$473,000			S		Tier 1	P	Cap. Expan.			X	X				
10	San Joaquin	SR 99		Widen SR 99 From Lodi to Sacramento County Line	$40,000	N		M		Tier 2	P	Cap. Expan.			X	X				
10	San Joaquin	SR 12	26	Widen SR 12 between I-5 and SR 99	$60,000	N		S		Tier 3	P	Cap. Expan.			X	X				
10	Merced	Castle Airport	12	Castle Airport Air Cargo Improvements		N	N	L		Non SHS	P	O.M.			X			X		
10	Stanislaus	SR-99	SC01	Replace Interchange at SR-99 and SR219	$67,000	N		L		Tier 1	P	Preservation	C					X		
10	Stanislaus	SR-99	SC02	Replace Interchange at SR-99 and Hammett Road	$96,000	N		L		Tier 1	P	Preservation	C					X		
10	Stanislaus	SR-99	T01	Reconstruct Interchange at Fulkerth Road	$12,667	N		M		Tier 1	P	Preservation	C					X		
10	Tuolumne	SR 49		SR 49 Bypass. Construct a western bypass of Sonora connecting SR 49 and Rawhide Road from Jamestown to Tuttletown to support lodging and mining truck traffic and address congestion in Sonora.	$17,000	N		L		SHS-No Tier	S	Cap. Expan.			X	X	X			X
10	Tuolumne	SR 108		Peaceful Oak SR 108 Interchange Ramps. Construct a westbound off-ramp and eastbound on-ramp at the Peaceful Oaks Road interchange on State Route 108 in Tuolumne County.	$10,036	Y		S		SHS-No Tier	S	Cap. Expan.			X	X	X			
10	Tuolumne	SR 108		East Sonora Bypass Phase 3. Construct a two new lane arterial expressway between Via Este and North Sunshine Drive.	$44,000	N		L		SHS-No Tier	S	Cap. Expan.			X	X	X			
10	Tuolumne	SR 49		North-South Connector. Construct a new major collector road from Greeley Road to SR 49, just north of the City of Sonora.	$42,638	N		L		SHS-No Tier	S	Cap. Expan.			X	X	X			
10	Tuolumne	SR 120		Priest Grade Climbing Lane. Construct a climbing lane along Old Priest Grade	$2,500	N		L		SHS-No Tier	S	Comm. And Env't Mit.			X	X	X			
10	Tuolumne	SR 120		Paved Turnouts on SR 120 at Priest Grade	N/A	N		L		SHS-No Tier	S	Comm. And Env't Mit.			X	X	X			

Caltrans District	County	Route or Facility ID	Project ID / Reference Number	Project / Program Title and Description	Total Project Cost (thousands)	Financially Constrained	Under Construction and Completely Funded	Short/Mid/ Long Term	Project of National and Regional Significance (PNRS)	Tier	Network Type	Project Type	Primary Facility Type	Secondary Facility Type	California Freight Mobility Plan Goals					
															Economic Competitiveness	Congestion Relief	Safety and Security	Freight System Infrastructure Preservation	Innovative Technology and Practices	Environmental Stewardship
10	Tuolumne	SR 120/108		Yosemite Junction - Geometric Improvements. Construct geometric improvements at SR 120/SR 108 intersection with EB climbing lane.	N/A	N		M		SHS-No Tier	S	Comm. And Env't Mit.			X	X	X			
10	Tuolumne	SR 49		West of Sonora Curve Realignments SR 49. Construct a new curve realignments along SR 49 from Fraguero Rd to Morman Creek Rd for collision reduction.	$2,500	N		M		SHS-No Tier	S	Comm. And Env't Mit.			x		X	X		X
10	Tuolumne/ Calaveras	SR 120/108		New Bridge over Lake Tulloch. Construct a new bridge over Lake Tulloch at the Calaveras/Tuolumne County line to accommodate trucking operations	N/A	N		L		SHS-No Tier	S	Comm. And Env't Mit.			X		X			
10	Tuolumne	SR 108/120		Rural ITS Elements. Construct new ITS elements along the SR 108/120 corridor.	N/A	N		S		SHS-No Tier	S	O.M.				X	X		X	X
10	Alpine	SR 88		Intersection with Diamond Valley Road, Left Turn Pocket	?	N	N	M		SHS-No Tier	S	O.M.								
10	Alpine	SR 88		Intersection with Foothill Road, Left Turn Pocket	?	N	N	M		SHS-No Tier	S	O.M.								
10	Alpine	SR 88		Intersection with Kirkwood Meadows Drive, Northbound to Westbound left-turn acceleration lane	?	N	N	M		SHS-No Tier	S	O.M.								
10	Alpine	SR 88		Intersection with Emigrant Trail, Left Turn Pocket	?	N	N	M		SHS-No Tier	S	O.M.								
10	Alpine	SR 88		Intersection with Blue Lakes Road, Turn Pocket	?	N	N	M		SHS-No Tier	S	O.M.								
10	Alpine	SR 88		Intersection at SR 89 Woodfords, Westbound Left Turn Pocket	?	N	N	M		SHS-No Tier	S	O.M.								
10	Alpine	SR 89		Carson Pass from Kirkwood to Red Lake, Roadway Rehabilitation	?	N	N	M		SHS-No Tier	S	O.M.								
10	Alpine	SR 89		North of Pickett's Junction, Truck Climbing Lanes	?	N	N	S		SHS-No Tier	S	O.M.								
10	Amador	SR 104		Ione Elementary School access and safety improvements	$500	Y	N	M		SHS-No Tier	S	O.M.								
10	Amador	SR 104		Signalize intersection at Prospect and Bowers Dr.	$1,600	Y	N	L		SHS-No Tier	S	O.M.								
10	Amador	SR 104		Widen from SR 88 to SR 49	$4,200	Y	N	L		SHS-No Tier	S	O.M.								
10	Amador	SR 104		Western Ione Roadway strategy (Ione Parkway) construct alternate route	$113,600	Y	N	L		SHS-No Tier	S	O.M.								

Caltrans District	County	Route or Facility ID	Project ID / Reference Number	Project / Program Title and Description	Total Project Cost (thousands)	Financially Constrained	Under Construction and Completely Funded	Short/Mid/ Long Term	Project of National and Regional Significance (PNRS)	Tier	Network Type	Project Type	Primary Facility Type	Secondary Facility Type	California Freight Mobility Plan Goals					
															Economic Competitiveness	Congestion Relief	Safety and Security	Freight System Infrastructure Preservation	Innovative Technology and Practices	Environmental Stewardship
10	Amador	SR 124		Complete sidewalks, pedestrian crossings East Main St. to Howard Park in Ione	$175	Y	N	L		SHS-No Tier	S	O.M.								
10	Amador	SR 16		Add WB RT lane and EB receiving pocket at Latrobe Rd.	$750	Y	N	M		SHS-No Tier	S	O.M.								
10	Amador	SR 49		Improve intersection with Main St. & Shenandoah Rd. at Plymouth (roundabout)	$3,800	N	Y	S		SHS-No Tier	S	O.M.								
10	Amador	SR 49		Signalize and improve Intersection with French Bar Rd. in Jackson	$2,000	N	Y	S		SHS-No Tier	S	O.M.								
10	Amador	SR 49		Widen shoulders add safety features between SR 16 and Drytown	$250	Y	N	L		SHS-No Tier	S	O.M.								
10	Amador	SR 49		Curve correction and shoulder widening at Bell Road	$200	Y	N	L		SHS-No Tier	S	O.M.								
10	Amador	SR 49		Add left turn lanes and sidewalks at Martell and Jackson Gate Road	$875	Y	N	L		SHS-No Tier	S	O.M.								
10	Amador	SR 49		Plymouth corridor improvements	$22,000	Y	N	L		SHS-No Tier	S	O.M.								
10	Amador	SR 49/88		Improve and signalize intersection with Sutter St. in Jackson	$873	N	Y	S		SHS-No Tier	S	O.M.								
10	Amador	SR 49/88		Realign and signalize Intersection at Argonaut Lane	$3,000	Y	N	M		SHS-No Tier	S	O.M.								
10	Amador	SR 49/88		Jackson corridor improvements	$21,100	Y	N	M		SHS-No Tier	S	O.M.								
10	Amador	SR 88		Pine Grove corridor project	$39,500	Y	N	M		SHS-No Tier	S	O.M.								
10	Amador	SR 88		Widen EB shoulder and correct sight distance at Buckhorn Ridge Rd.	$300	Y	N	L		SHS-No Tier	S	O.M.								
10	Amador	SR 88		Nob Hill curb correction	$2,500	Y	N	L		SHS-No Tier	S	O.M.								
10	Amador	SR 88		Signalize and align intersection with Sierra Pacific Dr. (new roadway)	$4,800	Y	N	L		SHS-No Tier	S	O.M.								
10	Amador	SR 88		Signalize intersection at Jackson Valley Rd. (east)	$1,500	Y	N	L		SHS-No Tier	S	O.M.								
10	Amador	SR 88		Signalize intersection add access control and safety improvements at Martell cutoff	$1,500	Y	N	L		SHS-No Tier	S	O.M.								
10	Amador	SR 88		Widen highway from Wicklow Way to SR 49	$2,800	Y	N	L		SHS-No Tier	S	O.M.								

Caltrans District	County	Route or Facility ID	Project ID / Reference Number	Project / Program Title and Description	Total Project Cost (thousands)	Financially Constrained	Under Construction and Completely Funded	Short/Mid/ Long Term	Project of National and Regional Significance (PNRS)	Tier	Network Type	Project Type	Primary Facility Type	Secondary Facility Type	California Freight Mobility Plan Goals					
															Economic Competitiveness	Congestion Relief	Safety and Security	Freight System Infrastructure Preservation	Innovative Technology and Practices	Environmental Stewardship
10	Amador	SR 88		Widen from SR 104 to Wicklow Way	$4,600	Y	N	L		SHS-No Tier	S	O.M.								
10	Amador	SR 88		Intersection improvements at Buena Vista Road	$1,500	Y	N	L		SHS-No Tier	S	O.M.								
10	Amador	SR 88		Signalize intersection at Jackson Valley Rd. (West)	$1,500	Y	N	L		SHS-No Tier	S	O.M.								
10	Amador	SR 88		Intersection improvements at SR 26	$350	Y	N	L		SHS-No Tier	S	O.M.								
10	Amador	SR 88		Intersection improvements at SR 124	$150	Y	N	L		SHS-No Tier	S	O.M.								
11	Imperial	SR-115	6120007	Widen SR-115 from I-8 to Evan Hewes Highway.	$231,816	Y	N	L	No	SHS-No Tier	N	Cap. Expan.	C		X	X				
11	Imperial	SR-115	S6120009	SR-115/Evan Hewes Highway to SR-78: Add/Widen and improve to a four lane expressway	$146,800	N	N	M	No	SHS-No Tier	N	Cap. Expan.	C		X	X				
11	Imperial	SR-78/115	S6120012	From Brawley Bypass to SR-78: Widen and improve to four-lane conventional highway	$74,500	N	N	L	No	SHS-No Tier	N	Cap. Expan.	C		X	X				
11	San Diego	SR-125		From SR 54 to SR 94 add 2 Managed Lanes and 2 General Purpose Lanes	$146,000	N	N	L	No	SHS-No Tier	N	Cap. Expan.	C		X	X		X	X	X
11	San Diego	SR-125		From I-8 to SR-52 2 Managed Lanes	$263,000	N	N	L	No	SHS-No Tier	N	Cap. Expan.	C		X	X		X	X	X
11	San Diego	SR-125		From SR-54 to SR-94 add 2 Managed Lanes	$76,000	Y	N	L	No	SHS-No Tier	N	Cap. Expan.	C		X	X		X	X	X
11	San Diego	SR-125		From San Miguel Road to SR-54 add 4 General Purpose Lanes	$177,000	Y	N	L	No	SHS-No Tier	N	Cap. Expan.	C		X	X		X	X	X
11	San Diego	SR-125		From SR-94 to I-8 add 2 Managed Lanes and 2 General Purpose Lanes	$293,000	Y	N	L	No	SHS-No Tier	N	Cap. Expan.	C		X	X		X	X	X
11	San Diego	SR-125		From SR-905 to San Miguel Road add 4 General Purpose Lanes	$323,000	Y	N	L	No	SHS-No Tier	N	Cap. Expan.	C		X	X		X	X	X
11	San Diego	SR-163		From I-805 to I-15 add 2 Managed Lanes	$333,000	N	N	L	No	SHS-No Tier	N	Cap. Expan.	C		X	X		X	X	X
11	San Diego	SR-52		From I-15 to SR-125 add 3 Managed Lanes and 2 General Purpose Lanes from Mast Blvd to SR-125	$531,000	N	N	L	No	SHS-No Tier	N	Cap. Expan.	C		X	X		X	X	X
11	San Diego	SR-52		From I-805 to I-15 add 2 Managed Lanes	$91,000	Y	N	L	No	SHS-No Tier	N	Cap. Expan.	C		X	X		X	X	X
11	San Diego	SR-52		From I-5 to I-805 add 2 General Purpose Lanes	$110,000	Y	N	L	No	SHS-No Tier	N	Cap. Expan.	C		X	X		X	X	X

Caltrans District	County	Route or Facility ID	Project ID / Reference Number	Project / Program Title and Description	Total Project Cost (thousands)	Financially Constrained	Under Construction and Completely Funded	Short/Mid/ Long Term	Project of National and Regional Significance (PNRS)	Tier	Network Type	Project Type	Primary Facility Type	Secondary Facility Type	California Freight Mobility Plan Goals					
															Economic Competitiveness	Congestion Relief	Safety and Security	Freight System Infrastructure Preservation	Innovative Technology and Practices	Environmental Stewardship
11	San Diego	SR-52		From I-15 to SR-125 add 2 Managed Lanes (Reversible) and 2 General Purpose Lanes from Mast Blvd to SR-125	$374,000	Y	N	L	No	SHS-No Tier	N	Cap. Expan.	C		X	X		X	X	X
11	San Diego	SR-52		From SR-125 to SR-67 add 2 General Purpose Lanes	$253,000	N	N	L	No	SHS-No Tier	N	Cap. Expan.	C		X	X		X		X
11	San Diego	SR-54		From I-5 to SR-125 add 2 Managed Lanes and 2 General Purpose Lanes	$230,000	N	N	L	No	SHS-No Tier	N	Cap. Expan.	C		X	X		X	X	X
11	San Diego	SR-54		From I-5 to SR-125 add 2 Managed Lanes	$111,000	Y	N	L	No	SHS-No Tier	N	Cap. Expan.	C		X	X		X	X	X
11	San Diego	SR-67		From I-8 to Mapleview St add 2 General Purpose Lanes	$141,000	N	N	L	No	SHS-No Tier	N	Cap. Expan.	C		X	X		X		X
11	San Diego	SR-78		From Twin Oaks to I-15 2 Managed Lanes and Operational	$177,000	Y	N	M	No	SHS-No Tier	N	Cap. Expan.	C		X	X		X	X	X
11	San Diego	SR-78		From I-5 to College Boulevard 2 Managed Lanes and operational	$227,000	Y	N	M	No	SHS-No Tier	N	Cap. Expan.	C		X	X		X	X	X
11	San Diego	SR-78		From College Boulevard to Twin Oaks 2 Managed Lanes and operational	$788,000	Y	N	M	No	SHS-No Tier	N	Cap. Expan.	C		X	X		X	X	X
11	San Diego	SR-94		From I-805 to College Ave 2 Managed Lanes and 2 General Purpose Lanes	$470,000	N	N	L	No	SHS-No Tier	N	Cap. Expan.	C		X	X		X	X	X
11	San Diego	SR-94		From I-805 to SR-125 2 Managed Lanes	$369,000	Y	N	L	No	SHS-No Tier	N	Cap. Expan.	C		X	X		X	X	X
11	San Diego	SR-94		From I-5 to I-805 add 2 Managed Lanes	$485,000	Y	N	L	No	SHS-No Tier	N	Cap. Expan.	C		X	X		X	X	X
11	San Diego	SR-94		From SR-125 to Avocado Blvd add two General Purpose Lanes	$111,000	Y	N	L	No	SHS-No Tier	N	Cap. Expan.	C		X	X		X		X
11	San Diego	SR-94		From Avocado Blvd to Steele Canyon Rd add 2 to conventional highway Lanes	$131,000	Y	N	L	No	SHS-No Tier	N	Cap. Expan.	C		X	X		X		X
11	San Diego	SR-94/125		Freeway connector South to East and West to North	$142,000	Y	N	L	No	SHS-No Tier	N	Cap. Expan.	C		X	X		X		X
11	Imperial	SR-78/86	S6120010	SR78/86 various segments (dual signed) From Brawley Bypass to SR-78: Add new four-lane expressway bypass route around the City of Westmorland	$167,800	N	N	M	No	Tier 2	N	Cap. Expan.	C		X	X				X
11	San Diego	I-5/SR-78		Freeway connector South to East and West to South	$273,000	Y	N	M	No	Tier 2	N	Cap. Expan.	C		X	X		X		X
11	Imperial	I-8	S6120008	From Forrester Road to SR-111: Add/Widen and Improve to Six-Lane Freeway.	$188,700	N	N	L	No	Tier 3	N	Cap. Expan.	C		X	X		X		
11	San Diego	I-5/SR-94		Freeway connector North to East	$131,000	N	N	L	No	Tier 3	N	Cap. Expan.	C		X	X		X		X

Caltrans District	County	Route or Facility ID	Project ID / Reference Number	Project / Program Title and Description	Total Project Cost (thousands)	Financially Constrained	Under Construction and Completely Funded	Short/Mid/ Long Term	Project of National and Regional Significance (PNRS)	Tier	Network Type	Project Type	Primary Facility Type	Secondary Facility Type	California Freight Mobility Plan Goals					
															Economic Competitiveness	Congestion Relief	Safety and Security	Freight System Infrastructure Preservation	Innovative Technology and Practices	Environmental Stewardship
11	San Diego	RAIL MAINLINE		Double tracking (includes all COASTER improvements mentioned above and adds extension to National City)	$3,610,000	N	N	L	Proposed	Non SHS	N	Cap. Expan.	C		X	X	X	X	X	
11	San Diego	RAIL MAINLINE		Phase I - Blue Line Frequency Enhancements and rail grade separations, Blue/Orange Track Connection at 12th/Imperial	$205,000	Y	N	L	No	Non SHS	N	Cap. Expan.	C		X	X	X	X		X
11	San Diego	RAIL MAINLINE		Orange Line Frequency Enhancements and four rail grade separations	$267,000	Y	N	L	No	Non SHS	N	Cap. Expan.	C		X	X	X	X		X
11	San Diego	RAIL MAINLINE		COASTER double tracking (20-minute peak frequencies and current 120-minute off-peak frequencies; extension to the Gaslamp)	$445,000	Y	N	M	Proposed	Non SHS	N	Cap. Expan.	C		X	X	X	X		X
11	San Diego	RAIL MAINLINE		SPRINTER Express	$244,000	Y	N	L	No	Non SHS	N	Cap. Expan.	C		X	X	X	X		
11	San Diego	RAIL MAINLINE		SPRINTER efficiency improvements (20-minute frequencies)	$459,000	Y	N	L	No	Non SHS	N	Cap. Expan.	C		X	X	X	X		
11	San Diego	RAIL MAINLINE		SPRINTER Double tracking Oceanside to Escondido; includes 10-minute frequencies and six rail grade separations	$487,000	Y	N	L	No	Non SHS	N	Cap. Expan.	C		X	X	X	X		
11	San Diego	RAIL MAINLINE		COASTER double tracking (completes double tracking; includes Del Mar Tunnel) and grade separations	$900,000	Y	N	L	Proposed	Non SHS	N	Cap. Expan.	C		X	X	X	X		
11	San Diego	RAIL MAINLINE		COASTER double tracking (completes double tracking; includes Del Mar Tunnel)	$1,365,000	Y	N	L	Proposed	Non SHS	N	Cap. Expan.	C		X	X	X	X		
11	San Diego	RAIL MAINLINE		Phase II - Blue Line rail grade separations (two)	$226,000	Y	N	L	No	Non SHS	N	Cap. Expan.	C		X	X	X	X		X
11	San Diego	BORDER SYSTEMS		Otay Mesa Port of Entry Modernization Project	$63,000	N	N	L	No	Non SHS	N	Cap. Expan.	G		X	X		X		X
11	San Diego	BORDER SYSTEMS		Jacumba Port of Entry Improvements	N/A	N	N	L	No	Non SHS	N	Cap. Expan.	G		X	X		X		X
11	San Diego	AIR CARGO SYSTEMS		SDIA Interior Northside Roadway	$3,900	Y	Y	S	No	Non SHS	N	Cap. Expan.	L	G	X	X		X		X
11	San Diego	AIR CARGO SYSTEMS		SDIA Air Cargo Facility Improvements for cargo storage and handling	$20,000	Y	Y	S	No	Non SHS	N	Cap. Expan.	L	G	X	X		X		X
11	Imperial	SR-86	6120001	Forrester Road Corridor (Proposed SR-86): widen and improve to 4 lane arterial from I-8 to SR-78.	$250,578	Y	N	S	No	Tier 2	O	Cap. Expan.	C		X	X	X			

Caltrans District	County	Route or Facility ID	Project ID / Reference Number	Project / Program Title and Description	Total Project Cost (thousands)	Financially Constrained	Under Construction and Completely Funded	Short/Mid/ Long Term	Project of National and Regional Significance (PNRS)	Tier	Network Type	Project Type	Primary Facility Type	Secondary Facility Type	California Freight Mobility Plan Goals					
															Economic Competitiveness	Congestion Relief	Safety and Security	Freight System Infrastructure Preservation	Innovative Technology and Practices	Environmental Stewardship
11	San Diego	RAIL MAINLINE		Desert Line Basic Service, Rehabilitation	$182,000	N	N	L	No	Non SHS	O	Cap. Expan.	C		X	X		X		X
11	San Diego	TRUCK REST STOP		Truck parking at State Route 76/Interstate 15	$14,000	N	N	L	No	Non SHS	O	Cap. Expan.	C		X	X	X	X		X
11	San Diego	TRUCK REST STOP		Truck staging at border	$30,000	N	N	L	No	Non SHS	O	Cap. Expan.	C		X	X	X	X		X
11	San Diego	TRUCK REST STOP		Truck rest stop with restrooms, location tbd	N/A	N	N	L	No	Non SHS	O	Cap. Expan.	C		X	X	X	X		X
11	San Diego	RAIL INTERMODAL		Logistics Center North County	$166,000	N	N	L	No	Non SHS	O	Cap. Expan.	H		X	X	X	X		X
11	San Diego	RAIL INTERMODAL		Logistics Center Mid County	$2,130,000	N	N	L	No	Non SHS	O	Cap. Expan.	H		X	X	X	X		X
11	San Diego	PIPELINE		I-15 Access to Kinder Morgan (KM) MV Terminal	N/A	N	N	L	No	Non SHS	O	Cap. Expan.	L	G	X	X		X		X
11	Imperial	RAIL INTERMODAL	-	SR98/Cesar Chavez Blvd. (Calexico) Construct roadway/rail grade separations		N	N	L	No	Non SHS	O	O.M.	C		X	X	X			X
11	Imperial	RAIL INTERMODAL	-	SR98 - at Land POE (Calexico) Construct roadway/rail grade separations		N	N	L	No	Non SHS	O	O.M.	C		X	X	X			X
11	Imperial	RAIL INTERMODAL	S6120022	Ward Road (Imperial County) Construct roadway/rail grade separations	Cost I Proj ID S6	N	N	L	No	Non SHS	O	O.M.	C		X	X	X			X
11	Imperial	RAIL INTERMODAL	S6120022-S6120031	Construct roadway/rail grade separations at 10 locations on the Union Pacific RR	$300,000	N	N	L	No	Non SHS	O	O.M.	C		X	X	X			X
11	Imperial	RAIL INTERMODAL	S6120023	SR-78/SR-111 (Brawley) Construct roadway/rail grade separations	Cost I Proj ID S6	N	N	L	No	Non SHS	O	O.M.	C		X	X	X			X
11	Imperial	RAIL INTERMODAL	S6120024	Malan Street (Brawley) Construct roadway/rail grade separations	Cost I Proj ID S6	N	N	L	No	Non SHS	O	O.M.	C		X	X	X			X
11	Imperial	RAIL INTERMODAL	S6120025	Mead Road (Brawley) Construct roadway/rail grade separations	Cost I Proj ID S6	N	N	L	No	Non SHS	O	O.M.	C		X	X	X			X

Caltrans District	County	Route or Facility ID	Project ID / Reference Number	Project / Program Title and Description	Total Project Cost (thousands)	Financially Constrained	Under Construction and Completely Funded	Short/Mid/ Long Term	Project of National and Regional Significance (PNRS)	Tier	Network Type	Project Type	Primary Facility Type	Secondary Facility Type	California Freight Mobility Plan Goals					
															Economic Competitiveness	Congestion Relief	Safety and Security	Freight System Infrastructure Preservation	Innovative Technology and Practices	Environmental Stewardship
11	Imperial	RAIL INTERMODAL	S6120026	Keystone Road (Imperial County) Construct roadway/rail grade separations	Cost I Proj ID S6	N	N	L	No	Non SHS	O	O.M.	C		X	X	X			X
11	Imperial	RAIL INTERMODAL	S6120027	Aten Road (Imperial) Construct roadway/rail grade separations	Cost I Proj ID S6	N	N	L	No	Non SHS	O	O.M.	C		X	X	X			X
11	Imperial	RAIL INTERMODAL	S6120028	Evan Hewes Highway (Imperial County) Construct roadway/rail grade separations	Cost I Proj ID S6	N	N	L	No	Non SHS	O	O.M.	C		X	X	X			X
11	Imperial	RAIL INTERMODAL	S6120029	Dogwood Road (Imperial County) Construct roadway/rail grade separations	Cost I Proj ID S6	N	N	L	No	Non SHS	O	O.M.	C		X	X	X			X
11	Imperial	RAIL INTERMODAL	S6120030	Heber Avenue (Imperial County) Construct roadway/rail grade separations	Cost I Proj ID S6	N	N	L	No	Non SHS	O	O.M.	C		X	X	X			X
11	Imperial	RAIL INTERMODAL	S6120031	West Cole Road (Calexico) Construct roadway/rail grade separations	Cost I Proj ID S6	N	N	L	No	Non SHS	O	O.M.	C		X	X	X			X
11	Imperial	SR-98	6120008	SR-98 or Jasper Road from SR-111 to SR-7: widen and improve to 4/6 lanes.	$1,170,483	Y	N	L	Proposed	SHS-No Tier	P	Cap. Expan.	C		X	X				
11	San Diego	SR-15		From SR-94 to I-805 add 2 Managed Lanes	$30,000	Y	N	L	No	SHS-No Tier	P	Cap. Expan.	C	B	X	X		X	X	X
11	San Diego	SR-15		From I-5 to SR-94 add 2 General Purpose Lanes and 2 Managed Lanes	$136,000	Y	N	L	No	SHS-No Tier	P	Cap. Expan.	C	B	X	X		X	X	X
11	San Diego	I-15		From SR-78 to Riverside County add 4 Toll Lanes	$1,030,000	Y	N	L	No	Tier 1	P	Cap. Expan.	C	B	X	X		X	X	X
11	San Diego	I-15		From I-8 to SR-163 add 2 Managed Lanes	$56,000	Y	N	M	No	Tier 1	P	Cap. Expan.	C	B	X	X		X	X	X
11	San Diego	I-15		From Lake Hodges to SR-78 add 2 General Purpuse Lanes	$232,000	N	N	L	No	Tier 1	P	Cap. Expan.	C	B	X	X		X		X
11	San Diego	I-805		From SR-905 to Carroll Canyon add 4 Managed Lanes	$3,343,000	Y	N	M	No	Tier 1	P	Cap. Expan.	C	B	X	X		X	X	X
11	San Diego	SR-11/SR-905		Freeway connector EB SR 11 and WB SR 11 to NB SR 125, NB SR 905 to NB SR 125 and SB 125 to WB SR 905, SB SR 125 to EB SR 11, SB SR 125 to SB SR 905	$100,000	Y	N	M	No	Tier 1	P	Cap. Expan.	C	B	X	X		X	X	X
11	San Diego	SR-905		From I-805 to Mexico add 2 General Purpose Lanes	$202,000	N	N	L	No	Tier 1	P	Cap. Expan.	C		X	X		X		X
11	San Diego	I-5		From I-5/I-805 Merge to SR-56 add 4 Managed Lanes	$91,000	Y	N	L	Proposed	Tier 2	P	Cap. Expan.	C	B	X	X		X	X	X

Caltrans District	County	Route or Facility ID	Project ID / Reference Number	Project / Program Title and Description	Total Project Cost (thousands)	Financially Constrained	Under Construction and Completely Funded	Short/Mid/ Long Term	Project of National and Regional Significance (PNRS)	Tier	Network Type	Project Type	Primary Facility Type	Secondary Facility Type	California Freight Mobility Plan Goals					
															Economic Competitiveness	Congestion Relief	Safety and Security	Freight System Infrastructure Preservation	Innovative Technology and Practices	Environmental Stewardship
11	San Diego	I-5		From SR-15 to I-8 Operational Improvements	$1,177,000	Y	N	L	Proposed	Tier 2	P	Cap. Expan.	C	B	X	X		X	X	X
11	San Diego	I-5		From Vandergrift Blvd. to Orange County add 4 Toll Lanes	$1,813,000	Y	N	L	Proposed	Tier 2	P	Cap. Expan.	C	B	X	X		X	X	X
11	San Diego	I-5		From SR 56 to Vandergrift Blvd add 4 Managed Lanes	$2,818,000	Y	N	M	Proposed	Tier 2	P	Cap. Expan.	C	B	X	X		X	X	X
11	San Diego	I-5/I-8		Freeway connector East to North and South to West	$323,000	N	N	L	No	Tier 2	P	Cap. Expan.	C	B	X	X		X		X
11	San Diego	I-8		From SR-125 to 2nd Street- Operational Improvements	$167,000	Y	N	L	No	Tier 2	P	Cap. Expan.	C	B	X	X		X	X	X
11	San Diego	I-8		From I-5 to SR-125 Operational Improvements	$667,000	Y	N	L	No	Tier 2	P	Cap. Expan.	C	B	X	X		X	X	X
11	San Diego	I-5		From SR-54 to SR-15 add 2 General Purpose Lanes and 2 Managed Lanes	$165,000	Y	N	L	Proposed	Tier 3	P	Cap. Expan.	C	B	X	X		X	X	X
11	San Diego	I-5		From I-8 to La Jolla Village Dr. add 2 Managed Lanes	$556,000	Y	N	L	Proposed	Tier 3	P	Cap. Expan.	C	B	X	X		X	X	X
11	San Diego	I-5		From SR-905 to SR-15 add 2 Managed Lanes and 2 General Purpose Lanes between SR 54 and SR 15	$651,000	Y	N	L	Proposed	Tier 3	P	Cap. Expan.	C	B	X	X		X	X	X
11	San Diego	I-5		From La Jolla Village Drive to I-5/I-805 Merge add 2 Managed Lanes	$136,000	Y	N	M	Proposed	Tier 3	P	Cap. Expan.	C	B	X	X		X	X	X
11	San Diego	I-8		From 2nd Street to Los Coches add two General Purpose Lanes	$35,000	Y	N	L	No	Tier 3	P	Cap. Expan.	C	B	X	X		X	X	X
11	San Diego	I-8		From Los Coches to Dunbar Rd 2 General Purpose Lanes	$131,000	N	N	L	No	Tier 3	P	Cap. Expan.	C	B	X	X		X		X
11	San Diego	SR-905		From I-5 to I-805 add 4 General Purpose Lanes	$157,000	N	N	L	No	Tier 3	P	Cap. Expan.	C		X	X		X		X
11	San Diego	SR-11		From SR-905 to Mexico construct 4 toll Lanes and a Land Port of Entry	$683,000	Y	N	S	Proposed	SHS-No Tier	P	Cap. Expan.	G	C	X	X		X	X	X
11	Imperial	Calexico East Port of Entry (SR-7 connection)	-	Expansion of the Calexico East Port of Entry - The proposed project is to increase the number of Commercial Vehicle inspection lanes and booths from existing 3 to 6 lanes and booths; and widen bridge over the All-American Canal (Canal serves as U.S./Mexico Border). Submitted to State by region for PNRS nomination and will be amended into upcoming RTP.	$90,000	N	N	L	Proposed	Non SHS	P	Cap. Expan.	G	H	X	X	X	X	X	X

Caltrans District	County	Route or Facility ID	Project ID / Reference Number	Project / Program Title and Description	Total Project Cost (thousands)	Financially Constrained	Under Construction and Completely Funded	Short/Mid/ Long Term	Project of National and Regional Significance (PNRS)	Tier	Network Type	Project Type	Primary Facility Type	Secondary Facility Type	California Freight Mobility Plan Goals					
															Economic Competitiveness	Congestion Relief	Safety and Security	Freight System Infrastructure Preservation	Innovative Technology and Practices	Environmental Stewardship
11	San Diego	MARITIME		Harbor Drive Multimodal Corridor Improvements, including but not limited to: improvements at 32nd Street and Vesta Street; pedestrian crossings and bridges; various truck improvements; bikeway accommodations; streetscape, safety, and parking improvements.	$273,000	N	N	L	No	Non SHS	P	Cap. Expan.	G	L	X	X		X	X	X
11	San Diego	MARITIME		Tenth Avenue Marine Terminal (TAMT) Marine Cargo Staging and Handling Projects, including but not limited to: enhanced open storage, shed demolition, cargo handling infrastructure improvements, wharf reinforcements, additional crane, on-dock shorepower, improvements to facilitate "marine highway" cargo, and front gate technology enhancements.	$88,000	N	N	L	No	Non SHS	P	Cap. Expan.	G	L	X	X		X		X
11	San Diego	MARITIME		National City Marine Terminal (NCMT) Marine Cargo Staging and Handling Projects, including but not limited to: construct garages for additional roll-on/roll-off cargo storage, wharf extension to create two new berths, and improvements to facilitate "marine highway" cargo.	$95,000	N	N	L	No	Non SHS	P	Cap. Expan.	G	L	X	X		X		X
11	San Diego	MARITIME		10th Avenue Marine Terminal freight rail improvements, including but not limited to track upgrades and increased staging area for rail cargo and loading	$28,000	N	N	L	No	Non SHS	P	Cap. Expan.	H	G	X	X		X		X
11	San Diego	MARITIME		NCMT Freight Rail Improvements, including but not limited to: additional rail storage facilities in the vicinity of the balloon track	$2,500	N	N	L	No	Non SHS	P	Cap. Expan.	H	G	X	X		X		X
11	San Diego	BORDER SYSTEMS		Otay Mesa Southbound Truck Route Improvements	$35,000	N	N	L	No	Non SHS	P	Cap. Expan.	L	G	X	X	X	X	X	X

Caltrans District	County	Route or Facility ID	Project ID / Reference Number	Project / Program Title and Description	Total Project Cost (thousands)	Financially Constrained	Under Construction and Completely Funded	Short/Mid/ Long Term	Project of National and Regional Significance (PNRS)	Tier	Network Type	Project Type	Primary Facility Type	Secondary Facility Type	California Freight Mobility Plan Goals					
															Economic Competitiveness	Congestion Relief	Safety and Security	Freight System Infrastructure Preservation	Innovative Technology and Practices	Environmental Stewardship
12	Orange	-	-	BNSF Line - Triple track from Fullerton to Imperial Hwy (7 miles). Cost included in the rail package - mainline rail capacity expansion. See Project ID# RRC0701.	$70,000	Y		L	No	Non SHS	O	Cap. Expan.	C		X	X				
12	Orange	17th Street	ORA131306 - S2120061	17th Street at LOSSAN	$55,000	Y	N	M	No	Non SHS	O	O.M.	C			X	X			X
12	Orange	Santa Ana Blvd	ORA082610 - S2120066	Santa Ana Blvd at LOSSAN	$80,000	Y	N	M	No	Non SHS	O	O.M.	C			X	X			X
12	Orange	State College Blvd	ORA130303 - 2121001	State College Blvd at LOSSAN	$92,000	Y	N	M	No	Non SHS	O	O.M.	C			X	X			X
12	Orange	I-5	ORA130302 - 2M0731	On I-5: Add 1 MF lane NB from truck bypass on ramp to SR-55, add 1 MF lane SB from SR-55 to Alton and 1 Aux lane from Alton to truck bypass. Submitted to State by region for PNRS nomination.	$728,120	Y	N	M	Proposed	Tier 1	P	Cap. Expan.	C		X	X	X			
12	Orange	SR-57	ORA000820-2TK01116	SR-57 truck climbing auxiliary lane from Lambert Road to Los Angeles County line	$170,400	Y	N	L	No	Tier 1	P	Cap. Expan.	C		X	X	X			
7 & 8	SCAG Regional Initiative (Los Angeles/ San Bernardino)	-	7120016	East-West Freight Corridor Segment 3 (between SR-57 & I-15)	$3,777,816	Y	N	L	Proposed	Non SHS	P	Cap. Expan.	C		X	X	X		X	X
7 & 8	SCAG Regional Initiative (Los Angeles/ San Bernardino)		1C0404	High Desert Corridor - Construct new 4-6 lane facility: East-West I-14 to US-395 (CONNECTING AT San Bernardino County), East-West I-5 to SR-14, North-South SR-14 to SR-138.	$6,925,029	Y	N	L	Proposed	Non SHS	S	Cap. Expan.	C		X	X				

Caltrans District	County	Route or Facility ID	Project ID / Reference Number	Project / Program Title and Description	Total Project Cost (thousands)	Financially Constrained	Under Construction and Completely Funded	Short/Mid/ Long Term	Project of National and Regional Significance (PNRS)	Tier	Network Type	Project Type	Primary Facility Type	Secondary Facility Type	California Freight Mobility Plan Goals					
															Economic Competitiveness	Congestion Relief	Safety and Security	Freight System Infrastructure Preservation	Innovative Technology and Practices	Environmental Stewardship
7, 8, 11 & 12	SCAG Regional Initiative	-	RRC0701	Rail package — mainline rail capacity expansion -Barstow to Keenbrook–BNSF San Bernardino Subdivision; Colton Crossing to Redondo Junction–UP Mojave Subdivision; Devore Road to West Colton (inc. Rancho Flying Junction)–UP Alhambra Subdivision; West Colton to City of Industry–UP Los Angeles Subdivision; UP Yuma Subdivision; Triple track from Fullerton to Imperial Hwy (7 miles)	$2,900,000	Y	N	L	No	Non SHS	O	Cap. Expan.	B	C						
7, 8, 11 & 12	SCAG Regional Initiative	-	-	Zero and Near-Zero Emissions Technology Advancement, Deployment and Commercialization: Projects include research and development, pilot demonstration, commercialization and deployment initiatives involving infrastructure, charging systems, and rolling stock, as applicable, to support creation of a sustainable, zero and near-zero emissions goods movement system that will be safe, efficient, and allow the region to meet upcoming air quality attainment deadlines	$3,000,000	N	N	L	No	Non SHS	O	Comm. And Env't Mit.	B		X				X	X
7, 8, 11 & 12	SCAG Regional Initiative	-	-	Regional initiative to support INTELLIGENT TRANSPORTATION SYSTEM (ITS) for goods movement	$3,000,000	N	N	L	No	Non SHS	O	O.M.	B			X	X	X		
7, 8, 11 & 12	SCAG Regional Initiative	-	7120018	Goods Movement - Bottleneck Relief Strategy. The 2012 RTP includes an estimate of $5 billion for goods movement bottleneck relief strategies. SCAG identified the top 50 priority bottlenecks in the region; although some of these bottlenecks are being addressed through specific projects identified in the project list, many project concepts are still under development; this category addresses remaining bottleneck relief needs.	$5,000,000	Y	N	L	No	Non SHS	O	Preservation	B			X	X	X		

Caltrans District	County	Route or Facility ID	Project ID / Reference Number	Project / Program Title and Description	Total Project Cost (thousands)	Financially Constrained	Under Construction and Completely Funded	Short/Mid/ Long Term	Project of National and Regional Significance (PNRS)	Tier	Network Type	Project Type	Primary Facility Type	Secondary Facility Type	California Freight Mobility Plan Goals					
															Economic Competitiveness	Congestion Relief	Safety and Security	Freight System Infrastructure Preservation	Innovative Technology and Practices	Environmental Stewardship
7, 8, 11 & 12	SCAG Regional Initiative	-	-	Goods Movement System Preservation--O&M for Arterials and Highway Systems	$7,000,000	Y	N	L	No	Non SHS	O	Preservation	B			X	X	X		

This page is intentionally blank.

APPENDIX B: FACT SHEETS

The following compilation of resources provides diverse background material regarding freight in California. Within this appendix is general and detailed information about freight rail, trucking, airports, seaports, commercial vehicle border ports of entry, and summary information within seven California regions and the twelve Caltrans districts.

This page is intentionally blank.

APPENDIX B-1: FREIGHT RAIL

California occupies an economically strategic position in our State, the Nation and the world. All modes of freight transportation – trucking, shipping, air cargo, and freight rail – are critical to this success. Commodities moved by rail tend to have a low transportation cost to weight/volume ratio, which makes them attractive to transport by freight rail lines instead of trucks. In order for California to maintain its preeminent position, it is vital that the State's current freight rail system be preserved and maintained. This network must be reliable, accessible, cost-effective, and provide and enhance the mobility of people and goods, yet remain competitive with other modes. Overall, California's railroads are stable, productive, and competitive and they have enough business to operate profitably.

FREIGHT RAIL INVENTORY

Freight railroads in California are owned and operated by private companies ranging in size from the large transcontinental railroads to short line holding companies such as Genesee & Wyoming Inc. and Omnitrax and small independent firms such as the Richmond Terminal Company and the Northwestern Pacific. These railroads are responsible for building and maintaining the system on which they operate. California's freight railroad system consists of 29 railroads, which are categorized into two different classes:

- **Class I** railroads generate more than $433.2 million in annual operating revenues.
- **Class III** railroads referred to as "short line" railroads; generate less than $34.6 million in annual operating revenues.

BNSF Railway Company (BNSF) and Union Pacific Railroad (UP) are the only Class I railroads, and there are 27 short line railroads operating in California. Class I railroads are separated into subdivisions, and many short lines were once branches from larger main lines.

This freight rail network supports the operations of industries throughout the State and links California with domestic and international markets.

CLASS I RAILROADS

Typically, the distance at which the economics become favorable for using a Class I railroad is approximately 500 miles.

Union Pacific (UP)

Created by the Pacific Railroad Act of 1862 signed by Abraham Lincoln, UP has evolved as the largest railroad in the United States. The UP ships a significant volume of intermodal freight, and is the largest shipper of chemicals in the country.

In California (2013), UP operates an expansive network of over 3,267 miles of track, has an annual payroll of $429 million with 4,860 employees, and makes $228.4 million in in-state purchases.

UP serves diverse regions including the San Joaquin Central Valley, the Port of Oakland and San Francisco Bay Area, and the Los Angeles metropolitan area. The UP Los Angeles Service Unit operating from the Ports of Los Angeles and Long Beach is the primary route to the four major gateways of St. Louis, Chicago, Memphis, and New Orleans.

Carload services include two system classification yards at West Colton (Southern California) and Roseville (northern California). Regional yards are located in Lathrop (San Joaquin County), Commerce (Los Angeles County) and Yermo (San Bernardino County).

BNSF

BNSF Railway is North America's largest intermodal carrier. It is the largest grain-hauling railroad in the country and is the nation's freight rail leader in intermodal (container) volume.

BNSF is the product of mergers and acquisitions of nearly 400 different railroad lines, including two major railroads (Burlington Northern Railroad and the Atchison, Topeka and Santa Fe Railway), over the course of 160 years.

In California, BNSF operates over 2,125 miles of track – 1,155 miles of which are owned by BNSF and 975 miles through trackage rights (rights of one railroad to operate on another's tracks).

The Transcontinental (Transcon) route east from the Ports of Los Angeles and Long Beach is an integral part of the California freight rail network and is their land bridge link to markets in Kansas City, Memphis, and Chicago.

BNSF rail yards include Bakersfield, Barstow, City of Commerce (Los Angeles), Fresno, Needles, Richmond, Riverbank, San Bernardino, San Diego, Stockton, and Wilmington. Intermodal hub centers are located at Fresno, Richmond, San Bernardino, Stockton, and Vernon (Hobart).

CLASS III SHORT LINE RAILROADS

California is home to 27 active short line railroads throughout the state (see table labeled California Short Line Railroads). Some have switching functions at the largest seaports and others serve as shorter line haul functions for Class I railroads in urban and rural areas. Short line railroads play an important role in moving goods to and from California regions and local communities.

Abandoned rail lines are an ongoing concern because once track is removed; it is very difficult to restore the lines. The likelihood of freight service is doubtful at best. For further information, see Rail Preservation Programs: A Survey of National Guidance and State Practice, (Caltrans, June 2011) - http://www.dot.ca.gov/hq/tpp/offices/ogm/trains/Rail_Preservation_PI_6-21-11.pdf)

INTERMODAL RAIL

Intermodal rail, the long-haul transporting of shipping containers or truck trailers on railroad flat cars, continues to grow rapidly. According to the American Association of Railroads, "Intermodal allows railroads, ocean carriers, trucking companies, and intermodal customers to take advantage of the best attributes of various transportation modes to yield an efficient and cost-effective overall freight movement…(it) represents a cost-effective, environmentally friendly alternative to excessive reliance on highways to transport freight."

ECONOMIC IMPACT

Nationwide, each freight rail job supports 4.5 jobs elsewhere in the economy. According to United States (US) Department of Commerce economic models, every dollar spent on investments in our freight railroads — tracks, equipment, locomotives, bridges, etc. — yields $3 in economic output. In addition, each $1 billion of rail investment creates more than 17,000 jobs.

The Association of American Railroads in 2012 stated that "the more than 175,000 freight railroad employees are among America's most highly compensated workers." They further stated that in 2011, the average full-time rail industry employee earned annual wages and benefits totaling $110,470.

Job Opportunities

Freight railroads plan to hire more than 11,000 people in 2013. According to the Association of American Railroads, 23% of railroad workers will retire making well paying jobs available throughout the country by 2015.

ENVIRONMENT

One train can carry the same load as 280 trucks and can move a ton of freight an average of 400 miles on one gallon of fuel. In 2011, 155.6 million tons of freight originated, terminated, or passed through California by rail. It would have taken approximately 8.6 million trucks to handle this freight.

The California Air Resources Board (ARB) has developed and implemented a number of measures to significantly reduce locomotive and railyard emissions in California, including regulations, enforceable agreements, and funding of clean technology. Programs include Rail Emission Reduction, Railyard Health Risk Assessments and Mitigation Plan, Locomotive Technology and Locomotive Incentive Funding, etc.

KEY FREIGHT RAIL ROUTES

A key route for both Class I railroads in California is the Tehachapi Trade Corridor, which is dispatched by the UP. The Tehachapi Trade Corridor is a major trade route which connects the State with national markets.

In Northern California, the Martinez Subdivision, Feather River Canyon, and Donner Pass routes serve the Port of Oakland and Port of Stockton, and are owned and dispatched by the UP but serve BNSF through trackage right agreements. Donner Pass has replaced the Feather River Canyon route as UP's primary intermodal service route eastward. Previously, only 5,000 foot trains could run through the rugged canyon route but now 9,000 foot trains traverse the Pass, thus optimizing UP's intermodal operation.

TRADE CORRIDOR IMPROVEMENT FUND (TCIF)

The Proposition 1B TCIF program represents the first time that pure public and private partnerships for freight rail have been achieved in the history of the State. Following are the three largest programmed TCIF freight rail projects:

Colton Crossing: A new elevated 1.4-mile-long overpass has now removed the chokepoint that existed where the BNSF mainline crossed UP tracks in Colton. With approximately 62 freight trains per day on each line, Colton Crossing was one of the busiest at-grade rail-to-rail crossings in the nation. Putting the UP tracks above the BNSF line allows both railroads to use the tracks safely and eliminate waits as crossing trains pass. This project, completed in August 2013, exemplified a successful public-private partnership between Caltrans, San Bernardino Associated Governments, the city of Colton, UP, and BNSF Railway.

Tehachapi Trade Corridor Rail Improvement Project: This project located in Kern County will improve capacity through the corridor by 70%. It involves 15 miles of double tracking, adding 3 main bridges, connecting existing siding and signal system improvements to a very rugged segment of rail through the Tehachapi Range.

Richmond Rail Connector Project: This project will provide an at-grade rail connection to enhance BNSF's access to the Port of Oakland. The project will allow slow-moving intermodal trains to bypass the City of Richmond thus reducing delays and congestion and improving safety in the local community. The project also enhances the Port of Oakland's competitiveness and optimizes the Tehachapi Trade Corridor by providing a faster, more direct route through Northern California.

POSITIVE TRAIN CONTROL

Positive train control (PTC) is advanced technology designed to automatically stop or slow a train to avoid collision accidents. A major infrastructure safety mandate of the Federal Railroad Administration (FRA), PTC rail technology provides benefits in terms of train separation and collision avoidance, line speed enforcement, temporary speed restrictions, and rail worker wayside safety. Due to the cost and complexity of installing PTC, rail operators are asking for a delay beyond the 2015 deadline.

California Short Line Railroads

Name	*Standard Carrier Alpha Code*
Arizona & California Railroad Company	ARZC
Central California Traction	CCT
California Northern Railroad	CFNR
Central Oregon & Pacific Railroad	CORP
Fillmore and Western	FWRY
Lake County Railway	LCR
Los Angeles Junction Railway Company	LAJ
Modesto & Empire Traction Company	MET
Napa Valley Wine Train	NVRR
Northwestern Pacific	NWP
Pacific Harbor Line, Incorporated	PHL
Pacific Imperial Railroad	PIR
Pacific Sun Railroad	PSRR
Quincy Railroad	QRR
Richmond Pacific Railroad Corporation	RPRC
Sacramento Valley Railroad	SAV
San Diego & Imperial Valley Railroad	SDIY
San Joaquin Valley Railroad Company	SJVR
Santa Cruz, Big Trees, and Pacific Railway	SCBG
Santa Maria Valley Railroad	SMV
Sierra Northern Railway	SERA
Southwest Portland Cement Railroad (Mojave Northern Railroad)	SWPC
Stockton Terminal & Eastern Railroad	STE
Trona Railway Company	TRC
Ventura County Railroad Company	VCRR
West Isle Line, Incorporated	WFS
Yreka Western Railroad	YW

Source: 2013 California State Rail Plan (CSRP)

California Freight Rail System Map

Source: 2013 California State Rail Plan (CSRP)

Corrections: MCR – McCloud – Most of the line has been abandoned. MNRR (Modoc Northern Railroad) – no longer exists. NCRY (Niles Canyon Railroad), OERM (Orange Empire Railway Museum) and WRM (Western Railroad Museum) are railroad museums that provide rail excursion trips. SCBG (Santa Cruz, Big Trees and Pacific Railway and SCMB (Santa Cruz Monterey Bay Railroad) is mostly

passenger excursion with SCBG operating freight service (mostly lumber) from a connection with UP at Santa Cruz to Olympia, CA.

SOURCES AND ADDITIONAL INFORMATION

Association of American Railroads, https://www.aar.org/Pages/Home.aspx

2013 California State Rail Plan, California State Transportation Agency, May 2013

http://californiastaterailplan.dot.ca.gov/docs/Final_Copy_2013_CSRP.pdf

California Air Resource Board and Business, Transportation and Housing (Goods Movement Action Plan, http://www.arb.ca.gov/gmp/docs/gmap-1-11-07.pdf

Caltrans Office of Traffic Engineering, http://www.dot.ca.gov/hq/traffops/signtech/trucks/truck-length-routes.htm#step-2

Future Ports, http://www.futureports.org/

Union Pacific in California, 2013 Fast Facts, http://www.up.com/cs/groups/public/documents/up_pdf_nativedocs/pdf_california__usguide.pdf

APPENDIX B-2: TRUCKING

INDUSTRY PROFILE

The trucking industry provides a vital service to California by serving as the primary mode of transportation for all commodities developed and/or transported throughout the state, including raw materials, works in progress (materials and partly finished products), and finished products. All industries and services, including California's agricultural industry, are dependent on the trucking industry to move their goods from the point of production to market.

Nevertheless, California's trucking stakeholders are currently experiencing a transformative period that is altering how the industry is able to meet the demands of its customers. Technology advancements, increasing regulatory requirements, driver shortages, and infrastructure needs are just some of the issues that are currently being taken on by the trucking industry.

Fleet Inventory

As of January 1, 2013, the Department of Motor Vehicles (DMV) reported that there were 450,866 commercial trucks registered, 5,014,040 non-commercial vehicles and 1,352,056 foreign based international registered plan (IRP) trucks registered in California. As described by DMV, the IRP classification **"**is an option of vehicle registration that allows multi-jurisdiction (interstate) operation of commercial vehicles under a single registration plate and registration certificate (cab card) issued by the registrant's "base" jurisdiction."

As of May 2013, there were over 32,810 trucking companies located in California, most of which are small, locally owned businesses. These companies are served by a wide range of supporting businesses both large and small.

Taxes & Fees

To compensate for their greater impact to the State Highway System (SHS), operators of trucks over 10,000 pounds pay over 20 percent of all revenues collected by California for transportation purposes collected on an annual basis. This is despite the fact that they represent less than 5 percent of all vehicle miles traveled in California. California ranks sixth for the highest highway user taxes and fees in the nation.

The heavy vehicle use tax or HVUT is a fee4 assessed annually on heavy vehicles operating on public highways at registered gross weights equal to or exceeding 55,000 pounds. As of January 2013, a typical five-axle tractor-semitrailer combination paid $9,935 in state highway user fees and taxes in addition to $8,906 in federally user fees and taxes, paying over and above the typical taxes paid by businesses in California.

On the federal level, California truck drivers pay over $1.1 billion annually in fuel taxes, and other various excise taxes that are assessed on the purchase of new equipment and tires.

Agricultural Sector Growth

California agriculture experienced a 15 percent increase in the sales value of its products in 2011, with increases expected to continue in the coming years. California remained the number one state in cash farm receipts with 11.6 percent of the United States (US) total. The state accounted for 15 percent of national receipts for crops and 7.4 percent of the US revenue for livestock and livestock products.

The vast majority of California's agricultural output is handled by a trucking operation at some point from the field of harvesting to the first point of processing. These trucks heavily use rural roads and major agricultural highways in order to move these goods. Although routes

do not experience significant high Average Daily Truck Traffic rates, on an annual basis, they may experience congestion due to seasonality of agricultural production. These roads are absolutely critical to California's economic output.

Trucking Issues and Challenges

Each year, the American Trucking Association (ATA) and the American Transportation Research Institute coordinate on the development of a trucking industry survey. In cooperation "with a group of key industry stakeholders" a "sizable list of issues are identified to be narrowed down" to a final list of twenty critical industry issues. Once the survey is designed along with associated strategies, it is distributed to more than 4,000 industry stakeholders to gauge the importance of each issue and to list the top three. Listed below are the top 10 "most important challenges affecting the industry." Survey respondents represented "industry stakeholders from both the U.S. and Canada and include motor carriers, commercial drivers and other interested parties. For 2013, the following were considered the top challenges:

2013 Top Challenges

- Hours-of-Service
- Compliance, Safety, and Accountability
- Driver Shortage & Retention
- Electronic Logging Mandate
- Truck Parking
- Fuel Supply/Fuel Prices

Hours of Service (HOS)

The new Federal Motor Carrier Safety Administration **(**FMCSA) final ruling on new hours-of-service has created controversy for truckers and regulators. The final rule retains the current 11-hour daily driving limit and the 14-hour work day. FMSCA's primary goal is to reduce driver fatigue, not just for the safety of truck drivers, but for passenger vehicles as well.

The new HOS regulations include the following:

- Limits the maximum average work week for truck drivers to 70 hours, a decrease from the current maximum of 82 hours (under the former rules);
- Allows truck drivers who reach the maximum 70 hours of driving within a week to resume if they rest for 34 consecutive hours, including at least two nights when their body clock demands sleep the most - from 1- 5 a.m.
- Requires truck drivers to take a 30-minute break during the first eight hours of a shift.
- The 14-hour duty period cannot be extended by off-duty time for breaks, meals and fuel stops.
- Each duty period must begin with at least 10 hours off-duty.
- Drivers can work 60 hours on-duty in 7 consecutive days.

Truckers say the ruling hurts their profitability, reduces drivers' hours, and exacerbates the problem of driver shortages and retention. The hours a truck driver may spend behind the wheel per day or per week are a basic building block of any supply chain. Shortening those hours can reduce a truck driver's earnings and make delivering goods on-time more difficult for motor carriers and more costly for shippers. Some shippers and motor carriers have expressed that recent changes to the federal hours-of-service rules for truck drivers have reduced weekly driving time for trucking operations, leading to lost production and increased costs to the industry and costs that will be passed on to consumers.

The Truck Safety Coalition would like to see the rules made stronger, while the ATA filed suit in a Federal Appeals court in Spring 2013 to have the new HOS rules thrown out, on the grounds that the "changes further restrict drivers' ability to work and drive" and "would add tremendous cost to the economy and undue burden onto drivers" referring to the rules as "arbitrary and capricious" while providing minimal possible safety and health benefits. Furthermore, they questioned the validity of the cost-benefit analysis the FMCSA used to evaluate the proposal.

Compliance, Safety, Accountability (CSA)

CSA was first implemented nationally by the FMCSA in late 2010. The initiative aims to improve large truck and bus safety and ultimately reduce crashes, injuries, and fatalities that are related to commercial motor vehicles (CMVs). CSA collects and reports safety data concerning commercial motor vehicles including safety violations and crash statistics. It is an enforcement and compliance tool that is based on statistical likelihood of an accident and breaks it into seven categories called Behavior Analysis and Safety Improvement Categories (BASIC). It is a three part model that includes measurement, evaluation and enforcement. Categories include unsafe driving, vehicle maintenance, cargo related, crash indicator, fatigued driving, driver fitness, and controlled substances. Each carrier is evaluated on a BASIC rating scale from 1 to 10 with 10 being the most severe violations. Ratings are determined based combining the time (more recent violations are weighted more heavily), the number of violations, and the severity of the violations using 24 months of performance data.

Intervention is done based on the evaluation by either the FMSCA or the individual state. Interventions can be early contact, investigation and follow-on. The goal is to inform and educate carriers before penalties are imposed.

However, the methodology has been subject to criticism over truck crash accountability because it does not consider who is at fault. A truck accident is documented against the motor carrier regardless of which party is at fault.

Driver Shortage & Retention

Trucking companies have been facing a labor shortage for years. Although US Bureau of Labor Statistics (BLS) estimated that 40,000 truck drivers were hired in a 1-year period in 2012-2013, there is still an estimated shortage of about 30,000 drivers. Also, according to the BLS, the US will need 330,000 more truck drivers by 2020 just to keep current freight levels moving.

One of the contributors to the driving shortage is an aging workforce. The average age of a commercial truck driver in the US is 55 years. Since 2000, the number of service and truck drivers 55 or older has surged to 19% or about 616,000 according to BLS (according to Bloomberg Businessweek, November 14, 2013).

In California, the causes of the truck driver shortage are diverse. However, one area of concern is the lack of a "Commercial Violator School" process that would allow commercial drivers to attend a traffic school for minor infractions given in commercial vehicles. Progress was made in 2012 when the legislature passed AB 1888, allowing commercial drivers to attend traffic school for violations given while they drive their personal vehicles.

Electronic Logging Mandate

New regulations will require electronic on board recorders (EOBR) to be attached to commercial motor vehicles to log HOS. The intent of HOS regulation is to prevent driver fatigue and address driver safety issues by limiting the amount of hours available for drivers to spend operating a commercial vehicle. However, there is some controversy regarding the use of EOBR devices. A driver must manually input into the EOBR when they are not driving since they do not automatically record changes when a driver is off-duty. A driver could be on-duty and not driving but performing functions such as loading and unloading, inspecting or repairing the truck, completing paperwork, etc. which count towards HOS. There is also the time spent waiting to enter port terminals and at other freight facilities waiting for trailers to be loaded and unloaded. Since the driver control's the EOBR, compliance is dependent on the driver's observance of the regulation.

At this time, US Department of Transportation (USDOT) published a notice of rulemaking (60 days), FMSCA will adjust the rule based on public feedback which could take 3-9 months, and the effective delay of the new rule will be two years after the final rule.

Truck Parking

It has long been acknowledged that a shortage exists for adequate and safe parking for commercial motor vehicle operators on both a national and state level. The demand for commercial vehicle parking far exceeds capacity. When originally conceived, public rest areas were meant to be temporary rest areas for short term safety breaks for the traveling public. As the trucking industry expanded, these rest areas began to serve as long-term parking for long-haul commercial vehicle operators contributing to overcrowding at rest areas.

The National Transportation Research Boards National Cooperative Highway Research Program, Synthesis 317: Dealing with Truck Parking Demands 2003, found that "most parking supply is located in commercial truck parking lots and plazas and the overcrowding problem concentrates in public rest areas." Factors contributing to the commercial vehicle parking include poor geometric design of facilities and access; lack of information on space availability including amenities at the locations; and lack of security.

Because of the limits on stays in public facilities and parking space shortages, truckers have few alternatives. They can be found parked underneath overpasses, on roadway access ramps and on shoulders to get rest. However, besides causing damage to this infrastructure, it creates a safety risk for the driver and other users of the corridor, particularly limiting the ability of the parked vehicles when leaving to enter into the traffic stream because of the time it takes to accelerate the vehicle. In addition, "errant vehicles" may stray into these areas and strike parked vehicles. Private truck stops are not always available to provide long-term parking. Lack of facilities can influence which route is taken with route selection being based on the available of amenities, whether the trip is a long or short haul, time of day, and need for staging areas.

Legislation: Legislation (Title 23, Section 752.3 of the Code of Federal Regulations) defines a safety area as "a roadside facility safely removed from the traveled way with parking and such facilities for the motorist deemed necessary for his rest, relaxation, comfort and information needs." US Code 23, § 111, places limits on the commercialization of rest areas on the interstate highway system.

Moving Ahead for Progress in the 21st Century (MAP-21): MAP-21 does not include a formal truck parking program; however, it did make truck parking eligible under the National Highway Performance Program, the Surface Transportation Program and the Highway Safety Improvement Program. Projects eligible to receive funding include:

- Construction of safety rest areas with truck parking
- Construction of truck parking areas adjacent to commercial truck stops and travel plazas
- Opening existing facilities to truck parking, including inspection and weigh stations and park-and-ride facilities
- Promoting availability of publicly or privately-provided truck parking on the National Highway System (NHS)
- Construction of turnouts along the NHS for commercial motor vehicles
- Making capital improvements to public truck parking facilities closed on a seasonal basis that will allow those facilities to remain open all year
- Improving the geometric design of interchanges on the NHS to improve access to truck parking facilities.

Jason's Law: Jason's Law makes construction of safety rest areas, commercial motor vehicle (CMV) parking facilities, electric vehicle and natural gas vehicle infrastructure eligible for Federal funding. It also requires USDOT to survey States within 18 months of enactment regarding their CMV traffic and capability to provide CMV parking. DOT must periodically update this survey and post the results.

Fuel Supply/Fuel Prices

In 2008, for the first time diesel prices were over $4 per gallon. At the time of this writing, gas prices have come down significantly; however, diesel prices have fallen only modestly. The Department of Energy's Energy Information Administration weekly report shows that for the week ending December 1, 2014, national diesel prices "fell 2.3 cents to $3.605…the lowest national average since February 2011" (Gasoline and Diesel Fuel Update). For California, the cost was $3.726 for the same time period.

Diesel prices are trending lower; however, it is difficult to predict prices since there are many factors involved such as the cost of crude, international energy demand, oil supply, taxes, and the future of the U.S. shale production. In California, the cap-and-trade for fuels regulation adopted by the California Air Resources Board (ARB) will increase diesel fuels costs beginning January 1, 2015. ARB expects the costs to increase by 10 cents per gallon and then will increase over time

Trucking companies have to cover increased costs out of pocket, and eventually recoup the money by passing the cost on to the consumer.

TRUCK ROUTES & INFRASTRUCTURE NEEDS

The SHS has reached capacity, especially in urban areas of the state. Truck routes are designated by Caltrans for the state highway facilities and by the cities in the Bay Area. Caltrans have four primary categories of truck routes:

- Surface Transportation Assistance Act (STAA) Routes and Terminal Access Routes – STAA routes are part of a national network and allow tractor-semis more than 65 feet in length or with more than 40 feet kingpin-rear axle length up to the legal weight limits for the state. Terminal access routes provide STAA trucks with legal access to and from the STAA network and major truck terminal concentrations.
- California Legal Routes – Routes where it is legal for tractor-semis with an overall length up to 65 feet and 40 feet kingpin-rear axle length to travel.
- King Pin-Rear Axle Advisory Routes – Routes where the state advises against travel by tractor-semis with kingpin-rear axle length over the posted value.
- Routes with Operational Restrictions

The trucking industry heavily utilizes these routes and depends on well maintained roadways to deliver goods to customers located throughout the state. For the trucking industry, the most significant element of California's infrastructure need is the estimated $79.7 billion in revenues that would be needed just to maintain and operate the existing highway system between now and 2020.

California's trucking industry is concerned about our state's ability to meet these maintenance needs.

State Highway System Profile

Lane-Miles	50,486
Centerline Miles	15,133
# of State Highways	265

Centerline Miles – Rural/Urban Breakdown

Rural	10,744	71%
Urban	4,389	29%
Non-Freeway/Non-expressway	4,308	29%
Freeway/Expressway	10,825	71%
Non-Interstate	2,453	16%
Interstate	12,680	84%

Urban Concerns

In California, a complex process of authorizing STAA routes, as well as varying STAA enforcement between local, regional and state agencies, has made traveling in urban areas increasingly difficult for truck operators. Additionally, poor signage and infrequent review of connectivity to growing truck destinations and of routes across jurisdictions is a truck route problem that needs further attention.

As a result, truckers, law enforcement, and municipalities face misinformation on the accessibility of routes that can provide access to food, shelter, and safety. In urban areas, increased collaboration between municipal governments, transportation planners, industry stakeholders, and law enforcement is needed.

Shippers may have to start locating distribution centers closer to consumers, as growth in E-commerce is pressing retailers to deliver goods inexpensively and quickly, and challenging traditional logistics models. Since 2000, growth in e-commerce has been significant, with a 19 percent compound annual growth rate through 2013, this trend in e commerce will create truck delivery challenges in urban areas.

WEIGHT AND LENGTH LIMITS

Caltrans has discretionary authority to issue special permits for the movement of vehicles and loads that exceed statutory limitation on size, weight, and loading of vehicles contained in Division 15 of the California Vehicle Code (CVC). Permit applications for noncompliant loads and vehicles are administered through the Transportation Permit Branch of the Office of Truck Safety.

Weight Limit

To preserve the highway system, the CVC regulates the maximum load weight that may travel on its roads. As a general rule, no vehicle may exceed a gross weight of 80,000 pounds, though how that weight is distributed on a load may reduce the overall maximum load. Trailers and vehicles with single-axle arrangements may only carry 20,000 pounds per axle, while grouped axles bunched closer than 8 feet, 6 inches may carry up to 34,000 pounds per axle group. Weight limits for grouped-axle vehicles with axles spread farther than 8.5 feet vary by the number of distance between the axles. See the California Department of Transportation's (Caltrans) Weight Limit chart for specifics.
http://www.dot.ca.gov/hq/traffops/engineering/trucks/trucksize/weight.htm

Weight Limit Exceptions

Trucks pulling shipping containers on portions of State Route 1 between Los Angeles and Long Beach may be exempt from normal weight limitations, with a maximum weight limit of 95,000 pounds in certain criteria. Log haulers may carry up to 35,500 pounds on tandem axles if they operate on roads that are part of the National Network.

Length, Height and Width Limits

A single truck without a trailer may not be longer than 40 feet in total, and no load may exceed 65 feet long on these vehicles. Semi-trucks pulling a trailer may be up to 65 feet long, so long as neither portion of the vehicle is more than 28.5 feet long; trailer measurements are made from the kingpin to rear axle.

Trucks on SHS must be less than 14 feet high from the ground, although a few state routes have clearances less than 14 feet. Trucks may not be wider than 102 inches. Clearance and street widths on local routes may be less than that on state and federal highways. Caltrans website provides a list of state routes and overpasses that are less than normal clearance: Http://www.dot.ca.gov/hq/traffops/engineering/trucks/

Oversized Loads

For a heavy haul or bulky cargo, Shippers needing to haul heavy or bulky cargo may apply for an oversized load permit from Caltrans. These permits are granted on a case by case basis.

Compilation and Study of Truck Size and Weight Limits

MAP-21 requires the USDOT, in consultation with States and other relevant Federal agencies, to report to Congress within two years of enactment on a comprehensive study of truck size and weight limits [§32801]. In addition, they are required to complete a compilation of State limitations on the size and weight of trucks that may travel on the National Highway System. [§32802]

Categories of Truck Tractor-Semitrailers

The two categories of truck tractor-semitrailers in California are: (1) the "green" trucks (interstate "STAA" trucks) and (2) the "black" trucks (California Legal trucks). This table shows the maximum allowed lengths for the two categories of truck tractor-semitrailers:

LENGTHS	"GREEN" STAA TRUCKS		"BLACK" CALIFORNIA LEGAL TRUCKS
			
OVERALL LENGTH	unlimited	unlimited	65 feet MAX
SEMITRAILER	53 feet MAX	48 feet MAX	unlimited
KPRA (kingpin-to-rearmost-axle distance)	40 feet MAX (for two-axle semitrailer); 38 feet MAX (for single-axle semtrailer)	unlimited	40 feet MAX (for two-axle semitrailer); 38 feet MAX (for single-axle semtrailer)

Doubles: For maximum allowed lengths of STAA and California Legal doubles (truck tractor-semitrailer-trailers), see the doubles on this Caltrans web page: http://www.dot.ca.gov/hq/traffops/engineering/trucks/truckmap/truck-legend.pdf.

California Legal Routes

California (CA) legal trucks can travel on STAA Routes and Advisory routes. CA legal trucks have access to the entire SHS except where prohibited.

CA Legal Truck Tractor - Semitrailer

Semitrailer length: No limit
Kingpin to rear axle (KRPA):
40 feet maximum for two or more axles
38 feet maximum for single-axle trailers
Overall Length: 65 Feet maximum

CA Legal Truck Tractor – Semitrailer – Trailer (Double)

Option A
Trailer length: 28feet 6 inches maximum (each trailer)
Overall Length: 75 feet maximum
Option B
Trailer length: one trailer 28 feet 6 inches maximum other trailer may be longer than 28 feet 6 inches)
Overall Length: 65 feet maximum

Surface Transportation Assistance Act (STAA) Routes

Interstate "STAA" Truck Tractor – Semitrailer

Semitrailer length: 48 feet (ft) maximum
KRPA: No limit
Overall length: No limit

Semitrailer length: over 48 ft. up to 53 ft. maximum
KRPA: 40 feet maximum for two or more axles
Overall length

Interstate "STAA" Truck Tractor – Semitrailer – Trailer (Doubles)

Trailer length: 28 ft. 6 inches maximum for each trailer
Overall length: No length

National Commercial Vehicle Weight Standards

Source: Federal Highway Administration (FHWA), Freight Management and Operations

National weight standards apply to commercial vehicle operations on the Interstate Highway System, an approximately 40,000-mile system of limited access, divided highways that spans the nation. Off the Interstate Highway System, states may set their own commercial vehicle weight standards.

Federal commercial vehicle maximum standards on the Interstate Highway System are:

Single Axle:	20,000 pounds
Tandem Axle:	34,000 pounds
Gross Vehicle Weight:	80,000 pounds

Bridge Formula Weights: The bridge formula was introduced in 1975 to reduce the risk of damage to highway bridges by requiring more axles, or a longer wheelbase, to compensate for increased vehicle weight. The formula may require a lower gross vehicle weight, depending on the number and spacing of the axles in the combination vehicle.

National vehicle size standards apply on what is known as the National Network of highways. The National Network includes: (1) the Interstate Highway System and (2) highways, formerly classified as Primary System routes, capable of safely handling larger commercial motor vehicles, as certified by states to FHWA. The total National Network system is about 200,000 miles. (See table for specific limits.)

Federal Commercial Vehicle Size Limits on the National Network

Overall vehicle length	No federal length limit is imposed on most truck tractor-semitrailers operation on the National Network. **Exception:** On the National Network, combination vehicles (truck tractor plus semitrailer or trailer) designed and used specifically to carry automobiles or boats in specially designed racks may not exceed a maximum overall vehicle length of 65 feet, or 75 feet, depending on the type of connection between the tractor and trailer.
Trailer length	Federal law provides that no state may impose a length limitation of less than 48 feet (or longer if provided for by grandfather rights) on a semitrailer operating in any truck tractor-semitrailer combination on the National Network. (A state may permit longer trailers to operate on its National Network highways.) Similarly, federal law provides that no state may impose a length limitation of less than 28 feet on a semitrailer or trailer operating in a truck tractor-semitrailer-trailer (twin-trailer) combination on the National Network.
Vehicle width	On the National Network, no state may impose a width limitation of ***more or less*** than 102 inches. Safety devices (e.g., mirrors, handholds) necessary for the safe and efficient operation of motor vehicles may not be included in the calculation of width.
Vehicle height	No federal vehicle height limit is imposed. State standards range from 13.6 feet to 14.6 feet.

Penalties for Non-Compliance with Federal Standards

Weight Standards: A state is subject to loss of its ***entire*** National Highway System apportionment if its laws or regulations establish weight limits for commercial motor vehicles operating on the Interstate Highway System that are either higher or lower than the four federal weight standards mentioned above. The only exception relates to changes affecting established "grand-father" limits; although a state may not set weight limits above a grandfathered maximum, it may set them below the maximum, provided such a limit is not below the corresponding federal standard.

Size Standards: A state that violates federal statutes on commercial vehicle size, or the implementing regulations, is subject to a civil action in federal district court for injunctive relief, in accordance with 49 US Code 31115, "Enforcement." The action will be brought by the Department of Justice on behalf of FHWA.

Reporting Requirements: Each year, states must provide the FHWA with both a plan and a certification of accomplishment of planned size and weight enforcement activities. Failure to certify, or inadequately enforce all state laws affecting maximum size and weight on Federal-Aid highways, despite the provision of certifying documents to FHWA, can result in a 10 percent reduction of all Federal-Aid highway funds to the state for the next fiscal year.

State Exceptions and Variations

In addition to the general standards described, federal law includes provisions, exemptions, and variations applicable to particular states, routes, vehicles, or operations. For more details, please consult 23 Code of Federal Regulation (CFR), Part 658, available on FHWA's Office of Freight Management and Operations website www.ops.fhwa.dot.gov/freight/regulate/SW.

Motor Carrier Permit

A motor carrier permit (MCP) is a document issued by the Department of Motor Vehicles (DMV) Registration Operations Division. The permit is issued to motor carriers as evidence of the registration with the DMV of their Carrier Identification number (CA#), as required by California Vehicle Code, Section 34620. Additionally, the permit verifies the motor carrier has met all of the statutory requirements to commercially operate motor vehicles on California's highways. The permit contains information specific to the motor carrier (e.g., name, mailing address, CA#, and effective/expiration dates of the permit).

A Motor Carrier Permit (MCP) is required for any person or business entity that is paid to transport property in their motor vehicle regardless of vehicle size or weight and issues and is issued by the California DMV). Persons who transport property for compensation are deemed a 'For-Hire' motor carrier. Generally, any person or business entity operating a commercial vehicle with a Gross Vehicle Weight Rating (GVWR) of 10,001 pounds or more, either for business or personal use are required to have a MCP. Persons operating such vehicles are deemed as a 'private' motor carrier.

In State Carriers: A motor carrier who operates only within the state of California must obtain a "motor carrier of property" permit from the Motor Carrier Services Branch, MCP Operations Unit of the DMV.

Out of State Carriers: An out-of-state motor carrier must obtain the MCP if they are both delivering and picking up loads in California and is subject to the Unified Carrier Registration Act of 2005 (UCR) requirements. Additional information about UCR may be obtained at http://www.dmv.ca.gov/mcs/mcs.htm.

ENVIRONMENTAL EFFORTS

California's Truck and Bus regulation requires diesel trucks that operate in the state to be upgraded to reduce emissions. Beginning in 2012, certain model years of heavier trucks needed to be retrofitted with expensive particulate matter filters. Beginning on January 1, 2016 nearly all trucks in the State of California will be either retrofitted or retired. By January 1, 2023, nearly all trucks will need to have 2010 model year engines.

In today's engines, diesel particulate matter has been virtually eliminated, with actual emissions having fallen by 99.9% in the past 25 years.

Various groups including California Air Resources Board, CalHEAT, and California's trucking industry are also investing in demonstration projects of further advanced technologies which have the potential to move the industry from near-zero emissions to true zero emissions in the future.

Although the regulation is leading to substantially reduced emissions, with key emissions expected to be cut by 80-90 percent. Future projections show that, despite healthy projected growth, these emissions will remain greatly reduced for decades to come.

The trucking industry has had to make significant investments in order to comply with the mandates of the regulation. California's trucking industry is on pace to invest approximately $1 billion annually in cleaner equipment from 2008 to 2023. While public incentive money is available, the vast majority of the balance is being paid by private industry.

APPENDIX B-3: AIRPORTS

B-3-1: Air Cargo

B-3-2: Aerotropolis

B-3-3: Bob Hope Airport

B-3-4: Fresno-Yosemite International Airport

B-3-5: John Wayne Airport

B-3-6: Long Beach Airport

B-3-7: Los Angeles International Airport

B-3-8: Los Angeles/Ontario International Airport

B-3-9: Norman Y. Mineta San Jose International Airport

B-3-10: Oakland International Airport

B-3-11: Sacramento International Airport

B-3-12: Sacramento Mather Airport

B-3-13: San Diego International Airport

B-3-14: San Francisco International Airport

This page is intentionally blank.

APPENDIX B-3-1:
AIR CARGO

An efficient air cargo network is essential to competing in today's global marketplace. California is home to 12 of the top 100 cargo-carrying airports in North America[i]. Los Angeles International Airport alone processed more than 1.9 million tons of cargo valued in excess of $91.6 billion in 2013[ii]. By transporting far more value per ton than any other mode, air cargo significantly contributes to economic vitality.

Air cargo commodities typically travel a long distance, have a high value-to-weight ratio, are time-sensitive, and usually cost more to send than other modes. Some manufacturing and service businesses rely on quick delivery of components to avoid inventory storage and to prevent assembly line production shut-downs.

General Information

Virtually all of the State's 245 public airports transport air cargo in some form (e.g., mail / documents / packages). In addition to aircraft, landed goods require ground transportation (mainly trucks) to reach their final destinations. Over 99 percent of California's air cargo (by value and weight) is transported through the top 12 busiest cargo airports[iii] (see below). FedEx and United Parcel Service (UPS) continue to dominate the air cargo market[iv]. International freight is mostly carried in the cargo holds of passenger aircraft (as "belly cargo").

As can be seen in the table below, between 2012 and 2013, total air cargo transported at these airports dropped by 9,489 tons and overall North America rankings improved at four airports and fell at one.

The table at the top of the following page represents the 2012 leading freight categories of total air mode (including air-truck) flows, and the subsequent three tables reflect import and export statistics.

Top Twelve California Air Cargo Airports

Airport (Airport Code)	2012 Short Tons	North America Rank in 2012	2013 Short Tons	North America Rank in 2013
Los Angeles International Airport (LAX)	1,949,917	5	1,922,542	5
Oakland International Airport (OAK)	550,207	13	555,473	13
Los Angeles Ontario International Airport (ONT)	455,758	15	461,500	15
San Francisco International Airport (SFO)	419,749	17	401,015	17
San Diego International Airport (SAN)	143,141	30	160,693	30
Sacramento International Airport (SMF)	75,622	50	74,787	49
Bob Hope (Burbank) Airport (BUR)	53,816	60	53,763	62
Sacramento Mather Airport (MHR)	51,321	63	54,632	61
Norman Y. Mineta San Jose International Airport (SJC)	41,808	68	46,810	64
Long Beach Airport (LGB)	26,975	78	26,861	77
John Wayne (Orange County) International Airport (SNA)	17,332	84	17,821	84
Fresno International Airport (FAT)	11,601	94	11,861	94
TOTAL	3,797,247		3,787,758	

Red denotes loss in rank, Green denotes gain in rank

Source: 2013 North America Airports Council International preliminary results (converted and rounded metric tons)

2012 Top Ten California Air Cargo Categories by Value and Ton-Miles

Category	Millions of Dollars	Rank	Total Ton-Miles	Rank
Electronics	$22,563.99	1	268.0	1
Machinery	$7,500.15	2	125.6	3
Precision Instruments	$6,704.51	3	103.8	5
Transport Equipment	$5,220.71	4	22.5	--
Miscellaneous Manufactured Products	$3,044.83	5	170.6	2
Textiles/Leather	$1,220.16	6	116.6	4
Pharmaceuticals	$1,008.85	7	77.7	7
Motorized vehicles	$988.01	8	51.9	9
Chemical Products	$768.61	9	43.9	10
Articles-base metal	$692.85	10	75.5	8
Nonmetal mineral products	$679.38	--	82.2	6

Source: 2012 Numbers from Federal Highway Administration (FHWA) Freight Analysis Framework Version 3 (FAF3)

2012 Top Ten California Air Cargo Foreign Exports by Destination and Value

Destination	Category	Millions of Dollars
Eastern Asia	Electronics	$265.72
Mexico	Machinery	$193.38
Eastern Asia	Machinery	$154.53
Mexico	Electronics	$125.65
Eastern Asia	Precision Instruments	$111.27
Eastern Asia	Transport Equipment	$80.25
Canada	Machinery	$59.17
Canada	Electronics	$56.57
Eastern Asia	Miscellaneous Manufactured Products	$43.27
Canada	Precision Instruments	$34.39

Source: 2012 Numbers from FHWA FAF3

2012 Top Ten California Air Cargo Foreign Imports by Origin and Value

Origin	Category	Millions of Dollars
Eastern Asia	Electronics	$14,484.73
Eastern Asia	Machinery	$12,251.87
Europe	Electronics	$4,712.02
Europe	Machinery	$4,142.84
Eastern Asia	Precision Instruments	$2,557.78
Eastern Asia	Miscellaneous Manufactured Products	$2,500.64
Southeast Asia and Oceania	Electronics	$2,282.79
Southeast Asia and Oceania	Machinery	$2,071.25
Eastern Asia	Mixed Freight	$1,740.46
Eastern Asia	Textiles/Leather	$1,426.81

Source: 2012 Numbers from FHWA FAF3

2012 Top California Air Cargo Imported and Exported Categories by Location

Location	Imports by Value	Imports by Weight	Exports by Value	Exports by Weight
Canada	• Electronics • Pharmaceuticals • Mixed Freight • Precision Instruments	• Electronics • Machinery • Mixed Freight • Precision Instruments	• Machinery • Electronics • Precision Instruments • Transportation Equipment	• Machinery • Electronics • Articles made from base metal • Basic Chemicals
Mexico	• Machinery • Electronics • Miscellaneous Manufactured Products • Mixed Freight	• Electronics • Machinery • Other Agriculture Products • Textiles/Leather	• Electronics • Machinery • Precision Instruments • Transportation Equipment	• Other Agriculture Products • Machinery • Electronics • Chemical Products
Rest of Americas	• Machinery • Electronics • Miscellaneous Manufactured Products • Precision Instruments	• Textiles/Leather • Electronics • Machinery • Live Animals/Fish	• Electronics • Machinery • Precision Instruments • Transportation Equipment	• Other Agriculture Products • Machinery • Electronics • Chemical Products
Europe	• Electronics • Machinery • Miscellaneous Manufactured Products • Precision Instruments	• Electronics • Machinery • Textiles/Leather • Precision Instruments	• Electronics • Machinery • Precision Instruments • Transportation Equipment	• Other Agriculture Products • Machinery • Electronics • Articles made from base metal
Southwest and Central Asia	• Machinery • Electronics • Miscellaneous Manufactured Products • Precision Instruments	• Textiles/Leather • Electronics • Machinery • Live Animals/Fish	Not Available	Not Available
Eastern Asia	• Electronics • Machinery • Miscellaneous Manufactured Products • Precision Instruments	• Electronics • Machinery • Textiles/Leather • Precision Instruments	• Electronics • Machinery • Precision Instruments • Transportation Equipment	• Other Agriculture Products • Machinery • Electronics • Chemical Products
Southeast Asia and Oceania	• Electronics • Machinery • Textiles/Leather • Precision Instruments	• Electronics • Machinery • Miscellaneous Manufactured Products • Precision Instruments	• Electronics • Machinery • Precision Instruments • Transportation Equipment	• Other Agriculture Products • Machinery • Electronics • Chemical Products

Source: 2014 Numbers from FHWA FAF3

Based on the data from the previous tables, electronics and machinery are both the leading California imports as well as exports. Most of this trade reflects imports from Eastern Asia. The value of commodities coming into California is over 40 times the value of products being exported to other destinations, which indicates a significant negative trade imbalance.

According to Los Angeles World Airports, the top import commodities moved through Los Angeles International Airport (LAX) in 2013 were computers; diamonds (not mounted); cellular, landline phones, and parts; computer chips; and, imports of returned exports worth over $27.8 billion. Primary LAX import trade partners include China, Japan, Thailand, and Germany. On the export side, the top commodities were civilian aircraft, engines, and parts; un-mounted diamonds; computer chips; cellular, landline phones, and parts; and computers valued at over $17.8 billion. Top export trade partners were Japan, China, India, Hong Kong, and Germany[v]. With regard to air cargo, LAX ranks first in California, fifth in the nation, and in 2013 ranked 14th on the world cargo traffic list[vi].

Air cargo trade within the United States by value is displayed below. According to the Federal Highway Administration's (FHWA) Freight Analysis Framework (FAF), the total value of domestic goods flown nationwide by air (including truck-air) for 2012 was around $163.3 billion.

California's leading trade states, projected by FHWA FAF3, by total trade value and top commodity are shown below.

2012 Top Ten California Inbound Air Cargo Domestic Trading States by Total Value and Top Trade Commodity

State	Millions of Dollars	Top Trade Commodities
Missouri	$2,074.43	Transportation Equipment
California	$2,066.40	Electronics
Arizona	$1,347.54	Machinery
Colorado	$1,147.31	Transportation Equipment
New York	$1,086.24	Miscellaneous Manufactured Products
New Jersey	$1,043.33	Miscellaneous Manufactured Products
Texas	$1,001.09	Electronics
Illinois	$934.16	Electronics
Florida	$719.93	Electronics
Massachusetts	$691.96	Pharmaceuticals

2012 Top Ten California Outbound Air Cargo Domestic Trading States by Total Value and Top Trade Commodity

State	Millions of Dollars	Top Trade Commodities
Texas	$5,046.59	Electronics
Georgia	$2,672.78	Electronics
California	$2,066.40	Electronics
Florida	$1,376.09	Electronics
Illinois	$1,282.16	Electronics
Ohio	$1,068.60	Transportation Equipment
Indiana	$1,067.45	Electronics
New York	$1,021.30	Electronics
Hawaii	$1,001.36	Motorized Vehicles
South Carolina	$847.64	Electronics

UPS' west coast international hub and gateway with China is located at Los Angeles Ontario International Airport (ONT). The FedEx regional hub at Oakland International Airport (OAK) processes up to 100,000 pounds (280,000 packages) of freight each day and has its own import clearance center.

Constraints and Issues

- Noise abatement flight procedures restrict operations at most of California's leading cargo-carrying airports
- Many airports have residential sound insulation programs in place to mitigate noise impacts
- Some of the worst highway bottleneck areas in California are near airports
- Heavy trucks used to haul freight accelerate deterioration of highway pavement conditions
- Surrounding incompatible land uses and encroachment by development restricts airport capacity growth
- Planning for sea level rise at affected coastal airports is needed to ensure ongoing freight and passenger accessibility
- Air freight activities sometimes create impacts to surrounding communities such as noise, traffic, and air pollution

Trends

- Imports are expected to continue to exceed exports
- China/Asia is projected to be the principal driver of air cargo growth over the next two decades
- International air freight transported via belly cargo is expected to continue dominating over goods flown by all-cargo carriers

Caltrans Issues

Data collection and education:

- Freight planning integration into Caltrans manuals and processes
- Establishment and ongoing collection of accurate statistics for planning
- Development of dependable transportation freight forecasting models
- Education of the public and decision-makers on the importance of air freight to our economy and preservation of compatible land uses

Policy and regulatory:

- Encourage business- and freight-friendly policies
- Reduce or eliminate fees that create leakage
- Ensure new regulations that may impact freight are carefully considered and minimally intrusive
- Support dedicated funding for freight projects

Economic:

- Support funding flexibility for freight projects
- Encourage agricultural freight
- Expand international trade
- Support innovative technology
- Invest in freight facilities
- Reduce traffic congestion around airports
- Support and encourage business clusters with the same supply chain to maximize utility of the airport

Environmental:

- Encourage quieter aircraft to reduce noise impacts
- Support more efficient fuels and aircraft to reduce greenhouse gases
- Support plans to reduce affects of sea level rise

---

[i] Airports Council International (ACI) North America, 2013 preliminary results

[ii] Los Angeles World Airports, Los Angeles International Airport Air Cargo website: http://www.lawa.org/welcome_lax.aspx?id=776.

[iii] ACI North America, 2013 preliminary results.

[iv] Air Cargo Mode Choice and Demand Study (2010), prepared for Caltrans by TranSystems: http://www.dot.ca.gov/hq/tpp/offices/ogm/key_reports_files/Air_Cargo_Mode_Choice_&_Demand_Study_080210.pdf.

[v] Los Angeles World Airports, Los Angeles International Airport Air Cargo website: http://www.lawa.org/welcome_lax.aspx?id=776

[vi] ACI North America, 2013 preliminary results.

This page is intentionally blank.

APPENDIX B-3-2: AEROTROPOLIS

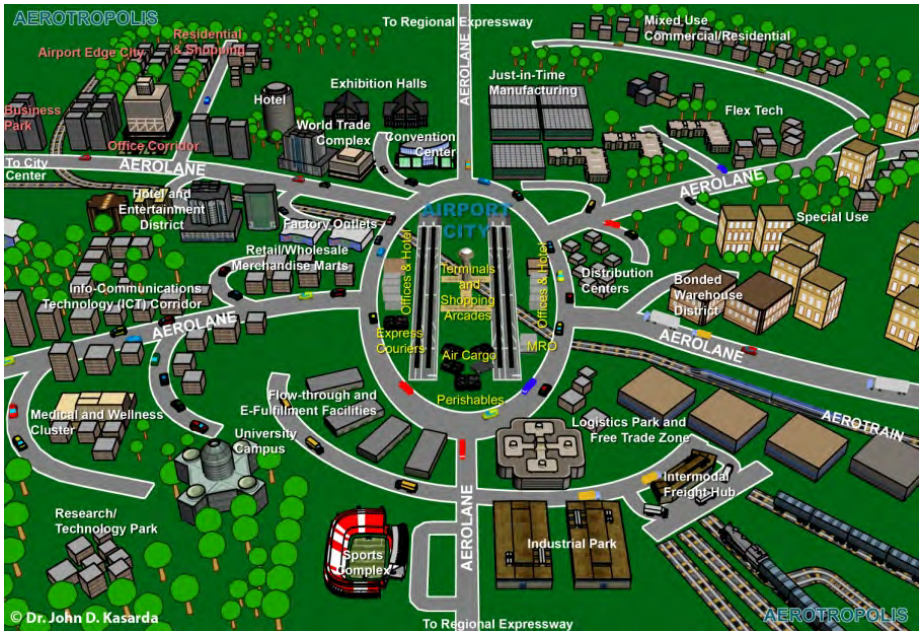
The Moving Ahead for Progress in the 21st Century Act (MAP-21), a federal funding and authorization bill to govern United States (U.S.) federal surface transportation spending, defines an *aerotropolis transportation system* as "a planned and coordinated multimodal freight and passenger transportation network that…provides efficient, cost-effective, sustainable, and intermodal connectivity to a defined region of economic significance centered around a major airport." This concept, linked to University of North Carolina professor John Kasarda, uses airports as hubs for concentrated freight trade and industry activity – attracting clusters of business, logistics, and industrial parks, distribution centers, information technology complexes, and wholesale merchandise marts – to stimulate economic growth, spur investment, and increase the number of higher paying jobs. Ideally, this highly competitive, attractive, and sustainable network would create synergistic communities in close proximity to the airport where one can work, shop, eat, sleep, and be entertained. Calling it a new urban form, Karasara, views airports as "key nodes in global production and enterprise systems offering …speed, agility and connectivity" and aerotropolis development and sustainable smart growth should go "hand-in-hand."

In 2011, the aerotropolis model was highlighted by Time Magazine as one of the "10 Ideas That Will Change the World." Airport-centric communities have been globally embraced in places like China, India, the Middle East, Amsterdam, and South Korea. In the U.S., aerotropolis systems are recognized in MAP-21 as part of the national freight network for strategic direction of resources to improve freight movement efficiency and performance. Many California air cargo airports are currently surrounded by incompatible land uses and will not be able to fully take advantage of the model; however, virtually any community can adopt similar policies and plans scaled to an airport's size and type. Within California, Los Angeles International (LAX) and Ontario have been listed as operational airport cities and Gillespe Field is exploring this concept.

For years LAX has and will continue to be the hub of extreme trade activity. Recognizing existing constraints, it will keep taking advantage of opportunities for operational cohesiveness and efficiency. Ontario has many perfectly-compatible attributes including a strategic location, surrounded by an extensive surface transportation system, with available prime property nearby, and wide-spread community and political support.

With the highest revenue and number of operations within the San Diego County Airport System, Gillespie Field Airport seems ideally situated in a valley where three freeways and the cities of El Cajon and Santee meet. The city of San Diego and other partners have been awarded funds from a San Diego foundation and the U.S. Economic Development Administration to develop an aerotropolis strategic roadmap to leverage regional resources, including the airport, to encourage economic growth, workforce development, and job creation.

The following is an example of a conceptual aerotropolis development model.



John Kasarda developed the following principles for strategic and infrastructure aerotropolis planning:

- Dedicated airport expressway links (aerolanes) and airport express trains (aerotrains) should efficiently connect airports to major regional business and residential concentrations.
- Special truck-only lanes should be added to airport expressways, as should improved interchanges to reduce congestion.
- Time-cost accessibility between key nodes should be the primary aerotropolis planning metric rather than distance.
- Businesses should be steered to locate in proximity to the airport based on their frequency of use, further reducing traffic while improving time-cost access.
- Airport area goods-processing activities (manufacturing, warehousing, and trucking) should be spatially segregated from white-collar service facilities and airport passenger flows. Noise and emission-sensitive commercial and residential developments should be sited outside high-intensity flight paths.
- Cluster rather than strip development should be encouraged along airport transportation corridors with sufficient green space between clusters.
- Form-based codes should establish general design standards for airport area buildings, walkways, travel lanes, landscaping, and public space.
- Placemaking and wayfinding enhanced by thematic architectural features, public art, and iconic structures should make aerotropolis developments interpretable, navigable, and welcoming.
- Mixed-use residential/commercial communities housing airport area workers and frequent air travelers should be developed with easy commutes and designed to human scale providing local services and sense of neighborhood.

Resource: Aerotropolis website located at: http://www.aerotropolis.com/airportCities/about-the-aerotropolis.

APPENDIX B-3-3: BOB HOPE AIRPORT

Airport Address
2627 North Hollywood Way
Burbank, CA 91505

Air Cargo Contact
Victor Gill, VGILL@bur.org
Public Relations Director
818-840-8840

Caltrans Contacts
District 7: Dan Kopulsky, Dan_Kopulsky@dot.ca.gov, 213-897-0213
HQ: Debbie Nozuka, Debbie_Nozuka@dot.ca.gov, 916-651-6012

Bob Hope (Burbank) Airport (BUR) is one of four commercial airports in Caltrans District 7 (Ventura and Los Angeles counties). Located just over 14 miles north of Los Angeles, BUR is owned and operated by the Burbank-Glendale-Pasadena Airport Authority consisting of representatives from the named cities. Operations for BUR are contracted by the Authority.

Operations

Bob Hope Airport handles many types of cargo during its 24/7 operation. Noise abatement procedures and restrictions are in place for certain types of aircraft and activities between 10 p.m. and 7 a.m. Curfews have a disproportionate effect on air express carriers whose delivery commitments generally require arrivals and departures during hours when curfews are in effect.

Facilities and Services

- Federal Express (FedEx) and United States Postal Service (USPS) have drop boxes available at BUR.

Airport Trade Characteristics

- Burbank ranks within the top ten airports in California in terms of cargo tonnage carried.
- In 2013 FedEx and United Parcel Service (UPS) together accounted for approximately 93% of total air cargo at BUR.
- Several other commercial passenger airlines provide cargo services in aircraft bellies.

Surface Transportation Network

Trucking

Primary North-South Routes

- I-5 and I-405, and US 101 (SR 170)

Primary East-West Routes

- I-10, and I-210, and SR 134

Although convenient access to several highways exists, heavy traffic in the vicinity creates delays.

Seaports and Rail Line Access

- The closest deepwater seaports are the Ports of Los Angeles and Long Beach each located about 40 miles south of the airport.
- There is no large revenue-generating freight rail line service at BUR.
- Both Metrolink and Amtrak provide passenger service to the airport.

Planned Projects

- Airport noise compatibility program implementation projects.
- Land acquisition and other improvements to the runway safety area.
- Taxiway and runway improvements.

Other Airport Facts

- In 2013, BUR transported nearly 52,906 tons of cargo.
- BUR is the closest airport to downtown Los Angeles, making it attractive for transporting important last minute, end-of-day documents and packages.

Constraints and Issues

- BUR is surrounded by residential development—noise abatement procedures and home sound insulation programs are in place to mitigate impacts.
- BUR and Orange County's John Wayne Airport (SNA) have little desire to nurture air cargo growth and have noise abatement programs and other limitations that constrain the ability of express carriers to operate effectively.
- Five of the ten worst truck bottlenecks in the nation are located in Los Angeles and neighboring Ventura County.
- A Development Agreement extended until 2015 will provide more time to determine plans and land uses around the airport.

Caltrans Focus Areas

- Ways to alleviate highway bottlenecks along truck routes.
- Improve pavement conditions due to truck damage.

Transportation Planning Partners

South Coast Air Quality Management District (AQMD): http://www.aqmd.gov/

Southern California Association of Governments (SCAG): http://www.scag.ca.gov/

Sources

Air Cargo Mode Choice and Demand Study (2010), prepared for Caltrans by TranSystems: http://www.dot.ca.gov/hq/tpp/offices/ogm/key_reports_files/Air_Cargo_Mode_Choice_&_Demand_Study_080210.pdf

Air Cargo World: http://www.aircargoworld.com

Bob Hope Airport: http://www.BobHopeAirport.com/

Goods Movement Action Plan (2007), California Air Resource Board and Business, Transportation and Housing: http://www.arb.ca.gov/gmp/docs/gmap-1-11-07.pdf

Multi-County Goods Movement Action Plan, Metro, (2008): http://www.metro.net/projects/mcgmap

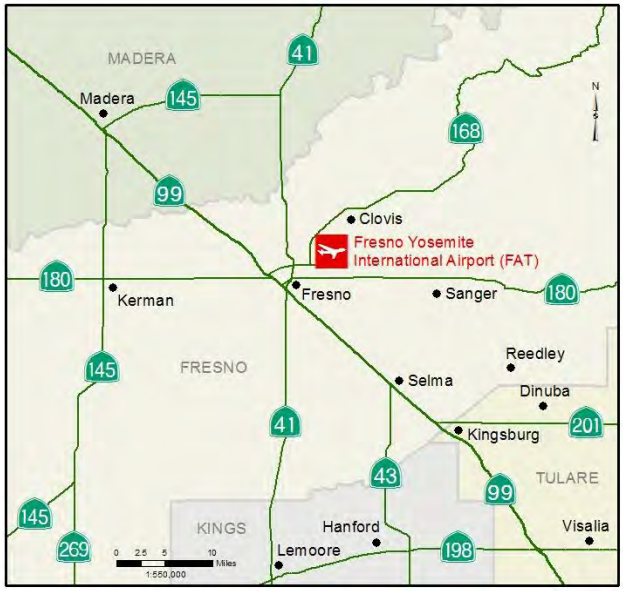
APPENDIX B-3-4: FRESNO-YOSEMITE INTERNATIONAL AIRPORT

Airport Address
5175 East Clinton Way
Fresno, CA 93727

Air Cargo Contact
Kevin Meikle, Kevin.Meikle@fresno.gov
Director of Aviation
559-621-4600

Caltrans Contacts
District 6: Hector Rangel, Hector_Rangel@dot.ca.gov , 559-488-4151
HQ: Debbie Nozuka, Debbie_Nozuka@dotca.gov, 916-651-6012

Fresno Yosemite International Airport (FAT) is located about 100 miles south of Yosemite National Park and six miles northeast of the City of Fresno. It is a municipally-owned and operated, self-supporting enterprise (no general funds are used) within the Caltrans District 6 boundaries of Madera, Fresno, Tulare, Kings, and Kern counties. Serving the fertile Central San Joaquin Valley, FAT is poised as a prime agricultural export location.



Operations

Fresno Yosemite is open 24 hours a day, seven days a week.

Facilities and Services

- The Air Cargo Park is located at the north side of the airport on approximately 87 acres. It features two aircraft ramps and over 500,000 square feet of air cargo building space.
- FAT's two runways, which have recently been extended, can accommodate most large aircraft fleets.
- It is one of a few California airports with a Category III Instrument Landing System on its primary runway, which allows aircraft to land during low visibility days.

Airport Trade Characteristics

- Over 99 percent of the cargo at FAT is handled by all-cargo carriers – FedEx, UPS, and Ameriflight.
- The FedEx regional hub processes up to 100,000 pounds (280,000 packages) of freight each day and has its own import clearance center.
- Freight is also transported in passenger aircraft holds by American Airlines, American Eagle, and Horizon Air as belly cargo.
- Both Volaris and Aeromexico serve Guadalajara, Mexico, potentially creating more opportunities for international air cargo business.

Surface Transportation Network Trucking

Primary North-South Routes

- SR 99 and SR 41

Primary East-West Route

- SR 180

SR 180 changes from a Surface Transportation Assistance Act (STAA) route to part of the California Legal Truck Network east of Minkler (post mile 77.5).

On an average daily basis, the volumes of 5+ axle trucks at interchanges with SR 99 run between 10,000 and 19,999.

Seaports and Rail Line Access

- The two closest seaports, Port of Stockton and Port of Benicia, are over 130 miles away – too inconvenient for use by FAT.
- Both Class I rail lines, Union Pacific (UP) and BNSF Railway are nearby and a short line railroad runs at the southern border of the airport.

Planned Projects

- Future projects for the design and construction of "Air Cargo Expansion Phase 2" are listed in the 2013 Airports Capital Improvement Plan.
- The airport master plan includes a future primary runway expansion to 10,000 feet, if the need arises.

Other Airport Facts

- FAT carried nearly 11,863 tons of cargo in 2013 and increases in air cargo are expected.
- In 2008, FAT became the site of the largest airport-based solar farm installation in the U.S. – which now supplies over 74% of FAT's energy use.

Constraints and Issues

- Noise abatement flight procedures are in place to maintain goodwill with surrounding communities.
- FAT also has a residential sound insulation program in place to mitigate noise impacts.

Caltrans Focus Areas

- Implement ways to alleviate highway bottlenecks along truck routes.
- Improve highway pavement conditions due to truck damage.

Transportation Planning Partners

Fresno Council of Governments: http://fresnocog.org/

San Joaquin County Council of Governments: http://www.sjcog.org/

San Joaquin Valley Air Pollution Control District: http://www.valleyair.ort/

Sources

Air Cargo Mode Choice and Demand Study (2010), prepared for Caltrans by TranSystems: http://www.dot.ca.gov/hq/tpp/offices/ogm/key_reports_files/Air_Cargo_Mode_Choice_&_Demand_Study_080210.pdf

Air Cargo World: http://www.aircargoworld.com

Fresno Yosemite International Airport: http://www.fresno.gov/DiscoverFresno/Airports/default.htm

Goods Movement Action Plan (Phase I, 2005 and Phase II, 2007), California Air Resource Board and Business, Transportation and Housing (Agency): http://www.arb.ca.gov/gmp/docs/gmap-1-11-07.pdf

San Joaquin Valley Interregional Goods Movement Plan, administered by Fresno Council of Governments (in process): http://www.sjvcogs.org/goods.html

APPENDIX B-3-5:
JOHN WAYNE AIRPORT

Airport Address 3160 Airway Avenue
Costa Mesa, CA 92626

Air Cargo Contact Eric Freed, efreed@ocair.com
Manager, Access and Noise
949-252-5043

Caltrans Contacts District 12: Yatman Kwan, Yatman_Kwan@dot.ca.gov, 949-724-2731
HQ: Debbie Nozuka, Debbie_Nozuka@dot.ca.gov, 916-651-6012

Located approximately 35 miles south of Los Angeles between the cities of Costa Mesa, Irvine, and Newport Beach, John Wayne (SNA) is the only commercial passenger and cargo airport in Orange County. SNA is a county-owned and operated self-supporting enterprise that receives no general fund tax revenue. It spans 500 acres and has two runways.

OPERATIONS

Commercial aircraft are prohibited from departing at SNA between 10 p.m. and 7 a.m. (8 a.m. on Sundays) or arriving between 11 p.m. and 7 a.m. (8 a.m. on Sundays). General Aviation operations are permitted 24 hours a day; however, the County's Noise Ordinance requires compliance with both daytime and evening noise limits.

FACILITIES AND SERVICES

- The main runway of 5,701 feet is one of the shortest of any major airport in the United States; however, it can and does handle A310/300 cargo aircraft.
- Due to a settlement agreement, SNA has a state-of-the-art noise monitoring system to manage and enforce maximum permitted noise limits and a mandatory curfew.
- U.S. Customs and Border Protection/Federal Inspection Services are available for international flights without preclearance.

AIRPORT TRADE CHARACTERISTICS

- FedEx and UPS are the two all-cargo carriers at SNA with out-of-state destinations to Memphis, Tennessee and Louisville, Kentucky.
- Over 88 percent of the cargo at SNA is transported by FedEX and UPS, the remainder is carried in the holds of passenger carriers as belly cargo.
- Both AirTran Airways (soon to be Southwest Airlines) and Interjet provide service to Mexico, potentially creating more opportunities for international air cargo services.

Surface Transportation Network Trucking

Primary Routes

- I-405, I-5, SR 55, and SR 73

SNA has convenient access to the highway system.

Seaports and Rail Line Access

- The closest seaport is the Port of Long Beach, which is about 30 miles northwest of SNA – with the Port of Los Angeles virtually next door.
- Union Pacific (UP) and BNSF Railway provide service to the Ports, but not directly to the airport.

Planned Projects

- Air cargo facilities were recently relocated, but no other air cargo projects are currently planned.

Other Airport Facts

- SNA transported 17,827 tons of cargo in 2013.
- In 2013, there were 163,565 general aviation operations, representing almost 66% of SNA's total number of operations.

Constraints and Issues

- SNA has one of the most stringent aircraft access and noise monitoring programs in the United States which presents some constraints to air carriers from reaching optimal efficiency.
- Having a Port of Entry (currently, User Fee Airport) designation, which makes the federal government responsible for all federal inspection services, would make SNA more competitive.
- There are no major surface transportation bottlenecks in the direct vicinity of SNA; however just to the north, major traffic congestion is among the worst in the state.

Caltrans Focus Area

- Implement ways to alleviate highway bottlenecks along truck routes to the north and east.

Transportation Planning Partners

Orange County Transportation Authority (OCTA): http://www.octa.net/about_octa.aspx

South Coast Air Quality Management District (AQMD): http://www.aqmd.gov/

Southern California Association of Governments (SCAG): http://www.scag.ca.gov/rtp2008/index.htm

Sources

Air Cargo Mode Choice and Demand Study (2010), prepared for Caltrans by TranSystems: http://www.dot.ca.gov/hq/tpp/offices/ogm/key_reports_files/Air_Cargo_Mode_Choice_&_Demand_Study_080210.pdf

Air Cargo World: http://www.aircargoworld.com

Goods Movement Action Plan (2007), California Air Resource Board and Business, Transportation and Housing: http://www.arb.ca.gov/gmp/docs/gmap-1-11-07.pdf

John Wayne Airport: http://www.ocair.com/

Multi-County Goods Movement Action Plan, Metro, (2008): http://www.metro.net/projects/mcgmap

Southern California Regional Freight Study, Federal Highway Administration: http://ops.fhwa.dot.gov/frieght/freight_analysis/reg_ind_studies/so_cal_study.htm

APPENDIX B-3-6: LONG BEACH AIRPORT

Airport Address 4100 East Donald Douglas Drive
Long Beach, CA 90808

Air Cargo Contact Chris Paolini, Chris.Paolini@longbeach.gov
Airport Operations
562-570-2638

Caltrans Contacts District 7: Dan Kopulsky, Dan_Kopulsky@dot.ca.gov, 213-897-0213
HQ: Debbie Nozuka, Debbie_Nozuka@dot.ca.gov, 916-651-6012

City-owned Long Beach Municipal Airport (LGB) is one of four commercial airports within the Caltrans District 7 boundaries of Ventura and Los Angeles counties. The other airports include Los Angeles International, Bob Hope, and Oxnard. Located in Long Beach, one of the ten largest cities in California, LGB is about 25 miles south of downtown Los Angeles.

Operations

Aircraft activity flourishes at LGB. The airport is open 24 hours a day, seven days a week; however LGB has one of the strictest ordinances in the nation for noise and the number of commercial flights per day.

Facilities and Services

- LGB boasts five runways, ranging from nearly 4,000 feet long to 10,000 feet.
- Air cargo carriers, Federal Express (FedEx) and United Parcel Service (UPS) operate service in and out of LGB.
- The Long Beach Foreign Trade Zone is located in close proximity to both LGB and John Wayne Airport (which is about 25 miles to the southeast).

Airport Trade Characteristics

- FedEx and UPS transport most of the packages through LGB.
- Alaska Airlines, US Airways, and JetBlue also provide cargo services in passenger aircraft holds as belly cargo.

Surface Transportation Network Trucking

Primary North-South Routes

- I-405, I-710, and I-605

Primary East-West Route

- SR 91

Several highways run through Long Beach, making LGB centrally located for ground transportation.

Federal Highway Administration (FHWA) identified the intersection of I-405 and I-605 among the worst freight bottlenecks in California's supply chain.

Seaports and Rail Line Access

- Located about 15 miles from LGB is the Port of Long Beach—one of the busiest container ports in the nation and a Pacific Rim gateway. The Port of Los Angeles is adjacent to the Port of Long Beach.
- Both Union Pacific (UP) and BNSF Railway provide rail service to the Ports by carrying about 50% of the port's transshipments; however, they do not serve LGB.

Planned Projects

- Many green projects, including installation of solar panels, are underway at the airport.
- Reconstruction of the airport's commercial reliever runway, 7L/25R, started in May 2014 and will take approximately twelve months to complete.

Other Airport Facts

- LGB transported over 26,858 tons of cargo in 2013.
- In 2013, LGB recorded 251,957 operations.
- LGB has noise mitigation measures in place to reduce noise impacts. In 2012 a residential sound insulation program was completed.
- A freight carrier, Catalina Flying Boats, transports air cargo between LGB and Catalina Island.
- The Boeing Company, one of the area's largest employers, will continue to produce C-17 military transport jets at LGB until 2015.

Constraints and Issues

- Local community groups are vocal about operational and physical changes made at the airport.
- Because of encroachment and restrictive noise ordinances, LGB will remain a relatively small airport.
- Heavy surface transportation bottlenecks near the airport cause freight delivery delays.

Caltrans Focus Areas

- Implement ways to alleviate highway bottlenecks along truck routes.
- Improve pavement conditions due to truck damage.

Transportation Planning Partners

Port of Long Beach: http://www.polb.com/

South Coast Air Quality Management District: http://www.aqmd.gov/

Southern California Association of Governments (SCAG): http://www.scag.ca.gov/rtp2008/index.htm

Sources

Air Cargo Mode Choice and Demand Study (2010), prepared for Caltrans by TranSystems: http://www.dot.ca.gov/hq/tpp/offices/ogm/key_reports_files/Air_Cargo_Mode_Choice_&_Demand_Study_080210.pdf

Air Cargo World: http://www.aircargoworld.com

Goods Movement Action Plan (Phase I, 2005 and Phase II, 2007), California Air Resource Board and Business, Transportation and Housing (Agency): http://www.arb.ca.gov/gmp/docs/gmap-1-11-07.pdf

Goods Movement Emission Reduction Plan, SCAG (2008): http://www.scag.ca.gov/goodsmove/pdf/GM_EmissionReduction_AP_Final.pdf

Long Beach Airport: http://www.lgb.org/

Southern California Regional Freight Study, Federal Highway Administration: http://www.ops.fhwa.dot.gov/freight/freight_analysis/reg_ind_studies/so_cal_study.htm

APPENDIX B-3-7:
LOS ANGELES INTERNATIONAL AIRPORT

Airport Address	1 World Way Los Angeles, CA 90045
Air Cargo Contact	Los Angeles World Airports Public Relations Division 424-646-5260
Caltrans Contacts	District 7: Dan Kopulsky, Dan_Kopulsky@dot.ca.gov, 213-897-0213 HQ: Debbie Nozuka, Debbie_Nozuka@dot.ca.gov, 916-651-6012

Located near the Pacific coastline about 15 miles southwest of downtown Los Angeles (LA), Los Angeles International Airport (LAX) is by far the busiest air cargo airport in the state with an extensive freight handling network. It is an international gateway and, along with LA/Ontario International and Van Nuys airports, is owned and operated by Los Angeles World Airports, a proprietary department of the City of Los Angeles that receives no funding from the City's general fund.

Operations

LAX's bustling facility handles all types of domestic and international cargo during its 24/7 operation. Approximately 1,000 flights carrying cargo depart and arrive daily. Shippers have the most broadly-based selection of airlines to choose from of any other U.S. airport. Every major international air carrier serving the Asia-Pacific Region, as well as North American, European, Middle Eastern, and Latin American carriers call at LAX.

Facilities and Services

- More than 2.1 million square-feet of space at LAX is devoted to air cargo on 194 acres, with an additional 4 million square-feet developed for air cargo in the immediate vicinity.
- Mercury Air Cargo maintains and operates the largest (12,700 square-foot) airport refrigeration facility and perishable center on the U.S. West Coast.
- Jetpets, a company that helps transport and quarantine animals for U.S. Department of Agriculture import/export, leases a facility adjacent to LAX.
- Nine new gates able to accommodate large Airbus A-380 aircraft at the Tom Bradley International Terminal, make LAX capable of handling higher levels of international commerce.
- FedEx has a major regional cargo center at LAX.
- The Imperial Cargo Complex is home to a U.S. Customs and Border Protection cargo port, serving the trade business.
- More than 800 freight forwarders and 366 customs house brokers are located in the LA area to help expedite air cargo.
- Foreign consulates and trade offices representing over 70 nations, and more than 55 bi-national chambers of commerce and associations are available to assist with the high volume of trade.

Airport Trade Characteristics

- More than 50 percent of air cargo activity is international in origin or destination.

  - More than half of LAX air cargo is transported in the bellies of passenger aircraft, allowing airlines to offer lower airfares to travelers.
- Japan is LAX's largest export partner with trade valued at $4.6 billion in 2013, followed by China at $4.3 billion.
- In 2013, China was by far LAX's largest import partner with $16.7 billion in trade, followed by India with nearly $3.6 billion.
- In 2013, the top LAX export commodities by value were civilian aircraft, engines, and parts; unmounted diamonds; computer chips; cellular, landline phones, and parts; and computers.
- Top imports by value in 2013 were computers; unmounted diamonds; cellular, landline phones, and parts; computer chips, and returned exports.

Surface Transportation Network Trucking

Primary North-South Routes

- I-405, I-110, and SR 1

Primary East-West Routes

- I-105 and I-10

From this site, nearby connections with intrastate and transcontinental routes exist.

Seaports and Rail Line Access

- Excellent surface connections are available for secondary shipment of goods including two seaports (Los Angeles and Long Beach) and railroads [Union Pacific (UP) and BNSF Railway] which provide transportation throughout the U.S., Canada, and Mexico.

Planned Projects

- According to the 2013 Caltrans California Aviation System Plan Capital Improvement Plan, runway safety area, taxi lane, taxiway, and lighting/signage rehabilitation projects are planned for LAX over the next few years.

Other Airport Facts

- LAX ranks 5th in the United States and 14th in the world, with over 1.9 million in air cargo tonnage processed in 2013.
- In 2013, air cargo at LAX was valued at more than $91.6 billion.
- LAX was responsible for processing more than $91.6 billion worth of the greater LA region's international export and import trade total (valued at nearly $414.8 billion) in 2013.
- With Southern California region air cargo expected to triple over the next 25 years, LAX will continue to be the center of airfreight activity for the Pacific Rim and Europe.

Constraints and Issues

- As one of ten airports statewide determined to have noise impacts, noise abatement procedures exist at LAX for mitigation purposes.
- The Los Angeles and Ventura County areas have five of the ten worst truck bottlenecks in the U.S.
- Southern California's aging transportation infrastructure is at capacity with limited funding for expansion and repairs.

Caltrans Focus Areas

- Improve cargo access to and from LAX.
- Implement ways to alleviate highway bottlenecks and improve pavement conditions along truck routes.
- Plan for handling sea level rise to ensure freight accessibility.

Transportation Planning Partners

South Coast Air Quality Management District (AQMD), http://www.aqmd.gov/

Southern California Association of Governments (SCAG): http://www.scag.ca.gov/rtp2008/index.htm

Sources

Air Cargo Mode Choice and Demand Study (2010), prepared for Caltrans by TranSystems: http://www.dot.ca.gov/hq/tpp/offices/ogm/key_reports_files/Air_Cargo_Mode_Choice_&_Demand_Study_080210.pdf

Air Cargo World: http://www.aircargoworld.com

Goods Movement Action Plan (2007), California Air Resource Board and Business, Transportation and Housing: http://www.arb.ca.gov/gmp/docs/gmap-1-11-07.pdf

Los Angeles International Airport website: http://www.lawa.org/welcomeLAX.aspx

Multi-County Goods Movement Action Plan, Metro, (2008): http://www.metro.net/projects/mcgmap

Southern California Regional Freight Study summary, Federal Highway Administration: http://www.ops.fhwa.dot.gov/freight/freight_analysis/reg_ind_studies/so_cal_study.htm

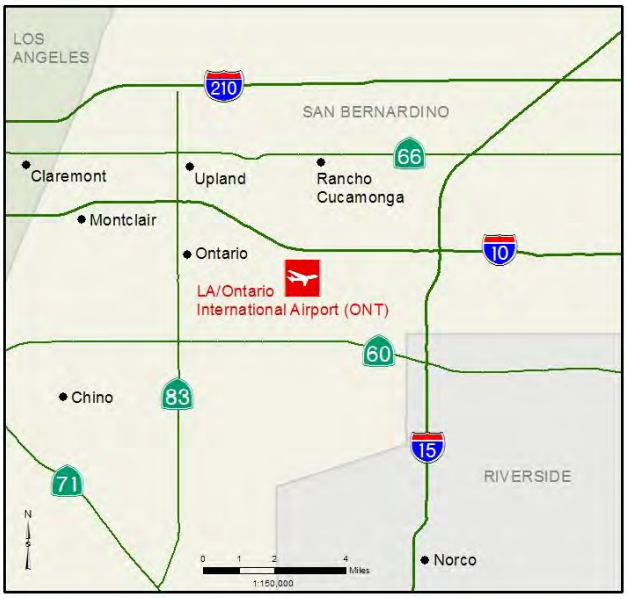
APPENDIX B-3-8: LOS ANGELES/ONTARIO INTERNATIONAL AIRPORT

Airport Address
1923 East Avion Street
Ontario, CA 91761

Air Cargo Contact
Jess Romo, jromo@lawa.org
Airport Manager
909-544-5300

Caltrans Contacts
District 8: Richard Dennis, Richard_Dennis@dot.ca.gov, 909-383-6327
HQ: Debbie Nozuka, Debbie_Nozuka@dot.ca.gov, 916-651-6012

Los Angeles (LA)/Ontario International Airport (ONT) is situated about 35 miles east of downtown LA in San Bernardino County. Los Angeles World Airports (LAWA), a proprietary department within the City of LA, owns ONT as well as Los Angeles International (LAX) and Van Nuys airports. ONT transports the third highest air cargo tonnage in the state, behind LAX and Oakland International airports.



Operations

Ontario International handles many types of domestic and international cargo during its 24-hour/7-day a week operation. Promoting cargo operations at ONT is consistent with LAWA's goal to provide additional air cargo capacity in the region to accommodate demand that cannot be met by LAX. Although exempt from curfews, noise management procedures are in effect.

Facilities and Services

- A former Lockheed aircraft hangar was re-purposed into an air cargo operations facility, now accommodating tenants with office space, utilities, a truck loading dock, and roll up doors.
- A wide network of freight forwarders serves ONT.
- Customs services are available on-site.
- Major freight-only carriers that serve ONT include United Parcel Service (UPS), Federal Express (FedEx), Ameriflight, West Air, and Empire Airways.
- Freight services are also available in the form of passenger aircraft belly cargo from the following carriers: Alaska, Delta, Southwest, United/United Express, and US Airways.

Airport Trade Characteristics

- UPS handles more than 70 percent of the airport's cargo. ONT is UPS' West Coast international hub and gateway with China, as well as a link to its global hub in Louisville, Kentucky.
- In 2013, UPS and FedEx together processed over 97 percent of ONT air freight.
- Over 13 percent of ONT air cargo was international.

- Having two runways over 10,000 feet long, ONT has the potential to become a future premiere international cargo gateway.

Surface Transportation Network Trucking

Primary North-South Routes

- I-15, I-215, and SR 83

Primary East-West Routes

- I-10 and SR 60

From ONT, nearby connections with both north/south and east/west transcontinental routes exist. Nearly all ONT air freight is transported to and from the airport by commercial vehicles.

Seaports and Rail Line Access

- ONT is located about 50 miles from the adjacent Los Angeles and Long Beach Harbors (Ports of San Pedro Bay), which handled 7.9 and 6.7 million twenty-foot equivalent units (TEU), respectively in 2013. Together, these ports are the sixth busiest container "port" in the world.
- Union Pacific (UP) and BNSF Railway, Class I rail service providers, are part of the ONT freight movement system.

Planned Projects

- Taxiway, taxi lane, runway safety area, and apron rehabilitation projects are planned over the next few years.
- Several highway projects along nearby Interstates 10, 15, and 210 were identified as needed within the 2011 California Transportation Commission (CTC) needs assessment.

Other Airport Facts

- In 2013, Airports Council International (ACI) ranked ONT as the 15th largest North American cargo airport with over 460,500 tons transported.
- UPS transported 310,854 tons of air freight in 2013 at ONT.

Constraints and Issues

- As one of ten airports statewide determined to have noise concerns, noise management procedures exist at ONT for mitigation purposes.
- Heavy traffic throughout the Los Angeles area delays freight transportation.

Caltrans Focus Areas

- Implement ways to alleviate highway bottlenecks along truck routes.
- Improve pavement conditions due to truck damage.

Transportation Planning Partners

San Bernardino Associated Governments (SANBAG), http://www.sanbag.ca.gov/planning2/studies_goodsmvmt_strategy.html

South Coast Air Quality Management District (AQMD), http://www.aqmd.gov/

Southern California Association of Governments (SCAG), http://www.scag.ca.gov/rtp2008/index.htm

Resources

Air Cargo Mode Choice and Demand Study (2010), prepared for Caltrans by TranSystems: http://www.dot.ca.gov/hq/tpp/offices/ogm/key_reports_files/Air_Cargo_Mode_Choice_&_Demand_Study_080210.pdf

Air Cargo World: http://www.aircargoworld.com

Goods Movement Action Plan (Phase I, 2005 and Phase II, 2007), California Air Resource Board and Business, Transportation and Housing (Agency): http://www.arb.ca.gov/gmp/docs/gmap-1-11-07.pdf

Los Angeles/Ontario International Airport: http://www.lawa.org/welcomeONT.aspx

Multi-County Goods Movement Action Plan (2008), prepared for Los Angeles County Metropolitan Transportation Authority, et al by Wilbur Smith Associates: http://www.metro.net/projects/mcgmap

Southern California Regional Freight Study, Federal Highway Administration: http://www.ops.fhwa.dot.gov/freight/freight_analysis/reg_ind_studies/so_cal_study.htm

APPENDIX B-3-9: NORMAN Y. MINETA SAN JOSE INTERNATIONAL AIRPORT

Airport Address 1701 Airport Boulevard, Suite B-1130
San José, CA 95110-1206

Air Cargo Contact Cary Greene, CGreene@sjc.org
Airport Planner
408-392-3623

Caltrans Contacts District 4: Joseph Aguilar, Joseph_Aguilar@dot.ca.gov, 510-286-5591
HQ: Debbie Nozuka, Debbie_Nozuka@dotca.gov, 916-651-6012

The Norman Y. Mineta San José International Airport (SJC) is located two nautical miles northwest of downtown San José at the southern tip of the San Francisco Bay in Santa Clara County. City-owned SJC is one of the three main Bay Area cargo-carrying airports (San Francisco International and Metropolitan Oakland International being the other two) within the greater nine-county San Francisco Bay Area. As a self-supporting enterprise, SJC uses no local taxes for its operation or development.

Operations

SJC is open 24 hours a day, 7 days a week with a noise-based curfew from 11:30 p.m. to 6:30 a.m.

Facilities and Services

- The current Airport Master Plan identifies all-cargo as occupying 300,000 square feet at SJC and belly-cargo taking up 85,000 square feet.
- SJC has two commercial runways.
- U. S. Customs and Border Protection officials are located on-site. International carriers include Alaska Airlines, Volaris, and All Nippon Airways.
- A General Purpose Foreign Trade Zone is located around seven miles south of SJC in San Jose's Monterey Corridor Industrial area.

Airport Trade Characteristics

- In 2012, SJC was the State's eighth largest air cargo airport by all-cargo landed weight, handling over six percent of Bay Area air cargo.
- Cargo-only operations at SJC are handled by Federal Express (FedEx) and United Parcel Service (UPS).
- Ten airlines that carry cargo in holds of passenger aircraft (as belly cargo) include Alaska Airlines, All-Nippon Airways, American Airlines, Delta Airlines, Hawaiian Airlines, JetBlue, Southwest Airlines, United, US Airways, and Volaris.

Surface Transportation Network Trucking

Primary North-South Routes

- I-880, I-680, US 101, SR 87, and SR 17

Primary East-West Routes Used

- I-580/I-205

Seaports and Rail Line Access

- A little more than 20 miles to the north is the Port of Redwood City – the only deepwater port in South San Francisco Bay.
- Union Pacific (UP) has rail lines nearby.

Planned Projects

- Construction of new cargo airline facilities at or adjacent to existing east side cargo airline areas, including up to 1.2 million square feet of ramp, building, and vehicle parking/movement space.
- Relocation/expansion of belly-freight facilities to new site(s) on east side of SJC, including up to 93,000 square feet of building and vehicle parking/movement space.

Other Airport Facts

- In 2013, SJC transported over 46,820 tons of mail, freight, and cargo.
- In 2013, air cargo tonnage volume at SJC increased for the first time since fiscal year 2000.
- Air cargo at SJC is forecast to reach 49,100 metric tonnes by 2040, according to the California Air Cargo Groundside Needs Study.

Constraints and Issues

- Situated on 1,000 acres in an urban area, SJC is at its maximum with expansion.
- SJC is an urban airport with a noise-based curfew. Noise exposure from aircraft operating at SJC is continually monitored through the Airport's Noise Monitoring System.
- Area traffic congestion may cause goods movement truck delays.

Caltrans Focus Areas

- Implement ways to alleviate highway bottlenecks along truck routes.
- Improve pavement conditions due to truck damage.

Transportation Planning Partners

Association of Bay Area Governments (ABAG): http://www.abag.ca.gov/

Bay Area Air Quality Management District (BAAQMD): http://baaqmd.gov/

Metropolitan Transportation Commission (MTC): http://www.mtc.ca.gov

Sources

Air Cargo Mode Choice and Demand Study (2010), prepared for Caltrans by Tran Systems: http://www.dot.ca.gov/hq/tpp/offices/ogm/key_reports_files/Air_Cargo_Mode_Choice_&_Demand_Study_080210.pdf

Air Cargo World: http://www.aircargoworld.com

Airport Master Plan update for Norman Y. Mineta San Jose International Airport (2011): http://www.flysanjose.com/fl/about/improve/overview/MP-ExecSum11_Cur-Master_Plan_Apr2011.pdf

California Air Cargo Groundside Needs Study, prepared for Caltrans by System Metrics Group, Incorporated: http://www.dot.ca.gov/hq/tpp/offices/ogm/air_cargo/PartI_Air_Crgo_Grd_Side_Needs_Stdy_Fnl_2013_October_21.docx

Goods Movement Action Plan (Phase I, 2005 and Phase II, 2007), California Air Resource Board and Business, Transportation and Housing (Agency): http://www.arb.ca.gov/gmp/docs/gmap-1-11-07.pdf

MTC Regional Airport Planning: http://www.mtc.ca.gov/planning/air_plan/

Regional Goods Movement Study for the San Francisco Bay Area, Metropolitan Transportation Commission (2004): http://www.mtc.ca.gov/planning/rgm/

Norman Y. Mineta San Jose International Airport: http://www.flysanjose.com/

Port of Redwood City: http://www.redwoodcityport.com/

APPENDIX B-3-10: OAKLAND INTERNATIONAL AIRPORT

Airport Address
1 Airport Drive
Oakland, CA 94621

Air Cargo Contact
John Albrecht, Aviation Marketing Manager
jalbrecht@portoakland.com
510-563-2898

Caltrans Contacts
District 4: Joseph Aguilar, Joseph_Aguilar@dot.ca.gov, 510-286-5591
HQ: Debbie Nozuka, Debbie_Nozuka@dotca.gov, 916-651-6012

Located on the east side of San Francisco Bay in Alameda County, Oakland International Airport (OAK) is part of a bustling intermodal trade hub. OAK is owned and operated by the Port of Oakland, and has the highest cargo volume among the three Bay Area airports within District 4.

Operations

Oakland International Airport is open 24 hours a day, 7 days a week without curfews.

Facilities and Services

- The 2006 Airport Master Plan identifies cargo as occupying 134 of the 2,600 acres of airport property.
- The largest carrier, FedEx, occupies 400,000± square feet of sorting, distribution, and warehouse space at OAK. United Parcel Service (UPS) occupies another 50,000± square feet of space for cargo services.
- U. S. Customs and Border Protection officials are located on-site.
- The Oakland Foreign Trade Zone, located 1.5 miles away consists of 500,000 square feet of buildings with direct highway access.

Airport Trade Characteristics

- OAK handles about 55 percent of Bay Area air cargo.
- The FedEx regional hub processes up to 100,000 pounds (280,000 packages) of freight each day and has its own import clearance center.
- FedEx operates its primary U.S. mainland gateway to Asia and the Pacific Rim at OAK. In 2013, FedEx expanded its OAK hub with a new 150,000 square foot international sorting facility.
- Domestically, OAK cargo carriers operate with high frequency along the U.S. West Coast and transcontinental to cargo hubs in Memphis, Tennessee (FedEx) and Louisville, Kentucky (UPS).

Surface Transportation Network Trucking

Primary North-South Routes

- I-880 and I-680, US 101, and SR 29

Primary East-West Routes

- I-580 and I-80 (western leg of a national freight corridor), SR 12, SR 152, and SR 4

Of the three main Bay Area cargo airports, OAK offers the best access and connections to major interstate highways.

No trucks over 4.5 tons are allowed on I-580 from Foothill Boulevard in San Leandro to Grand Avenue in Oakland.

Seaports and Rail Line Access

- The Bay Area's largest and busiest seaport, Port of Oakland is located nine miles from OAK.
- Both Union Pacific and BNSF Railway provide Class I rail service to the Port.
- Several port/rail projects in the Oakland/Richmond areas will help reduce delays, increase efficiency, improve convenience, and increase terminal capacity for cargo.

Planned Project

Improvements are planned for the Port's Perimeter Dike which separates OAK's South Field airfield from the San Francisco Bay and protects the essential airfield, terminal and access roadway facilities. The environmental review and project design are now complete. Improvements include: (1) repairing slopes to meet Federal Emergency Management Agency standards, (2) strengthening and increasing elevation of the dike to resist flooding and future sea level rise.

Other Airport Facts

- In 2012, OAK ranked the 13th largest air cargo airport in the nation by the North America Airports Council International (ACI), with nearly 539,000 tons transported.
- By 2035, air cargo is expected to increase by 65 percent at OAK.
- In 2005, FedEx activated California's then-largest corporate solar power installation that continues to reduce demand on the utility grid.
- In 2014, Norwegian Air Shuttle introduced OAKs first scheduled, year-round nonstop flights to Europe, carrying both passengers and cargo.
- In 2014, the BART-Oakland Airport Connector (OAC) replaced the AirBART shuttle bus service to improve access between the airport and BART's regional rail transit system at its Coliseum Station. It serves both OAK passengers and employees with reliable scheduled service that is safe, convenient, and predictable.

Constraints and Issues

- OAK has an active Noise Management Program, working in cooperative relationships with local communities. OAK has developed and implemented a wide range of abatement procedures to mitigate aircraft noise.
- Dray trucking in and around the Port of Oakland extending into the San Joaquin Valley contributes to roadway congestion, safety issues, environmental, and pavement damage and impacts to the surrounding communities.
- Federal Highway Administration (FHWA) identified I-80 at I-580/I-880 (Bay Bridge approach) among the worst freight bottlenecks in California's supply chain.

Caltrans Focus Areas

- Ways to alleviate highway bottlenecks along truck routes.
- Improve pavement conditions due to truck damage.
- Support the Marine Highway Project (barge service between the Ports of Oakland, Stockton, and West Sacramento) that can reduce truck traffic and congestion.
- Plans for handling sea level rise to ensure freight accessibility.

Transportation Planning Partners

Association of Bay Area Governments (ABAG): http://www.abag.ca.gov/

Bay Area Air Quality Management District (BAAQMD): http://baaqmd.gov/

Metropolitan Transportation Commission (MTC): http://www.mtc.ca.gov

Port of Oakland: http://portofoakland.com

SOURCES

Air Cargo Mode Choice and Demand Study (2010), prepared for Caltrans by TranSystems: http://www.dot.ca.gov/hq/tpp/offices/ogm/key_reports_files/Air_Cargo_Mode_Choice_&_Demand_Study_080210.pdf

Air Cargo World: http://www.aircargoworld.com

Caltrans Office of Truck Services: http://www.dot.ca.gov/hq/traffops/engineering/trucks/truck-length-routes.htm#step-2

Goods Movement Action Plan (2007), California Air Resource Board and Business, Transportation and Housing: http://www.arb.ca.gov/gmp/docs/gmap-1-11-07.pdf

Goods Movement Initiative, MTC, 2009 Update: http://www.mtc.ca.gov/planning/rgm/background.htm

MTC Regional Airport Planning: http://www.mtc.ca.gov/planning/air_plan/

OAK Airport Development Program (ADP): http://www.oaklandairport.com/airport_construction_airport_dev_program.shtml

Regional Goods Movement Study for the San Francisco Bay Area, MTC (2004): http://www.mtc.ca.gov/planning/rgm/

This page is intentionally blank.

APPENDIX B-3-11: SACRAMENTO INTERNATIONAL AIRPORT

Airport Address 6900 Airport Boulevard
Sacramento, CA 95837

Air Cargo Contact Jeff Frye, FryeJ@saccounty.net
916-874-0922

Caltrans Contacts District 3: Florigna Feliciano, Florigna_Feliciano@dot.ca.gov, 530-741-5455
HQ: Debbie Nozuka, Debbie_Nozuka@dot.ca.gov, 916-651-6012

Sacramento International Airport (SMF), located 12 miles northwest of the State's Capitol, is northern California's inland gateway to the world. Nestled at the north end of the Central Valley in Sacramento County, SMF has become a vibrant hub since it was built in 1967. Owned and operated by the Sacramento County Airport System (along with Sacramento Mather Airport, Executive Airport and Franklin Field) within Caltrans District 3, SMF is one of the State's top 12 cargo airports.

Operations

SMF is open 24 hours a day, 7 days a week and is able to provide domestic as well as international cargo service. Preferential Runway procedures are in place between 9:45 p.m. and 7:45 a.m. to minimize aircraft noise exposure in the community.

Facilities and Services

- The 2007 Airport Master Plan identifies cargo as occupying 134 of the 2,600 acres of airport property.
- The closest Foreign Trade Zone is located about 15 miles away next to the Port of West Sacramento.
- Landing fees are the same for SMF and Mather Field.

Airport Trade Characteristics

- Federal Express (FedEx) has a sort facility at SMF, and operates several daily flights.
- Much of the cargo at SMF is transported in the bellies of passenger aircraft by carriers such as Southwest Airlines, Alaska/Horizon Airlines, American Airlines, United Airlines, and Delta Airlines.
- A United States Postal Service (USPS) facility is located at SMF transporting mail and packages.

Surface Transportation Network

Trucking

Primary North-South Routes

- I-5 and SR 99

Primary East-West Routes

- I- 80 (western leg of a national freight corridor) and US 50

Located just off I-5, SMF offers convenient access and connections to other major interstate highways.

US 50 changes from a Surface Transportation Assistance Act (STAA) route to part of the California

Legal Network east of Sly Park Road at Pollock Pines (post mile 31.3).

Average daily truck traffic volumes in the Sacramento region reach between 10,000 and 19,999. The majority of bottlenecks occur around downtown Sacramento and not in the vicinity of the airport.

Seaports and Rail Line Access

- To the west of downtown Sacramento and south of SMF is the deepwater Port of West Sacramento.
- Both Union Pacific (UP) and BNSF Railway, provide transcontinental rail service near SMF using either Donner or Tehachapi routes to ship freight to eastern destinations such as Chicago, Illinois; Kansas City, Kansas; and Memphis, Tennessee.
- Short line railroads are also in the vicinity.

Programmed and Planned Projects

- The programmed Metro Air Parkway Project is located at the SMF interchange with I-5. It includes the first construction phase of a five-lane partial clover interchange with a three lane overcrossing facility, bike lanes, and a sidewalk on the west side.
- An Airport Master Plan (AMP) update is underway which is anticipated to be finalized by December 2014. It will include a review of the planned extension of runway 16L/34R to 11,000 feet.
- Also in 2016, construction improvements to increase capacity for seasonal passenger and air cargo diversion aircraft are scheduled.

Other Airport Facts

- Over 71,624 tons of freight was processed through SMF in 2013.
- A Wildlife Hazard Management Program is in place to reduce aircraft and wildlife interactions.

Constraints and Issues

- Environmental considerations present limitations on large scale development around and even on airport property.
- Truck traffic on area highways sometimes causes delays.
- More international flights would encourage more global belly cargo.
- SMF is challenged by pressure from the private sector to develop properties around the facility for residential and commercial use. This presents potential issues with the noise contours which could adversely impact overall operations over the long-term.

Caltrans Focus Areas

- Implement ways to alleviate highway bottlenecks along truck routes.
- Encourage compatible land uses around the airport.

Transportation Planning Partners

Sacramento Area Council of Governments (SACOG): http://www.sacog.org/

Sacramento Metropolitan Air Quality Management District (SMAQMD): http://www.airquality.org/

Sources

Air Cargo Mode Choice and Demand Study (2010), prepared for Caltrans by TranSystems: http://www.dot.ca.gov/hq/tpp/offices/ogm/key_reports_files/Air_Cargo_Mode_Choice_&_Demand_Study_080210.pdf

Air Cargo World: http://www.aircargoworld.com

Goods Movement Action Plan (Phase I, 2005 and Phase II, 2007), California Air Resource Board and Business, Transportation and Housing (Agency): http://www.arb.ca.gov/gmp/docs/gmap-1-11-07.pdf

California Air Cargo Groundside Needs Study (2013), prepared for Caltrans by System Metrics Group, Incorporated: http://www.dot.ca.gov/hq/tpp/offices/ogm/air_cargo/PartI_Air_Crgo_Grd_Side_Needs_Stdy_Fnl_2013_October_21.docx

Sacramento International Airport: http://www.sacramento.aero/smf/

APPENDIX B-3-12: SACRAMENTO MATHER AIRPORT

Airport Address	10425 Norden Avenue Mather, CA 95655
Air Cargo Contact	Jeff Frye, FryeJ@saccounty.net 916-874-0922
Caltrans Contacts	District 3: Florigna Feliciano, Florigna_Feliciano@dot.ca.gov, 530-741-5455 HQ: Debbie Nozuka, Debbie_Nozuka@dot.ca.gov, 916-651-6012

Primarily focused on air cargo, Sacramento Mather Airport (MHR) is home to one of the longest runways in California. Located 15 minutes (12 miles) east of downtown Sacramento, MHR is owned and operated by the Sacramento County Airport System (along with Sacramento International Airport, Executive Airport, and Franklin Field). Positioned close to US 50, MHR provides convenient access to northern and central California as well as out- of-state markets.

Operations

The Mather control tower is manned at all times except on weekends between 9 p.m. to 5 a.m. (Saturday to Sunday and Sunday to Monday).

Facilities and Services

- In 1995, the former military base became a 2,700 acre (approximately) cargo and general aviation airport.
- MHR has two parallel commercial runways, the longer of which is 11,300 feet. There are 43 acres of air cargo ramp.
- Mather features spacious facilities, including cargo, warehouse, office space, and over 250,000 square feet of enclosed hangar space. Over 800 acres are available for industrial development.
- No customs landing rights exist at MHR.
- MHR is uniquely situated with nearby access to diverse multimodal facilities such as an international airport, transcontinental rail yard, and a deepwater seaport.

Airport Trade Characteristics

- United Parcel Service (UPS) is the one major cargo carrier currently serving MHR.
- California National Guard, Embry Riddle Aeronautical University, and technical and aircraft maintenance facilities are also located at or near the airport.

Surface Transportation Network

Trucking

Primary North-South Routes

- I-5 and SR 99

Primary East-West Route

- US 50

US 50 changes from a Surface Transportation Assistance Act (STAA) route to part of the California

Legal Truck Network east of Sly Park Road at Pollock Pines (post mile 31.3).

The average daily truck traffic volumes in the Sacramento region reach between 10,000 and 19,999.

Seaports and Rail Line Access

- To the west, just beyond downtown Sacramento is the deepwater Port of West Sacramento. A "Marine Highway" barge service to Stockton and Oakland is planned.
- Both Union Pacific (UP) and BNSF Railway, provide transcontinental rail service near MHR.
- Short line railroads are also in the vicinity.

Planned Projects

- Upgrade of Instrument Landing System from Category (CAT) I to CAT IIIb to improve access during extremely low visibility/ceiling conditions.
- Sort and warehouse facilities, maintenance facility, administration and operations building, and freight warehouse space.
- Infrastructure projects such as adding hangars and replacing old utility infrastructure.
- Development of land-side multimodal access infrastructure.
- Extension of shorter runway from 6,500 to 7,200 feet.

Other Airport Facts

- MHR transported over 71,624 tons of cargo in 2013.
- The Federal Aviation Administration's Northern California Terminal Radar Control (TRACON) facility is located at Mather.
- New residential development around MHR is conditioned to make it compatible with current and future airport operations.
- In September 2012, airport ownership was transferred to Sacramento County from the U.S. Air Force.

Constraints and Issues

- Communities are concerned enough about nighttime air cargo operations that voluntary nighttime noise abatement procedures have been adopted.
- The Airport Master Plan Draft Environmental Impact Report (EIR) was revised in 2013 and adoption is expected in 2014.

Caltrans Focus Areas

- Land use compatibility.
- Implement ways to alleviate highway bottlenecks along truck routes.

Transportation Planning Partners

Port of West Sacramento: http://www.cityofwestsacramento.org/city/depts/cmo/port_of_west_sacramento/

Sacramento Area Council of Governments (SACOG): http://www.sacog.org/

Sacramento Metropolitan Air Quality Management District (SMAQMD), http://www.airquality.org/

Sources

Air Cargo Mode Choice and Demand Study (2010), prepared for Caltrans by TranSystems: http://www.dot.ca.gov/hq/tpp/offices/ogm/key_reports_files/Air_Cargo_Mode_Choice_&_Demand_Study_080210.pdf

Air Cargo World: http://www.aircargoworld.com

California Air Cargo Groundside Needs Study (2013), prepared for Caltrans by System Metrics Group, Incorporated: http://www.dot.ca.gov/hq/tpp/offices/ogm/air_cargo/PartI_Air_Crgo_Grd_Side_Needs_Stdy_Fnl_2013_October_21.docx

Goods Movement Action Plan (2007), California Air Resource Board and Business, Transportation and Housing: http://www.arb.ca.gov/gmp/docs/gmap-1-11-07.pdf

Mather Airport: http://www.sacramento.aero/mhr/

APPENDIX B-3-13: SAN DIEGO INTERNATIONAL AIRPORT

Airport Address
3225 North Harbor Drive
San Diego, CA 92101

Air Cargo Contact
Airport Operations Department, info@san.org
619-400-2710

Caltrans Contacts
District 11: Chris Schmidt, Chris_Schmidt@dot.ca.gov, 619-220-7360
HQ: Debbie Nozuka, Debbie_Nozuka@dot.ca.gov, 916-651-6012

San Diego International Airport (SAN) is situated on the southern California coast – three miles from downtown San Diego and around 25 miles from the U.S.-Mexico International Border. It is the busiest single runway airport in the nation and second in the world behind Gatwick Airport near London. Owned and operated by the San Diego County Regional Airport Authority, SAN is one of three commercial airports (along with Imperial County and McClellan – Palomar airports) within San Diego and Imperial counties (Caltrans District 11).

Operations

SAN is open for arrivals 24 hours a day, seven days a week. A departure curfew exists for all flights between 11:30 p.m. and 6:30 a.m. Departures during the curfew hours are subject to large fines.

Facilities and Services

- The current Airport Master Plan (2008) identifies 69,750 square feet of air cargo buildings on airport property.
- All-cargo carriers operate out of portable trailers next to the north cargo ramp. Cargo is trucked in and out of the airport, with sorting and loading performed off-site.
- A Foreign Trade Zone is located about 20 miles from SAN.

Airport Trade Characteristics

- SAN is served by five all-cargo airlines, with the majority of flights serving Memphis, Tennessee for Federal Express (FedEx) and Columbus, Ohio for United Parcel Service (UPS).
- Several airlines carry belly cargo in passenger aircraft and have facilities on airport property.
- Continued air cargo growth is expected due to the addition of international passenger flights to Asia.

Surface Transportation Network Trucking

Primary North-South Routes

- I- 5, I-805, and I-15, and SR 163

Primary East-West Routes

- I-8 and SR 94

On northbound I-5, there is a low 13'10" vertical clearance to the right at the Pershing Drive off-ramp (post mile 15.4) due to an angled overcrossing.

Seaports and Rail Line Access

- The Port of San Diego is approximately five miles from SAN.
- Neither Union Pacific (UP) nor BNSF Railway provides freight rail service to SAN.
- High speed rail service, which may eventually serve freight, is being planned for an area just northeast and adjacent to SAN.

Planned Project

- The cargo apron is scheduled for rehabilitation / reconstruction between fiscal years 2014 and 2016.

Other Airport Facts

- SAN transported 162,353 tons of cargo and mail in 2013.
- Of the five busiest California airports in terms of air cargo, in 2011, SAN experienced the most growth.
- Cargo flight operations are anticipated to grow more slowly than tonnage due to the use of increasingly larger aircraft with the ability to carry more cargo per departure.

Constraints and Issues

- With limited land area, accommodation for cargo aircraft parking is an issue at SAN.
- Cargo structures are old and not well-configured for efficient cargo operations.
- SAN faces encroachment in all directions, which limits expansion opportunities. To date, relocation efforts have been unsuccessful.
- Terrain and obstacles around the airport limit aircraft payloads for some long-haul international routes that require more fuel.
- The prohibition on takeoffs between 11:30 p.m. and 6:30 a.m. limits SAN's cargo expansion potential.
- Airfield capacity constraints resulting from having a single runway will begin to limit growth beyond 2030.

Caltrans Focus Areas

- Assist SAN in meeting future passenger and cargo needs in the region.
- Implement ways to alleviate highway bottlenecks along truck routes.
- Work with SAN to improve ground access for cargo activities.

Transportation Planning Partners

Port of San Diego: http://www.portofsandiego.org

San Diego Air Pollution Control District: http://www.sdapcd.org

San Diego Association of Governments (SANDAG): http://www.sandag.org

Sources

Air Cargo Mode Choice and Demand Study (2010), prepared for Caltrans by TranSystems: http://www.dot.ca.gov/hq/tpp/offices/ogm/key_reports_files/Air_Cargo_Mode_Choice_&_Demand_Study_080210.pdf

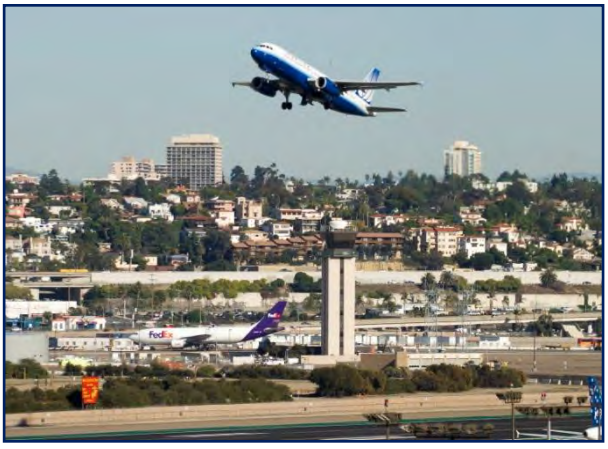
Air Cargo World: http://www.aircargoworld.com

California Air Cargo Groundside Needs Study (2013), prepared for Caltrans by System Metrics Group, Incorporated: http://www.dot.ca.gov/hq/tpp/offices/ogm/air_cargo/PartI_Air_Crgo_Grd_Side_Needs_Stdy_Fnl_2013_October_21.docx

Goods Movement Action Plan (2007), California Air Resource Board and Business, Transportation and Housing: http://www.arb.ca.gov/gmp/docs/gmap-1-11-07.pdf

Multi-County Goods Movement Action Plan, Metro, (2008): http://www.metro.net/projects/mcgmap

San Diego International Airport: http://www.san.org



APPENDIX B-3-14: SAN FRANCISCO INTERNATIONAL AIRPORT

Airport Address
806 South Airport Boulevard
San Francisco, CA 94128-8097

Air Cargo Contact
John Bergener, John.Bergener@flysfo.com
Bureau of Planning and Environmental Affairs
650-821-7867

Caltrans Contacts
District 4: Joseph Aguilar, Joseph_Aguilar@dot.ca.gov, 510-286-5591
HQ: Debbie Nozuka, Debbie_Nozuka@dot.ca.gov, 916-651-6012

Although San Francisco International Airport (SFO) is a department of the City and County of San Francisco, it is located at the north edge of San Mateo County on the west side of the San Francisco Bay. As northern California's primary international gateway airport, SFO is one of three main cargo-carrying airports (along with Oakland International and Mineta San Jose International) in the Bay Area.

Operations

SFO operates 24 hours a day, 7 days a week (24/7) and is the first major California airport to operate without a noise variance because it has eliminated all surrounding incompatible land uses within the State's Community Noise Equivalent Level 65 decibel noise contour line.

Facilities and Services

- Cargo service is available from over 40 airlines, including several cargo-only airlines.
- U. S. Custom's services are available on site 24/7.
- SFO's 11 cargo facilities provide over a million square feet of warehouse and office space.

Airport Trade Characteristics

- According to the 2013 Economic Impact Study of SFO, 29 percent of all California air exports that originated in the State passed through SFO.
- Over 70 percent of the Bay Area's combined domestic and international exports shipped via SFO consisted of computer and electronic manufacturing in 2011.

- Approximately 60% of cargo at SFO is carried on passenger aircraft. Over half of that total is international cargo.
- United Airlines transports the most air cargo by weight at SFO with over 22 percent of the total.
- SFO is a major trade hub with Pacific Rim countries like South Korea, Japan, and Taiwan.
- Roughly 75 percent of cargo at SFO is international.

- International export shipments through SFO in 2011 were valued at $8.64 billion and domestic shipments were worth $7.99 billion.

Surface Transportation Network Trucking

Primary North-South Routes

- US 101 and I-280

Primary East-West Routes

- I-580 (via the San Mateo Bridge) and I-80, the western leg of a national freight corridor (via the Bay Bridge).

On SR-24 (Caldicott Tunnel), no liquefied petroleum gas, or poisonous gas in tank truck, trailer or semi-trailers allowed, and no explosives or flammables on either Routes 80 (Bay Bridge) or on SR 24.

Seaports and Rail Line Access

- The Port of San Francisco Foreign Trade Zone is located 13 miles away.
- The San Francisco Bay Railroad short-line serves the Port and interchanges commodities with Union Pacific (UP).

Planned Projects

- Caltrans is working with UC Berkeley on a Bay Area Rapid Transit (BART) Air Freight study to assess the feasibility of transporting freight off-peak on the same light rail system.
- The FY 13/14 Airport Capital Plan lists projects to replace and renovate cargo and hangar facilities at West Field Cargo, the SuperBay Hangar, and Japan Airlines (JAL) Cargo.

Other Airport Facts

- In 2013, SFO was preliminarily ranked the 17th largest air cargo airport in the nation by the North America Airports Council International (ACI), transporting 401,015 tons.
- According to the Economic Impact Study, more than $900 million in tax revenue is attributable to direct and indirect SFO air-reliant shipper activity and $499 million in U.S. Customs revenue comes from SFO domestic air freight shipments.
- SFO is responsible for 35,400 cargo-related jobs.
- By 2035, air cargo is expected to increase by 127% percent, mostly due to growth in international cargo demand.

Constraints and Issues

- Exacerbated by being located within a peninsula, trucking contributes to roadway congestion, safety, environmental, and pavement damage issues for surrounding communities.
- Federal Highway Administration (FHWA) identified I-80 at I-580/I-880 (Bay Bridge approach) among the worst freight bottlenecks in California's supply chain.

Caltrans Focus Areas

- Implement ways to alleviate highway bottlenecks along truck routes—like BART air freight efforts.
- Improve pavement conditions due to truck damage.
- Develop plan for handling sea level rise to ensure freight accessibility.

Transportation Planning Partners

Association of Bay Area Governments (ABAG): http://www.abag.ca.gov/

Bay Area Air Quality Management District (BAAQMD): http://baaqmd.gov/

Bay Conservation and Development Commission (BCDC): http://www.bcdc.ca.gov/

Metropolitan Transportation Commission (MTC): http://www.mtc.ca.gov

Sources

2013 Economic Impact Study of San Francisco International Airport: http://media.flysfo.com.s3.amazonaws.com/default/downloads/reports/SFOEconomicImpactReport2013.pdf

Air Cargo World: http://www.aircargoworld.com

California Air Cargo Groundside Needs Study, prepared for Caltrans by System Metrics Group, Incorporated: http://www.dot.ca.gov/hq/tpp/offices/ogm/air_cargo/PartI_Air_Crgo_Grd_Side_Needs_Stdy_Fnl_2013_October_21.docx

Goods Movement Action Plan (2007), California Air Resource Board and Business, Transportation and Housing: http://www.arb.ca.gov/gmp/docs/gmap-1-11-07.pdf

Regional Goods Movement Study for the San Francisco Bay Area, Metropolitan Transportation Commission (MTC), 2004: http://www.mtc.ca.gov/planning/rgm/

MTC Regional Airport Planning: http://www.mtc.ca.gov/planning/air_plan/

San Francisco International Airport Air Cargo: http://www.flysfo.com/web/page/about/b2b/cargo/

This page is intentionally blank.

APPENDIX B-4: SEAPORTS

B-4-1: Port of Benicia

B-4-2: Port of Hueneme

B-4-3: Port of Humboldt Bay

B-4-4: Port of Long Beach

B-4-5: Port of Los Angeles

B-4-6: Port of Oakland

B-4-7: Port of Redwood City

B-4-8: Port of Richmond

B-4-9: Port of San Francisco

B-4-10: Port of Stockton

B-4-11: Port of West Sacramento

B-4-12: Unified Port of San Diego

This page is intentionally blank.

APPENDIX B-4-1: PORT OF BENICIA

Port Address 1997 Elm Road, Benicia, CA 94510

Port Website http://www.worldportsource.com/ports/USA_CA_Port_of_Benicia_765.php

Port Contact Randy Scott, General Manager, AMPORTS - Benicia
RScott@amports.com, (707) 479-0633; Main line (707) 745-2394

Caltrans Contacts HQ: Julie Hutcheson, (916) 653-1965; Julie_Hutcheson@dot.ca.gov
District 4: Joseph Aguilar, (510) 286-5591; Joseph_Aguilar@dot.ca.gov

The deep water Port of Benicia (Port) is located in Solano County on the northern bank of the Carquinez Strait approximately 19 miles northeast of the Port of Oakland and 25 miles northeast of the Port of San Francisco.

In the early 1960s, two events dramatically changed the Port. The Benicia Arsenal, a U.S. Army Base, was closed and the Benicia-Martinez Bridge was completed. When the Arsenal closed, it took with it the Port's economic base. The City of Benicia (City) leaders converted the old arsenal grounds into an industrial park that eventually produced more income for the City than the Army Base. The Benicia industrial park lies to the northeast of the residential areas of the City and includes the Valero oil refinery. When the Benicia-Martinez Bridge opened in 1964, consequently the City become a suburb of the San Francisco-Oakland metropolitan area, which brought new development to the City and the Port.

The Port is privately owned and operated by APS West Coast, Inc. AMPORTS, a leader in the vehicle processing industry, operates ten seaports in the U.S. and Mexico, including Benicia.

AMPORTS' State Tidelands lease with this Port ends in 2032

PORT INFRASTRUCTURE

Acres	645
Deepwater Berths	3
Channel Depth	38 ft.
Deepwater pier	2,400 feet
Benicia Industrial Park	4,000 acres
Vehicle Processing	140,000 sq. ft.
Rail Access	On-terminal

PORT TRADE CHARACTERISTICS

IMPORTS
Automobiles

EXPORTS
Petroleum coke (Valero)

MAJOR TRADING PARTNERS
Japan, South Korea, and Australia

Port Trade Characteristics

- The Port has sufficient acreage for bulk cargo operations and storage
- Cargo handled at the Port of Benicia includes:
    - Break Bulk (neo-bulk and dry bulk)
    - Heavy-lift options
    - Barge Stripping
    - High and Heavy cargo
    - Roll-on/Roll-off Service
- Automobiles handled at Port include: General Motors, Ford, Chrysler, and Toyota
- The Port is the Northern California hub for the domestic distribution of Fords and Chryslers
- All Toyotas that are delivered to Northern California are processed from this Port
- CODA Automotive, Inc. and AMPORTS assemble electric cars at Port of Benicia creating 50 new jobs; however, the parts are produced at plants in China, shipped to the Port of Oakland, and then trucked to the Port of Benicia for assembly.

Major Port Projects

- None at this time

Major Port Issues

- Dredging to maintain ship channels
- Navigation channel is limited to 35 feet, restricting the size and type of vessels that can call the port
- Worldwide economic recession negatively impacted the automotive industry
- Insufficient flat backland for container terminal development

Caltrans Focus Areas

- Environmental and community concerns
- Freight congestion on I-80
- Freight corridor high pavement damage

Surface transportation Network

- Key truck routes: I-680, I-780, I-80, SR-4
- Port located near the junction of I-680 and I-780
- Port highway access is one mile from I-680

Rail

- Union Pacific (UP) Railroad operates on-terminal rail service with two lines and providing transcontinental services.
- UP provides on-terminal rail that can service 170 multi-level railcars simultaneously

Key Planning & Partner Agencies

- Metropolitan Transportation Commission (MTC)
- Association of Bay Area Governments (ABAG)
- Bay Area Air Quality Management District (BAAQMD)
- Bay Conservation and Development Commission (BCDC)
- U.S. Army Corps of Engineers
- U.S. Environmental Protection Agency
- California Air Resources Board (CARB)
- Maritime Administration
- Alameda County Local Transportation Commission
- Contra Costa Transportation Authority

References and Sources

American Association of Port Authorities: http://www.aapa-ports.org/home.cfm
Association of Bay Area Governments (ABAG): http://www.abag.ca.gov/
Bay Area Air Quality Management District (BAAQMD): http://www.baaqmd.gov/
Bay Conservation and Development Commission (BCDC): http://www.bcdc.ca.gov/
California Air Resources Board (CARB): http://www.arb.ca.gov
California Transportation Commission 2011 Needs Assessment: http://www.catc.ca.gov/reports/index.htm

Caltrans District 4: http://www.dot.ca.gov/hq/tpp/corridor-mobility/d4-page.html
Caltrans Freight Planning: http://www.dot.ca.gov/hq/tpp/offices/ogm/index.html
Change in Motion – Transportation 2035 Plan for the San Francisco Bay Area, Final April 2009, MTC: http://www.mtc.ca.gov/planning/2035_plan/FINAL/T2035_Plan-Final.pdf
City of Benicia: http://www.ci.benicia.ca.us/
City of Benicia Strategic Plan FY 2011-2013: http://www.ci.benicia.ca.us/vertical/Sites/%7B3436CBED-6A58-4FEF-BFDF-5F9331215932%7D/uploads/strategic_plan_2011_2013.pdf
San Francisco Bay Plan, BCDC, Amended October 6, 2011: http://www.bcdc.ca.gov/laws_plans/plans/sfbay_plan#19
San Francisco Bay Area Seaport Plan, MTC and San Francisco BCDC, April 18, 1996, Amended January 2007: http://www.bcdc.ca.gov/pdf/seaport/seaport.pdf
Solano Transportation Authority: http://www.sta.ca.gov/
Solano County: http://www.co.solano.ca.us/

This page is intentionally blank.

APPENDIX B-4-2:
PORT OF HUENEME

Port Address	Port of Hueneme 333 Ponoma Street, Port Hueneme, CA 93041-0608
Port Website	http://www.portofhueneme.org/home.php
Port Contact	Will Berg, Director, Marketing & Public Information Phone (805) 488-3677, wberg@portofhueneme.org
Caltrans Contacts	HQ: Julie Hutcheson, (916) 653-1965; Julie_Hutcheson@dot.ca.gov District 7: Elhami Nasr, (213) 897-0227; Elhami_Nasr@dot.ca.gov

The Port of Hueneme, located in Ventura County, is the only deep water harbor between the ports of Los Angeles and San Francisco and is the U.S. Port of Entry for California's central coast region. Established in 1937, the Oxnard Harbor District owns and manages the Port.

The Port provides an ocean link for the agricultural community to the global market. The Port specializes in handling automobiles, produce, and bulk cargo. It also provides important support services for the offshore oil industry. A recent economic report indicated that the Port generates over $723.8 million in economic activity, received about $13.7 million in revenues for fiscal year 2013 – up 12 percent from fiscal year 2012, with auto and fresh produce contributing the most to the port's revenue. The Port supports 9,448 jobs both directly and indirectly.

Unique to the Port is Hueneme Canyon, a 1,000+ foot-deep submarine canyon, located within 300 feet of the Port's channel. This submarine canyon helps keep the channel free from silt and provides good navigation with minimal wave and swell action. The Port's harbor is not affected by tidal streams or current. In 1999, the Port of Hueneme was able to expand by purchasing surplus Navy property, the Naval Civil Engineering Laboratory.

PORT INFRASTRUCTURE

Main Channel Depth	35 feet	Acreage	165+ (maritime); 210+ (industrial) acres
Channel Length	2,300 feet		
Berths	6 deep draft (4,250 Linear Feet); 1 shallow draft (320 Linear Feet)	Rail Access	Near dock rail

Port Trade Characteristics

Imports	Exports
Autos	Autos
Produce	Produce
Liquid Fertilizer	General Cargo
Bulk Liquid	

Major Trading Partners

Costa Rica, Ecuador, Guatemala, Germany, Sweden, Japan, Korea

Port Trade Characteristics (cont'd.)

- As one of California's busiest seaports for general cargo, the Port handles over $7 billion in cargo value each year.
- Since 2001, the District's ocean freight operating revenues have been driven by automobiles and fresh produce cargo.
- Oil deposits in the Santa Barbara Channel makes the Port an important base for the oil industry.
- Exports of American-made automobiles jumped 220% from 2008 to 2011.
- Coastal trade includes fish, offshore oil, general cargo, and vessel fuel.
- The Port charges auto importers per vehicle and not per ton. Port wharfage fees account for each auto as a revenue ton. All other cargo is strictly measured by the metric ton.

Surface Transportation Network & Intermodal Connections

Highway Access Routes

Major routes serving the Port include US-101, SR-1, SR-118, SR-126, SR-405, and SR-232.

- Primary access route to Port is US 101
- Secondary access routes: SR 126 and SR 1 (Pacific Coast Highway/Oxnard Boulevard)
- SR 232 is also known as Vineyard Avenue

Trucking

- Corridors with greatest use to and from the Port are Hueneme Road and Rice Avenue
- Rice Avenue, a four-lane roadway designated as a preferred access route to Port, has problems with bottlenecks
- Hueneme Road is a preferred access route for trucks, as specified in the City of Oxnard's General Plan. The City is planning to widen the road from two to four lanes.
- Ventura Road, a primary access road to the Port, is a four-lane arterial just east of the Port's main gate
- Port generates about 25% of area truck trips
- Measures to reduce truck impacts include: improved signage with preferred truck routes and require residential developers to provide acoustical design such as pavement surfaces, sound barriers, setbacks, and sound-dampening materials

Freight Rail

Ventura County Railway, LLC Class III, short-line railroad. This 10.3-mile loop of track is owned by the District. Rail America operates the railroad, and the Port is the general manager. The Union Pacific Railroad also provides freight rail access to the Port, providing an important link throughout North America.

Environment

- The Port installed a substation that will allow ships at berth to turn off the vessels engines reducing greenhouse gas emissions and to use alternative marine power.

Major Port Issues

- The Port and city of Port Hueneme are at odds over revenue-sharing and the city feels the Port is paying too little for the impacts of trucks and, business operations that causes street degradation, increased use of public services and negative environmental impacts
- Insufficient backland for container terminal development
- Infrastructure requirements and upgrades
- Need of gantry crane
- Environmental and community concerns
- Channel dredging and maintenance
- Freight congestion

Caltrans Focus Areas

- Freight congestion on US 101
- Community environmental impacts
- Planning for sea level rise to ensure freight accessibility
- Monitor pavement conditions due to heavy truck impacts

Planning Documents and Studies

- Cities of Port Hueneme and Oxnard Truck Traffic Study, June 5, 2008
- City of Oxnard, General Plan 2011
- Port of Hueneme Access Study Update
- Port of Hueneme, Oxnard Harbor District Comprehensive Annual Financial Report,
- Southern California Association of Governments (SCAG) 2012-2035 Regional Transportation Plan, Draft, December 2011
- Strategic Action Plan for Business Development (In progress)
- Ventura County Congestion Management Plan, 2009 Update

Transportation Planning Partners

- California Air Resources Board
- City and County of Ventura
- City of Oxnard
- City of Port Hueneme
- Naval Base Ventura County
- Port Hueneme Redevelopment Agency
- South Coast Air Quality Management District
- Southern California Association of Governments (SCAG)
- U.S. Army Corps of Engineers
- U.S. Customs & Border Patrol
- U.S. Environmental Protection Agency
- Ventura County Transportation Commission
- Ventura County Air Pollution Control District

Sources and Additional Information

- Cities of Port Hueneme and Oxnard Truck Traffic Study, June 5, 2008: http://publicworks.cityofoxnard.org/Uploads/TrafficEngineering/Port%20Hueneme%20Oxnard%20Truck%20Traffic%20Study%20June%205,%202008.pdf
- City of Oxnard Planning Division (General Plan 2011): http://developmentservices.cityofoxnard.org/Department.aspx?DepartmentID=7&DivisionID=76&ResourceID=961
- Hoops, Stephanie. "Court of hear fight between Port of Hueneme and Port Hueneme." Ventura County Star. 17 October http://www.vcstar.com/news/2012/jan/10/port-generates-202-million-in-economic-output/?print=1
- Port of Hueneme Comprehensive Annual Financial Report: http://www.portofhueneme.org/documents/financial_report201011.pdf
- "Port of Huenueme Declares AMP Ready." MarineLink.Com. 23 December 2013. Web. 25 December 2013. http://www.marinelink.com/news/readiness-declares362336.aspx
- Port of Hueneme Harbor District: http://www.portofhueneme.org/about_us/general_overview.php
- Port of Los Angeles: http://www.portoflosangeles.org/
- Southern California Association of Governments (SCAG) 2012-2035 RTP, Draft December 2011: http://rtpscs.scag.ca.gov/Pages/Draft-2012-2035-RTP-SCS.aspx
- SCAG's Comprehensive Regional Goods Movement Plan and Implementation Strategy, June 2013. http://www.scag.ca.gov/goodsmove/
- The Local and Regional Economical Impacts of the Port of Hueneme, Port of Hueneme, December 2012. http://www.portofhueneme.org/documents/economic_impact_report.pdf

This page is intentionally blank.

APPENDIX B-4-3: PORT OF HUMBOLDT BAY

Port Address	Humboldt Bay Harbor, Recreation and Conservation District P. O. Box 1030, 601 Startare Drive, Eureka, CA 95502-1030 http://www.humboldtbay.org/portofhumboldtbay/
Port Contact	Jack Crider, Chief Executive Officer jcrider@portofhumboldtbay.org; (707) 443-0801
Caltrans Contacts	District 1: David Carstensen, (707) 445-6409; Dave_Carstensen@dot.ca.gov HQ: Julie Hutcheson, (916) 653-1965; Julie_Hutcheson@dot.ca.gov

The Port of Humboldt Bay (Port), located in Humboldt County (County), is California's northernmost deep-water shipping port and the only port between San Francisco (258 miles south) and Coos Bay, Oregon (180 miles north).

The Port is managed by the Humboldt Bay Harbor, Recreation and Conservation District (District), a county-wide public local agency that focuses on three areas: the Harbor, recreation, and conservation. The District has the difficult task of balancing port activities with conservation, commercial fishing, and environmental protection requirements. Port revenue sources include Humboldt County property taxes, permits, fees, dredging surcharges, rents, and Tideland leases.

Forest products continue to dominate this Port, but a recent drop in trade (by more than 50%) has had a substantial impact on the Port. Humboldt Bay imports more than 90% of the gasoline and diesel used in the County and has the ability to accommodate Panama Canal-class (Panamax) vessels.

PORT INFRASTRUCTURE

Harbor Entrance	48 ft.
Shipping Channel	38 ft.
Deepwater Berths	9

PORT TRADE CHARACTERISTICS

Trade Partners	Imports	Exports
Canada	Logs	Logs
China	Petroleum	Wood chips
Pacific Rim	Wood Chips	

KEY PLANNING & PARTNER AGENCIES

- Bureau of Land Management
- California Department of Fish and Game
- Cities of Eureka and Arcata
- County of Humboldt
- Humboldt County Association of Governments
- Humboldt Maritime Logistics
- North Coast Railroad Authority
- U.S. Army Corps of Engineers
- U.S. Fish and Wildlife Humboldt Bay National Wildlife Refuge
- U.S. Maritime Administration
- West Coast Corridor Coalition

MAJOR PORT PROJECTS / STUDIES

- Blue Coast Intermodal / West Coast Hub-Feeder Initiative – conduct a short-sea shipping market analysis on the M-5 Marine Highway Corridor along the coasts of

Washington, Oregon, and California, including Humboldt Bay. ($275,000 MARAD Grant)
- Port Access Enhancement Project – highway and freight rail access ($258,000 TEA-21 Grant)
- Redwood Marine Terminal Feasibility Study, February 18, 2008

Planning Documents

- Capital Improvement Plan (2011-2021)
- Humboldt Bay Management Plan (May 2007)
- Humboldt County Regional Transportation Plan (2008)
- Port of Humboldt Bay Revitalization Plan (2003)
- Long Term Financial Feasibility of the Northwestern Pacific Railroad Report (2002)
- Strategic Plan (2012-2016)

Major Port Issues

- Small local market size - Humboldt County's small population and economic base generates little inbound freight for consumption
- Remote area with rugged terrain
- Road access limited and no rail system
- Economic impacts of non-indigenous species
- Shoaling - navigation hazards due to sediment deposition from the Eel River
- Cargo handling facilities in disrepair
- Shortage of experienced longshoremen
- Draft limits makes it a second port-of-call and limits the size of ships

Caltrans Focus Areas

- Freight congestion on US 101
- Truck traffic deteriorating roads
- Heavy forest products industry trucks cause noise and vibrations along US 101 in Eureka, which functions as the city's main street

Surface Transportation Network

Access Routes

- US 101, SR 299, and SR 255
- Washington Street in Eureka (Route of intermodal significance)

Intermodal Connections

Trucking Issues

Surface Transportation Assistance Act (STAA) truck length restrictions limit port access. Sections of US 101 and SR 299, including Richardson Grove and Buckhorn Summit, limit the length of trucks able to enter and leave Humboldt County.

Trucking Projects

Caltrans realignment projects to accommodate STAA trucks include:

- Caltrans Richardson Grove Project on US 101
- Buckhorn Summit Project on CA 299 (Caltrans District 2 project affecting District 1)
- Realignment improvements to US 199 / SR 197

Rail

North Coast Railroad Authority (NCRA) (Class I) owns the Northwestern Pacific (NWP) Railroad line, which historically served the Port, but has been out of service for more than 15+ years.

Rail Issues

Restoration of NCRA freight rail north of Willits is problematic due to environmental constraints within the Eel River Canyon in Mendocino County, steep slopes and unstable geology. Since 1996, the line has been washed out at several points in the Eel River Canyon.

References and Sources

- California Marine and Intermodal Transportation System Advisory Council (CALMITSAC): http://threesquaresinternationalinc.com/calmitsac/
- Caltrans Office of Truck Services: http://www.dot.ca.gov/hq/traffops/trucks/
- Growth of California Ports Opportunities and Challenges, Report to Legislature, April 2007: http://hydra.usc.edu/scehsc/web/Resources/Reports%20and%20Publications/CALMITSAC%20Report_California%20Ports_4-2007.pdf
- Humboldt County Association of Governments: http://www.hcaog.net/

- Humboldt Maritime Logistics: humboldtlogistics.com/
- North Coast Railroad Authority: http://www.northcoastrailroad.org/index.html
- U.S. Department of Maritime Administration (MARAD): http://www.marad.dot.gov/

This page is intentionally blank.

APPENDIX B-4-4: PORT OF LONG BEACH

Port Contact	Eric Shen; (562) 283-7180, shen@polb.com
Port Address	925 Harbor Plaza, Long Beach, CA 90802
Port Website	www.polb.com
Caltrans Contacts	District 7: Daniel Kopulsky, Dan_Kopulsky@dot.ca.gov, (213) 897-0213 Headquarters: Julie Hutcheson, (916) 653-1965, Julie_Hutcheson@dot.ca.gov

Location & History

The Port of Long Beach (POLB) is located at the south end of the I-710 Freeway and approximately 25 miles south of downtown Los Angeles (LA). Founded in 1911, it is a premier gateway for trade between the United States (US) and Asia. It is the 2nd busiest port by container volume in the U.S. The Port is a public agency managed and operated by the City of Long Beach Harbor Department. It has one of the deepest harbors of any seaport in the world and handles approximately 5,000 vessel calls a year. Port lands are owned by the City in trust for the people of the State of California. In 1911, the California State Legislature approved a Tidelands grant, giving the City the right to manage and develop the Harbor District. Port-related trade generates approximately $140 billion annually and supports more than 1.4 million US jobs.

Port Infrastructure

Channel Depth	76 ft.
Maritime Area	3,200 acres
Container Terminals	6
Waterfront	25 miles
Deepwater Berths	80
Piers	10
Shipping Terminals	22
Post-Panamax Gantry Cranes	66

Port Trade Characteristics

Imports	Exports
Crude oil	Petroleum coke
Electronics	Petroleum bulk
Plastics	Waste paper
Furniture	Chemicals
Clothing	Scrap metal

Major Trading Partners

Imports	Exports
China	China
South Korea	Japan
Hong Kong	Taiwan
Japan	Mexico

Major Trading Partners (Cont.)

Imports	Exports
Ecuador	South Korea

Port Statistics

- 6 .2 million + twenty-foot equivalent unit (TEU) containers in 2012
- In 2012, the Port ranked nineteenth as one of the World's Top Container Ports.
- 2,313 vessel calls were made in 2012
- Ranks first in North America in berth productivity (moves/hour) at 82.6
- Cargo value throughput was valued at $155 billion for 2012
- 660 million square feet of warehouse and distribution facilities within 80 miles of POLB

Trade Corridors Improvement Fund (TCIF) Projects

- Gerald Desmond Bridge Replacement – New Bridge to span main channel (under construction)
- Ports Rail Realignment and Expansion Project – Project will enable Port to move 35 percent of goods via on-dock rail by 2035 (under construction)

Other Port Projects

- Middle Harbor Redevelopment Project – Modernize two aging shipping terminals into one facility (under construction)
- Long Beach Harbor Dredging in partnership with the Army Corps of Engineers - ongoing
- Pier S Marine Terminal Development Project — Develop a currently vacant 160-acre parcel into a new cargo terminal with rail access and
- Back Channel improvements. This project would include the following components: property acquisition; dredging, wharf construction, other waterside improvements, and container cranes; Back Channel improvements; container yard and associated structures; terminal buildings and other structures; truck gates, intermodal railyard, etc.
- I-710 Corridor Improvement Study — Funding partner to analyze potential alternatives and/or improvements for this major freight corridor

Major Port Issues

- Environmental and community health concerns
- International security
- Navigation maintenance – channel dredging
- Freight congestion
- Intermodal road and rail access
- Coastal environmental protection
- Harbor Maintenance Tax Funding for continued dredging and other infrastructure improvements being borrowed against to assist other federal programs and not available for the port to use for its intended purpose
- Unknown impacts of the Panama Canal expansion, scheduled to open in 2014
- Limited capacity and intermodal connections

Caltrans Focus Areas

- Truck vehicle miles traveled estimated to increase over 100 percent by 2030, as a result the highway system's performance will deteriorate significantly.
- Existing roadway and rail capacity, safety, operational, and design constraints
- Analyzing the need and feasibility of a dedicated East-West Freight Corridor
- Most of the Port's trade is simply "through-traffic," which degrades air quality and impacts the region's quality of life, while providing limited regional economic benefits.
- Environmental, community, and health impacts – Diesel engine emissions from marine vessels, trucks, locomotives, cargo-handling equipment – and off-road diesel equipment – as well as noise, light, and vibration have significant impacts on neighboring communities and regional air quality
- Impacts of port expansion projects on the State Highway System

Surface Transportation Network

Access Routes

I-710	I-5	I-110	I-105
I-210	I-405	I-605	SR-57
SR-47	SR-91	SR-60	US 101
SR-103			

Trucking

- 75 percent of all Port-related freight movements are made by truck for at least one segment
- Caltrans District 7 has five of the 10 worst truck bottlenecks in the U.S.
- Limited funding available while Southern California's aging transportation system is at capacity

Rail

- About 40 percent of all containers at the Port of Los Angeles (POLA)/POLB are loaded onto trains via on-dock and off-dock railyards. Of this 40 percent, about 25 percent is loaded via on-dock railyards. It is the policy of the ports to maximize the movement of containers via on-dock rail, and therefore providing supporting and sufficient infrastructure.
- 60 weekly on-dock rail departures from the port a week.
- Rail traffic is estimated to increase from about 95 to 315 trains/per day between now and 2035. To address the increase in traffic, the POLA/POLB developed a comprehensive Rail System Program estimated to cost about $2 billion over the next 10-15 years.

Two Class I Railroads

- Union Pacific (UP) Railroad
- Burlington Northern Santa Fe (BNSF) Railway

Alameda Corridor

- 20 mile train expressway, opened in 2002, connects POLB and POLA to transcontinental railyard in downtown LA (BNSF and UP operating agreement)

Alameda Corridor East

- Extends benefits of Alameda Corridor through construction of safety improvements and 20 grade separations across 70 additional miles of mainline railroad in San Gabriel Valley
- The Port averages over 100 train trips per day – Intermodal yards are reaching capacity, resulting in time delays moving cargo between trains and trucks

SHORTLINE

- Pacific Harbor Line – Operates 18 miles of track entirely inside POLA/POLB each interfacing with BNSF and UP.

CRITICAL ROADWAY AND RAIL BRIDGES

- Critical roadway and rail bridges for San Pedro Ports: Vincent Thomas Bridge (SR 47), Gerald Desmond Bridge (POLB; soon to be part of SR 710), Badger Avenue Railroad Bridge (POLA), and the Schuyler Heim Bridge (SR 47/103).

MAJOR RAILYARDS

BNSF RAILWAY

- Hobart Yard, located in Commerce near the junction of I-710 and I-5. Largest intermodal railyard in U.S. – processes about 1.2 million containers annually.
- Southern California International Gateway (SCIG) – Proposed new intermodal yard adjacent to the Alameda Corridor near the POLA/POLB would increase use of the Alameda Corridor, reducing the need for trucks to haul containers on I-710 to the Hobart Yard. Project under environmental review.

UP RAILROAD

- Commerce Yard: Across the street from BNSF's Hobart Yard, facility primarily used for cargo handling – processes over 350,000 containers per year.
- Intermodal Container Transfer Facility (ICTF) and Dolores Yards: five miles from POLA, adjacent to the Alameda Corridor near POLA/POLB. The ICTF is an intermodal facility for moving containers from the ports onto the Alameda Corridor thereby reducing truck trips to Commerce and Industry Yards. Upon completion, UP is expecting to increase the annual average number of containers transferred from truck to rail from the present 725,000 to a projected 1.5 million. The Dolores Yard is an adjacent servicing and switching facility.

ENVIRONMENTAL

- San Pedro Bay Clean Air Action Plan (CAAP) – reduce emissions 80 percent by 2014 – $2 billion, 5-year plan began in 2007. Goals set for 2014 have already been achieved. From 2005 to 2011, all the key air pollutants from port-related sources were reduced. Smog-forming nitrogen oxides and sulfur oxides were cut 50 percent and 80 percent (cargo activity did fall by 10 percent in this time period.)
- Clean Trucks Program – As of January 1, 2012, the 11,000 trucks that serve the port terminals are model years 2007 or newer. This program effectively banned older, polluting trucks and reduced diesel pollution 90 percent since 2008.
- Green Port Policy – Port's Green Flag Program is a voluntary vessel speed reduction program that incentivizes vessel operators for slowing down to 12 knots or less within 40 nautical miles (nm) of Point Fermin (near the entrance to the harbor). Ships emit less when they decrease speed. The program has been successful in reducing smog-forming emissions and diesel particulates from ships.
- Port of Long Bridge is making available Alternative Marine Power (AMP) at most of its terminals (also known as cold ironing). When ships provide their own power by using continuously running on-board auxiliary diesel engines, they become one of the largest sources of port-related pollutants including particulate matter, oxides of sulfur and oxides of nitrogen. By the Port providing AMP as an alternative to a ship using its own power, it cuts air pollution from a ship at berth by 95 percent. The Port's international terminals will have AMP by the end of 2013.
- CAAP Technology Advancement Program (TAP) is focused on new and emerging technologies supportive of emission reductions that can be achieved by various technologies. The program facilitates the development and adoption of new technologies throughout the port industry.
- The Port of Long Beach was the first port to use a diesel electric hybrid tugboat.

KEY PLANNING & PARTNER AGENCIES

- Alameda Corridor-East Construction Authority and Alameda Corridor Transportation Authority (ACTA)
- California Air Resources Board (CARB)
- Southern California Association of Governments (SCAG)
- South Coast Air Quality Management District
- Federal - United States Department of Transportation (USDOT), US Environmental Protection Agency (USEPA), US Army Corps of Engineers, US States Fish and Wildlife Service, National Marine Fisheries Service, and National Oceanic and Atmospheric Administration, U.S. Customs & Border Patrol

- State – California Transportation Agency, California, Environmental Protection Agency (CalEPA), California Resources Agency (CARB) and Caltrans
- Southern California Consensus Group, a coalition of all the transportation agencies and ports in Southern California, including the five regional transportation planning/programming agencies in the SCAG region.

SOURCES AND ADDITIONAL INFORMATION

- *2013 Los Angeles Trade Numbers*, Port of Los Angeles and Los Angeles World Airports. http://www.portoflosangeles.org/pdf/Los-Angeles-Trade-Numbers-2013.pdf
- American Association of Port Authorities, Port Industry Statistics (2012) http://www.aapa-ports.org/Industry/content.cfm?ItemNumber=900#Statistics
- California Clean Trucks Program: http://www.polb.com/environment/cleantrucks/default.asp
- Gateway Cities Council of Governments (COG): http://www.gatewaycog.org/index.php
- Intermodal Container Transfer Facility, Project Description. (2013) http://www.ictf-jpa.org/
- PierPASS -- http://pierpass.org/
- Port of Long Beach, http://www.polb.com/
- "On the Move: Southern California Delivers the Goods" (2013), SCAG. http://www.camsys.com/pubs/CRGM_OnTheMove_ExecSummary.pdf
- Southern California National Freight Gateway: http://www.freightcollaboration.org/

APPENDIX B-4-5: PORT OF LOS ANGELES

Port Address	425 South Palos Verdes Street, P.O. Box 151, San Pedro, CA 90733-0151
Port Website	http://www.portoflosangeles.org/
Port Contact	Kerry Cartwright, Director of Goods Movement, (310) 732-7678 kcartwright@portla.org
Caltrans Contacts	District 7: Dan Kopulsky, (213) 897-0213; Dan_Kopulsky@dot.ca.gov Headquarters: Julie Hutcheson, (916) 653-1965; Julie_Hutcheson@dot.ca.gov

The Port of Los Angeles (POLA) is located on San Pedro Bay, 20 miles south of downtown Los Angeles (LA), at the south end of Interstate 110. The Port is the busiest container port in the U.S. (ranked 1st since 2000) and the 16th busiest container port in the world. When combined with the neighboring Port of Long Beach (POLB), these two ports, known as the San Pedro Bay Ports, are ranked the 6th busiest container complex in the world, with 90 percent of the Ports' trade coming from East Asia.

In 2011, the Port exported over 2 million containers, setting a new national record. As the nearest major American ports west of the Panama Canal, the San Pedro Bay Ports have become the natural ports-of-call for most trans-Pacific and coastal users of the waterway.

The Port is an independent, self-supporting department of the City of Los Angeles and is managed by the Board of Harbor Commissioners. The Port's primary revenue comes from shipping services and leasing property to tenants who operate their own facilities. The Port provides 896,000 jobs regionally and generates 1.2 million port-related jobs throughout California and 3.6 million port-related jobs nationwide.

PORT INFRASTRUCTURE

Channel depth	53 feet
Maritime area	7,500 acres
Terminal Acreage	1,600 acres
Cargo terminals	23
Waterfront	43 miles
Deepwater berths	270
Gantry Cranes	85
Post-Panamax Cranes	36 (of the above)
Container terminals	9
Rail (on-port)	113 miles

PORT TRADE CHARACTERISTICS

Imports	Exports
Furniture	Wastepaper
Apparel	Animal Feeds
Automobile parts	Scrap metal
Electronic products	Cotton
Apparel	Resins

Major Trading Partners – cargo value

1. China
2. Japan
3. South Korea
4. Taiwan
5. Vietnam

Port Trade Characteristics (con't)

In 2012, the port handled:

- 206,865 automobiles
- 175.2 million metric revenue tones
- Cargo valued at $283.6 billion
- Container volume was at 8.1 million twenty-
- 2,080 vessels arrival

PORT STATISTICS

- Over 100 trains per day in and out of the San Pedro Bay Gateway to 14 U.S. markets
- 30 percent of all containerized cargo moves by on-dock rail
- The Port is spending over $1 million a day in capital improvements
- 8.1 million twenty-foot equivalent units were handled in calendar year (CY) 2012
- When combined with the Port of Long Beach, it ranks 8th in the world for container volume

Surface Transportation Network & Intermodal Connections

Highway Access Routes

- Major State Highway System routes serving the Port of Los Angeles include US 101, I-5, I-10, I-15, I-105, I-110, I-210, I-405, I-605, I-710, SR 47, SR 60, SR 57, SR 91, and SR 138.
- Containers are moved primarily on I-110, I-710, SR 47/SR 103, and Alameda Corridor (rail).

Trucking

- 75 percent of all port-related freight movements are made by truck for at least one segment.
- The Los Angeles region served by the Port has five of the 10 worst truck bottlenecks in the U.S.
- Limited funding availability while Southern California's aging transportation system is at capacity and in poor condition.
- 660 million square feet of warehouse and distribution facilities within 80 miles of the Port

Freight Rail

- About 40 percent of all containers at the San Pedro Ports are loaded onto trains via on-dock and off-dock rail yards. Of this 40 percent, about 25 percent is loaded via on-dock rail yards. It is the policy of the ports to maximize the movement of containers via on-dock rail by providing sufficient infrastructure.
- Rail traffic is estimated to increase from about 95 to 315 trains per day between now and 2035. The San Pedro Ports have developed a comprehensive Rail System Program estimated to cost about $2 billion over the next 10 to 15 years.

Class I Railroads

- Union Pacific (UP) Railroad
- Burlington Northern Santa Fe (BNSF) Railway

Shortline Rail

- *Pacific Harbor Line*. Operates 18 miles of track entirely inside the San Pedro Bay Ports each interfacing with BNSF and UP. It operates on tracks and facilities owned by the ports.

Alameda Corridor

- Twenty-mile freight train expressway, opened in 2002; connects the San Pedro Ports to the transcontinental railyard in downtown LA (operating agreement between BNSF and UP)

Alameda Corridor-East

- Extends the benefits of Alameda Corridor through the construction of safety improvements and 22 grade separations across 70 additional miles of mainline railroad in the San Gabriel Valley; 19 grade separations have been completed.

Roadway and Rail Bridges

- Critical roadway and rail bridges for the San Pedro Ports:
  - Vincent Thomas Bridge (SR 47)
  - Gerald Desmond Bridge (POLB; soon to be part of SR 710)
  - Badger Avenue Railroad Bridge (POLA)
  - Schuyler Heim Bridge (SR 47/103)

Major Rail Yards

BNSF Railway

- *Hobart Yard*, located in the City of Commerce, near the junction of I-710 and I-5, is the largest intermodal railyard in U.S. The facility handled about 1.1 million lifts in 2010 (port and non-port cargo); 40,000 line haul locomotives arrived and departed in 2007.
- *Southern California International Gateway (SCIG)*: Proposed new intermodal yard will be adjacent to the Alameda Corridor near the San Pedro Bay Ports and would increase use of the Alameda Corridor, reducing the need for trucks to haul containers on I-710 to the Hobart Yard. Project is currently in the environmental review process.

Union Pacific (UP) Railroad

- *Commerce Yard (East Yard)*: Across the street from BNSF's Hobart Yard; handled 430,000 lifts in 2010.
- *Intermodal Container Transfer Facility (ICTF) and Dolores Yards*: Five miles from POLA, adjacent to the Alameda Corridor near San Pedro Bay Ports and owned by UP. UP intends to enhance the facility by increasing capacity and purchasing electrified cranes. The ICTF Joint Powers Authority is jointly funded and created by the Ports of Los Angeles and Long Beach. The ICTF is an intermodal facility for moving containers from the ports onto the Alameda Corridor, thereby reducing truck trips to Commerce and Industry Yards. Dolores Yard is adjacent to ICTF and is a servicing and switching facility; handled about 422,000 lifts in 2010.

Major Port Issues

- Port competitiveness: To retain its premier position as America's number one container port and to incentivize carriers for moving cargo though the Port, ocean carriers will earn $5 for each 20-foot equivalent unit (TEU) a carrier ships through the Port and $15 per unit if a carrier exceeds 100,000 or more TEUs for CY 2014.
- International security
- Terminal, rail, and roadway infrastructure requirements
- Channel dredging and maintenance
- Freight congestion and bottlenecks
- Protection and stewardship of coastal environment
- Secure sources for funding and financing
- Environmental and community concerns

Caltrans Focus Areas

- Impacts of increased cargo volumes and trade on the State Highway System
- Existing roadway and rail capacity, safety, operational, and design constraints
- Ongoing studies analyzing the need and feasibility of a dedicated East-West Freight Corridor
- Environmental, community, and health impacts from diesel engine emissions, as well as noise, blight, and vibration

Port-Related Projects

Trade Corridor Improvement Fund (TCIF)

Under construction

- I-110 Freeway Access Ramp Improvement , SR 47 and I-110 Northbound Connector Widening
- C Street Access Ramp Improvements
- South Wilmington Grade Separation
- Ports Rail System – Tier 1 (West Basin Road Rail Access Improvements)
- Alameda Corridor West Terminus Intermodal Rail Yard-West Basin Rail Yard Extension
- POLA Cargo Transportation Improvement-Emission Program (CTIER) – 2 phases

Design Phase

- Washington Boulevard Widening and Reconstruction Project

Other Port-Related Projects

- Harry Bridges Boulevard Enhancements: Roadway Improvement Project. Federal American Recovery and Reinvestment Act (ARRA) stimulus project
- Port plans to invest $1.5 billion in capital improvements over the next five years; 10-year plan is to spend $3.2 billion on port projects (access channel deepening, marine terminals expansion, adding on-dock rail capacity, and improving traffic flow through street and bridge improvements in the harbor area).
- Port's FY 2011-12 budget includes $44 million for surface transportation projects to improve

goods movement on port-owned and non-port-owned roads.
- TraPac Terminal Expansion provides on-dock rail, scheduled to be completed by 2015.
- China Shipping Terminal Expansion will include 10 Super Post-Panamax cranes and 2,500 feet of wharves. Completion scheduled for early 2014.

Environmental Initiatives

- POLA Voluntary Environmental Ship Index Program (ESI) started in July 1, 2012. ESI is a web-based tool used to reward vessel operators with financial incentives for going beyond compliance in reducing polluting air emissions, green house gases, and uses technology that promotes sustainability.
- San Pedro Bay Clean Air Action Plan (CAAP) – Ports implemented a five-year plan to reduce emissions 80 percent by 2014.
- Clean Truck Program – Set a progressive ban on older-model, heavy polluting trucks serving the Port. Program began in 2008 and has reduced 80 percent of particulate matter emissions.
- Alternative Maritime Power Program – providing shore-side electric power to ships.
- San Pedro Bay Vessel Speed Reduction Program – a voluntary vessel speed reduction program for ships entering or leaving the Bay to reduce nitrogen oxide emissions and fuel consumption.
- Implemented Mitigation Monitoring and Reporting Program tracking system - addresses and looks at the long term impact of varying development options on the Port's natural and economic environment.
- Implemented a Water Resources Action Plan including Sediment Management Plan and a tenant storm water outreach program to improve water quality.
- Provide timely and cost-effective hazmat services in support of capital development construction projects
- Create and implement clean soil and groundwater action plan
- Implemented an effective cost recovery process from responsible parties for contaminated sites in the Port.
- Technology Advancement Program (TAP) – in collaboration with POLB, fund development of new technologies for demonstrations in a port environment

Transportation Planning Partners

- Alameda Corridor-East Construction Authority
- Alameda Corridor Transportation Authority
- California Air Resources Board (CARB)
- Los Angeles County Metropolitan Transportation Authority (Metro)
- Orange County Transportation Authority (OCTA)
- Port of Long Beach
- Port of Hueneme
- Riverside County Transportation Commission
- San Bernardino Associated Governments (SANBAG)
- Southern California Association of Governments (SCAG)
- South Coast Air Quality Management District (South Coast AQMD)
- Southern California Consensus Group, a coalition of all the transportation agencies and ports in Southern California, including the five regional transportation planning/programming agencies (RTPAs) in the SCAG region (Metro, OCTA, RCTC, SANBAG, and Ventura County Transportation Commission
- Southern California National Freight Gateway Cooperation Agreement (signatory agencies): United States Department of Transportation (USDOT), United States Environmental Protection Agency (USEPA), United States Army Corps of Engineers, United States Fish and Wildlife Service, National Marine Fisheries Service, and National Oceanic and Atmospheric Administration; California Transportation Agency, California Environmental Protection Agency and (CalEPA), Caltrans
- U.S. Customs & Border Patrol

Planning Documents

- Diesel Particulate Matter Mitigation Plan for the BNSF Railway Hobart Rail Yard, BNSF, September 2008: http://www.arb.ca.gov/railyard/hra/drftmitplanbnsfhob.pdf
- On the Move: Southern California Delivers the Goods (2013), Southern California Association of Governments (SCAG). http://www.camsys.com/pubs/CRGM_OnTheMove_ExecSummary.pdf
- Port of Los Angeles Handbook & Business Directory 2011-2012, Port of Los Angeles http://www.portoflosangeles.org/pdf/POLA_Handbook_2011-12.pdf
- San Pedro Bay Clean Air Action Plan (CAAP), 2010 Update, Port of Los Angeles and Port of Long Beach.
- Strategic Plan 2012 - 2017, Port of Los Angeles, 2012. http://www.portoflosangeles.org/pdf/strategic_plan_2012_lowres.pdf

Sources and Additional Information

California Air Resource Board: http://www.arb.ca.gov/homepage.htm

Gateway Cities Council of Governments: http://www.gatewaycog.org/index.php

PierPASS, Terminal Operators at the Ports of Long Beach and Los Angeles: http://pierpass.org/

SCAG Regional Transportation Plan, 2012-2035, April 2012, including Goods Movement appendix: http://rtpscs.scag.ca.gov/Pages/2012-2035-RTP-SCS.aspx

Port of Los Angeles Inventory of Air Emissions, Port of Los Angeles, 2010: http://www.portoflosangeles.org/pdf/2010_Air_Emissions_Inventory.pdf

This page is intentionally blank.

APPENDIX B-4-6: PORT OF OAKLAND

Port Contacts	Jean Banker; jbanker@portoakland.com; (510) 627-1325 Chris Peterson; cpeterson@portoakland.com; (510) 627-1308
Port Address	530 Water Street, Oakland, CA 94607
Port Website	http://www.portofoakland.com/
Caltrans Contacts	HQ: Julie Hutcheson, (916) 653-1965; Julie_Hutcheson@dot.ca.gov District 4: Joseph Aguilar, (510) 286-5591; Joseph_Aguilar@dot.ca.gov

Located in Alameda County on the eastern shore of San Francisco Bay, the Port of Oakland (Port) is an international gateway and an economic engine for the region, while also being known for its innovative environmental programs. Established in 1927, it was the first port on the U.S. West Coast to pioneer containerization. It is closer to Asia – a major trading partner – than the southern California ports by 300 nautical miles.

The Port is an independent department of the City of Oakland and is managed by the Oakland Board of Port Commissioners. It funds its own operations, receives no local tax dollars from the City, and supports businesses that return millions of dollars in tax revenue to the City and State. It supports more than 73,000 jobs in the San Francisco Bay region and is tied to nearly 827,000 jobs across the country. The Port was designated by the U.S. Department of Defense as one of 16 National Strategic Ports, because it has the infrastructure necessary to provide rapid military deployment. The Port owns and operates Oakland International Airport, commercial real estate (including Jack London Square), and hundreds of acres of public parks and conservation areas.

PORT INFRASTRUCTURE

Channel depth	50 ft. (Dredged annually)
Maritime area	1,210 acres
Port area[1]	16,000 acres
Marine terminals	5 (779 acres)
Deepwater berths	18
Waterfront	20 miles
Gantry Cranes	36 (30 Post Panamax)

PORT TRADE CHARACTERISTICS

TOP IMPORTS	TOP EXPORTS
Machinery	Fruit and Nuts
Apparel	Electrical Machinery
Electrical Equipment	Meats
Furniture	Food Stuffs
Wine and Spirits	Wine and Spirits

MAJOR TRADING PARTNERS BY VALUE – EXPORTS 2013	PERCENTAGE
Japan	22
China	17
South Korea	9
Taiwan	6
Hong Kong	5
Other Countries	41

MAJOR TRADING PARTNERS BY VALUE – IMPORTS 2013	PERCENTAGE
China	48
Taiwan	6
Japan	5
Australia	4
Vietnam	4
Other Countries	33

[1] Includes airport, commercial real estate, parks & conservation areas

Port Trade Characteristics

- Imports/exports valued at $40.5 billion (2013)
- 1,874 Cargo Vessel Arrivals (2013)
- Port revenues: maritime 48%, aviation 48% and 4% commercial real estate (FY2013)
- Launched "Export Promotion Initiative" to increase demand for U.S. agricultural products abroad (2012)

Port Related Projects

- *Oakland Global Logistics Park* – The Port and city of Oakland are jointly redeveloping the former Oakland Army Base into a modern trade and logistics center. The 360-acre site will be transformed into logistics buildings, a bulk terminal, truck service area, and recycling center. The Prot intends to take advantage of the site's proximity to the Port's ocean and rail transportation hubs to attract new cargo to move through Oakland. The Port has further plans for a new intermodal terminal and grade separation project at 7th Street to further enhance Oakland's rail service.
- *I-880 Reconstruction, 29th and 23rd Avenues* – Replace overcrossing structures and ramp improvements. *Funds allocated*
- *Phase I Intermodal Rail Project* – Proposed project to develop Rail Project on the former Oakland Army Base (OAB).
- *Richmond Rail Connector Project* – This project will improve BNSF Railway's ability to ingress and egress the port and improve its intermodal rail service.
- *Shore Power Project* (shore-to-ship connection to provide electrical power to ships) construction completed November 2013 for approximately $70 million.

Surface Transportation Network & Intermodal Freight Connections

Highway Access Routes

I-80	North and eastbound
I-580/I-238	Eastbound
I-980	Eastbound
I-880	Southbound

Trucking

- Federal Highway Administration identified I-80 at I-580/I-880 (Bay Bridge approach) as among the worst freight bottlenecks in California's supply chain.
- The Port has a Maritime Comprehensive Truck Management Plan to address multiple concerns around drayage trucking including safety, security, environmental concerns, traffic congestion, and pavement issues.

Freight Rail

- Union Pacific (UP) and BNSF each operate intermodal terminals at the Port. The UP mainline runs through Oakland, with direct routes north, south, and east. BNSF operates on the UP mainline between Oakland and Richmond, where its mainline terminates. BNSF's transcontinental route runs south through the Central Valley, across the Tehachapi Mountains to the Mojave Desert and beyond to Texas and the Midwest. UP's primary east-west route serving Oakland runs through Sacramento and Donner Pass to Salt Lake City, Denver, and beyond.
- The Oakland International Gateway (OIG) and Oakland Railport feature loading and unloading tracks, container staging, and serve BNSF and UP respectively at the Port.
- The Oakland Terminal Railway, jointly owned and operated by UP and BNSF, is being transitioned out, with the Port and City planning to enter into contract with a new railroad, Oakland Global Rail Enterprise, to provide rail service at the OAB logistics park.
- The Port and City have commenced construction on the rail, road, and utility infrastructure for the new logistics park. The new infrastructure will replace the Army facilities built in the 1940's before containerization. The new utility network will be installed along roads and in dedicated corridors. The rail network includes approximately 40,000 feet of new storage track, capable of accommodating two trains per day of bulk cargo, and over 20,000 railcars per year of cargo for various logistics companies such as refrigerated meat, grain, and other cargoes.

Major Port Issues

- Seaport security
- Navigation maintenance - channel dredging
- Air quality and community health impacts
- Intermodal road and rail access
- Secure funding and financing
- Healthy trucking industry

Caltrans Focus Areas

- Freight congestion on I-80
- Freight corridor pavement damage
- Environmental and community issues
- Global and domestic port competiveness
- Port is not a first port of call

Key Planning & Partner Agencies

- Metropolitan Transportation Commission (MTC)
- Association of Bay Area Governments
- Bay Area Air Quality Management District
- California Air Resources Board
- Caltrans
- U.S. DOT Maritime Administration
- U.S. Army Corps of Engineers

Major Plans and Studies

Plan Bay Area--Regional Transportation Plan, March 2011, Metropolitan Transportation Commission (MTC), http://onebayarea.org/plan_bay_area/
Maritime Air Quality Improvement Plan, April 2009, http://www.portofoakland.com/environm/prog_04c.asp
Change in Motion –Transportation 2035 Plan for the San Francisco Bay Area – Final April 2009, http://www.mtc.ca.gov/planning/2035_plan/FINAL/T2035_Plan-Final.pdf
Goods Movement Initiatives 2009 Update (MTC), February 2009, Http://www.mtc.ca.gov/planning/2035_plan/Supplementary/T2035_Goods_movement_update.pdf
Goods Movement Land Use Project for San Francisco Bay Area – December 2008 (MTC), http://www.mtc.ca.gov/planning/rgm/final/Final_Summary_Report.pdf
Regional Goods Movement Study for the San Francisco Bay Area – Final Summary Report, December 2004, MTC, http://www.mtc.ca.gov/pdf/rgm.pdf
The Port of San Francisco Waterfront Land Use Plan, Adopted by Port Commission 1997, http://www.sf-port.org/index.aspx?page=199

Sources and Additional Information

Association of Bay Area Governments (ABAG), http://www.abag.ca.gov/
American Association of Port Authorities (AAPA), http://www.aapa-ports.org/home.cfm
Bay Area Air Quality Management District (BAAQMD), http://www.baaqmd.gov/
California Air Resource Board (CARB), http://www.arb.ca.gov
Caltrans Office of Truck Services / Maps, http://www.dot.ca.gov/hq/traffops/engineering/trucks/
California Ports, http://www.californiaports.org/
Center for International Trade and Transportation (CITT) – http://www.amp.csulb.edu/ccpe/citt
Export Promotion Initiative: http://www.portofoakland.com/newsroom/pressrel/view.asp?id=261
Marine Highway Program – http://www.marad.dot.gov/ships_shipping_landing_page/mhi_home/mhi_home.htm
MTC, Regional Goods Movement Study for the San Francisco Bay Area, http://www.mtc.ca.gov/planning/rgm/
Trade Corridor Improvement Fund (TCIF): http://www.dot.ca.gov/hq/tpp/offices/ogm/tcif.html
World Port Source – http://www.worldportsource.com/ports/USA_CA_Port_of_Oakland_231.php

This page is intentionally blank.

APPENDIX B-4-7: PORT OF REDWOOD CITY

Port Address 675 Seaport Boulevard, Redwood City, CA 94063-5568
http://www.redwoodcityport.com/

Port Contact Michael Giari, Executive Director, mgiari@redwoodcityport.com
mgiari@redwoodcityport.com, (650) 306-4150

Caltrans Contacts HQ: Julie Hutcheson, (916) 653-1965, Julie_Hutcheson@dot.ca.gov
District 4: Joseph Aguilar, (510) 286-5591, Joseph_Aguilar@dot.ca.gov

The Port of Redwood City (Port) is located in San Mateo County, approximately 25 miles southeast of San Francisco, on the east banks of Redwood Creek. It is the only deepwater port in South San Francisco Bay. The Port is located between San Francisco and the rapidly growing, high-technology center referred to as Silicon Valley.

Established by the Redwood City (City) Charter in 1937, the Port is owned by the City of Redwood, is self-supporting, and receives no tax dollars support. Approximately 75 percent of Port's revenue is from marine activities and the remainder is from rent and commercial leases. About 10 percent of the Port's revenues are given to the City annually.

The Port offers many recreational opportunities, has public access to the San Francisco Bay, and has significant expanses of natural habitat area in its immediate proximity.

The Port handles mostly dry-bulk, neo-bulk, bulk, liquid, and specialized cargo. Land uses at the Port mainly consist of handling, processing, storage and transportation of imported construction materials, scrap metal exports, construction debris for recycling, and chemicals. The Port is home to the U.S. Geological Service vessel, Polaris, which conducts research on seismic conditions, water quality, and geology in the Bay Area.

PORT INFRASTRUCTURE

Channel Depth	30' MLLW*
Deepwater Berths	3
Wharves	5
Acres	120 (70 maritime)
Acres for Expansion	9
Waterfront	1+ mile
Rail	On site

*MLLW – Mean Lower Low Water

PORT TRADE CHARACTERISTICS

TRADE PARTNERS	IMPORTS	EXPORTS
China	Aggregates	Iron scrap
Korea	Sand	
Japan	gypsum	
Mexico	Sand	
Australia		

PORT STATISTICS

- Fastest growing "small" bulk port in California.
- The Port is predicted to grow by 30 percent between 2005 and 2035 due to increased population driving up construction needs in the immediate area.
- 70 vessels (51 ships and 19 barges) made calls to the port in fiscal year (FY) 2013 compared to 74 vessels (48 ships and 26 barges) in FY 2012.
- The Port handled 1.4 million metric tons of dry bulk cargo in FY 2012/13.
- The Port is ranked second in the State in volume of dry bulk tonnage handled in FY 2012/13.

MARINE HIGHWAY-5 (M-5) CORRIDOR

- In 2012, the Marine Administration financed the M-5 study which examined the potential for a marine highway along the three contiguous Pacific Coast States – California (CA), Oregon (OR) and Washington (WA), that will parallel the Interstate 5 corridor and provide an alternative for trucks and rail along this heavily congested corridor. The corridor includes the Pacific Ocean coastal waters, connecting commercial navigation channels, ports, and harbors from San Diego, CA to the US-Canada border north of Seattle, WA. It would also include the M-84 Corridor at Astoria, OR, and the M-580 Connector at Oakland; CA. Redwood City has expressed an interest in marine highway services.

MAJOR PORT PROJECTS

- Redwood City Harbor Operations and Maintenance Project (channel dredging)
- Wharves 1 and 2 Rehabilitation Project - Upgrade existing wharves to support dry bulk materials.

PLANNING DOCUMENTS AND STUDIES

- Bay Area Plan 2040 – Metropolitan Transportation Commission (MTC), Associated Bay Area Governments (ABAG), Bay Area Air Quality Management District (BAAQMD), San Francisco Bay Conservation and Development Commission (BCDC), March 2011
- San Francisco Bay Area Seaport Plan, BCDC, April 18, 1996, amended through January 2007
- Growth of California Ports: Opportunities and Challenges, California Marine and Intermodal Transportation Advisory Council, April 2007
- Redwood City General Plan, adopted October 2010
- San Francisco Bay Area Water Emergency Transportation Authority Emergency Water Transit Plan (2007) – Port is strategically located between the Dumbarton Bridge and the San Mateo Bridge. Building a Redwood City ferry terminal would be a crucial transit link. This $1.6 billion project features 88 new vessels and multiple portable piers.
- Strategic Assessment of Maritime Business, Port of Redwood City, February 2008
- San Francisco Bay Plan, BCDC, Amended October 6, 2011

MAJOR PORT ISSUES

- Channel drafts are as low as 26' due to constant silting and tides forcing vessels to light load and top off at other ports
- Channel dredging – no clearly defined funding or schedule
- Poor truck and highway access
- Limited intermodal road and rail access
- Lack of diversification - no break bulk or containerized cargo
- Building materials demand down due to poor economy
- Bulk commodities need to be under cover
- Competition from ports with deeper channels
- Encroachment by adjacent residential, commercial and recreational development that could restrict operations and expansion.
- Limited funding to maintain infrastructure
- The 30' channel depth and the height restrictions on the San Mateo Bridge (135') place limits on the size of vessels that can access the Port.
- Insufficient land and infrastructure (shore cranes and warehouses) to handle break bulk cargo

Caltrans Focus Areas

- Community environmental concerns
- Improved truck access
- Increased auto traffic from salt works land development
- US 101 bottleneck issues – construction of a new Woodside Road/Seaport Boulevard interchange at US 101, a critical bottleneck, is included in the Plan Bay Area 2040 update

Surface transportation Network

- Direct port access: US-101
- Overweight truck corridor: US-101
- Nearby routes: SR 84, SR 92, and I-880

Intermodal Connections

Trucking

- Truck access to the Port is along Frontage Road and Seaport Boulevard
- Imported construction materials, due to their low value and highway trucking costs, will not likely move to other ports, since they are consumed in the immediate area

Rail

- Union Pacific Railroad (Class 1)
- Tracks run along boundary of the Port property
- Port owns and maintains the tracks on the Port property

Rail Issues

- Existing rail volumes are low because the Port cannot handle large trains and current trucking costs are far less expensive than rail for shippers.

Key Planning & Partner Agencies

- Metropolitan Transportation Commission
- City/County Association of Governments of San Mateo County
- San Francisco Bay Area Water Emergency Transportation Authority
- Ports of San Francisco, Stockton, Richmond
- Bay Conservation and Development Commission
- Association of Bay Area Governments
- Bay Area Air Quality Management District
- U.S. Army Corps of Engineers
- U.S. Environmental Protection Agency
- U.S. Maritime Administration
- U.S. Fish and Wildlife Service
- Caltrans

Sources and Additional Information

- American Association of Port Authorities: http://www.aapa-ports.org/home.cfm
- BAAQMD: http://www.baaqmd.gov/
- Bay Area Plan 2040: http://www.onebayarea.org/pdf/Plan_Bay_Area_Report.pdf
- City /County Association of Governments of San Mateo County: http://www.ccag.ca.gov/
- California Air Resource Board: http://www.arb.ca.gov
- California Ports: http://www.californiaports.org/
- Expanding Short Sea Shipping in California: *Environmental Impacts and Recommended Best Practices,* John Kaltenstein, San Francisco Foundation and Friends of the Earth, 2010. http://libcloud.s3.amazonaws.com/93/b9/8/260/1/Short_Sea_Shipping.pdf
- Goods Movement Land Use Project for San Francisco Bay Area, December 2008, MTC. http://www.mtc.ca.gov/planning/rgm/final/Final_Summary_Report.pdf
- Growth of California Ports: Opportunities & Challenges, California Marine and Intermodal Transportation System Advisory Council, 2007 http://hydra.usc.edu/scehsc/web/Resources/Reports%20and%20Publications/CALMITSAC%20Report_California%20Ports_4-2007.pdf
- Maritime Administration: : http://www.marad.dot.gov/documents/MarineHighway_Initiative_Descriptions_Designated.pdf
- MTC : http://www.mtc.ca.gov/

- San Francisco Bay Area Seaport Plan, MTC and San Francisco Bay Conservation and Development Commission, January 2007: http://www.bcdc.ca.gov/pdf/planning/plans/seaport/seaport.pdf
- San Francisco Bay Area Water Emergency Transportation Authority: http://www.bcdc.ca.gov/
- Strategic Assessment of Maritime Business, Port of Redwood City, February 2008: http://www.redwoodcityport.com/Reports/TranSystems_Report_02_01_08.pdf
- Water Quality of San Francisco Bay, U.S. Geological Survey: http://sfbay.wr.usgs.gov/access/wqdata/index.html
- World Port Source: http://www.worldportsource.com/ports/index/USA_CA.php\

APPENDIX B-4-8: PORT OF RICHMOND

Port Information
City of Richmond, Port Department, 3rd Floor
1411 Harbor Way South, Richmond, CA 94804
http://www.ci.richmond.ca.us/index.aspx?nid=102

Port Contact
James Matzorkis, Port Director
richmondport@yahoo.com, (510) 215-4608

Caltrans Contacts
Headquarters: Julie Hutcheson; (916) 653-1965, Julie_Hutcheson@dot.ca.gov
District 4: Joseph Aguilar, (510) 286-5591; Joseph_Aguilar@dot.ca.gov

The Port of Richmond (Port) is a deepwater port located approximately nine miles from the Golden Gate Bridge in Contra Costa County on the east shore of the San Francisco Bay at the end of Canal Boulevard in South Richmond. The Port is owned by the City of Richmond (City) and is governed by the State Tidelands Trust.

The Port is accessible through the 38 feet deep Richmond Harbor Channel. The Port is 600 miles closer to Asia than the Southern California ports giving it a geographical advantage for its primary trading partners – China, Japan, and Hawaii.

In 2010, the Port completed a $40 million renovation project, allowing cars to be loaded directly by rail from within the terminal. Currently, the Port ranks #1 in liquid bulk and automobile tonnage among the five ports on the San Francisco Bay. The Port has five city-owned terminals and ten privately owned terminals for handling bulk liquids, dry bulk materials, vehicle and break-bulk cargoes. The Port does not handle containers.

PORT INFRASTRUCTURE

Channel Depth	38 ft.
Rail	On site rail
Terminals	5 (City owned) 10 (Private)
Shoreline	32 miles
Acres	200

PORT TRADE CHARACTERISTICS

Trading Partners	Imports	Exports
China	Automobiles	Vegetable oils
Japan	Petroleum	Scrap metal
Hawaii	(crude/refined)	Coke
	Bauxite	Coal
	Magnetite	Aggregate
	Vegetable oils	Zinc
	Vehicles	Lead

- Port handles: bulk liquids, dry bulk materials, metals, vehicles, and break-bulk cargoes
- Port does not handle containers
- Serves as a major entry point for vehicles from Asia
- Ranks 24th out of the 149 U.S. ports for total trade (24.1 million tons in 2010)

Major Port Projects

- None at this time

Key Planning & Partner Agencies

- Association of Bay Area Governments (ABAG)
- Bay Planning Coalition
- Bay Area Air Quality Management District (BAAQMD)
- California Air Resources Board (CARB)
- Contra Costa Transportation Authority (CCTA) Congestion Management Agency
- San Francisco Bay Conservation and Development Commission (SFBCDC)
- Maritime Administration
- Metropolitan Transportation Commission (MTC)
- San Francisco Bay Regional Water Quality Control Board
- U.S. Army Corps of Engineers
- U.S. Environmental Protection Agency

Planning Documents

- Bay Area 2010 Clean Air Plan, BAAQMD, September 15, 2010
- Change in Motion –Transportation 2035 Plan for the San Francisco Bay Area, ABAG, BAAQMD, BCDC, Final April 2009
- City of Richmond – Capital Improvement Plan, 2010/2011 to 2014/2015
- Clean Air Action Plan for the Port of Richmond, June 28, 2010
- Countywide Comprehensive Plan, CCTA, Adopted June 17, 2009
- Living with a Rising Bay: Vulnerability and Adaption in San Francisco Bay and on its Shoreline, Approved October 6, 2011, SFBCDC
- MTC Goods Movement Initiatives, 2009 Update
- Richmond General Plan 2030, Draft Aug. 2011
- San Francisco Bay Area Seaport Plan, BCDC, April 18, 1996, amended through January 2007

Major Port Issues

- Channel dredging
- Environmental and community impacts
- Limited capacity of highways and bottlenecks
- Freight-related environmental impacts
- Competing land uses for highly desirable shoreline property
- Inadequate funding levels

Caltrans Focus Areas

- Traffic congestion—capacity, safety, and bottleneck issues on the Richmond-San Rafael Bridge and I-80
- Air pollution and quality-of-life issues with neighboring Port communities
- Improved truck access

Surface Transportation Network

Access Routes

- I-580, I-80, and U.S. 101
- I-580 passes through the Port
- I-80 connects at the Richmond-San Rafael Bridge (Bridge) – leads to Reno and eastward
- Connect with U.S. 101 across the Bridge

Intermodal Connections

Trucking

- Drayage trucks operating at California's ports must meet strict CARB requirements
- Federal Highway Administration (FHWA) identified I-80 at I-580/I-880 (Bay Bridge approach) as among the worst freight and bottlenecks in California's supply chain
- The MTC identified the I-80/I-880 corridor from Richmond to Fremont critical for goods movement where land use challenges are key
- I-80 serves primarily as a connector to the transcontinental truck network
- U.S. 101 acts as a gateway corridor at the southern end of the region, with highest volume of truck traffic between San Jose and San Francisco
- Major freight corridors experience high pavement damage in lanes used by trucks

Rail

Class I

- Burlington Northern Santa Fe (BNSF) Railway
- Union Pacific (UP) Railroad
- Corporation owns and operates the RPR to support its dry-bulk terminal operation.

Shortline

- Richmond Pacific Railroad (RPR) – privately held company that interchanges with UP and BNSF.
- Transfer facilities are located near the Port

REFERENCES AND SOURCES

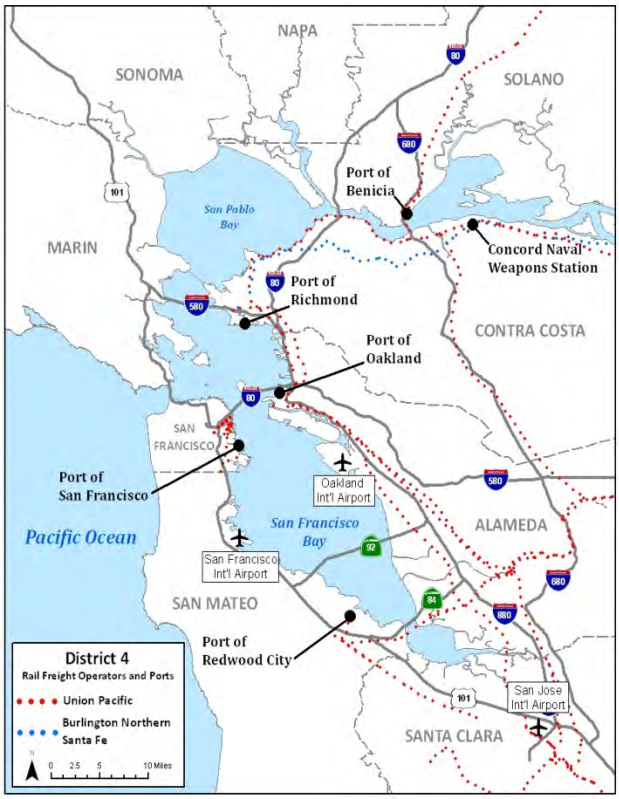
- American Association of Port Authorities (AAPA): http://www.aapa-ports.org/home.cfm
- AAPA 2010 Cargo Statistics: http://www.aapa-ports.org/
- BAAQMD: http://www.baaqmd.gov/
- Caltrans Freight Planning: http://www.dot.ca.gov/hq/tpp/offices/ogm/index.html
- California Air Resource Board: http://www.arb.ca.gov
- California Ports: http://www.californiaports.org/
- CALMITSAC Growth of California Ports: Opportunities and Challenges (April 2007): http://hydra.usc.edu/scehsc/web/Resources/Reports%20and%20Publications/CALMITSAC%20Report_California%20Ports_4-2007.pdf
- Caltrans Seaport Website: http://www.dot.ca.gov/hq/tpp/offices/ogm/seaports.html
- Change in Motion –Transportation 2035 Plan for the San Francisco Bay Area – Final April 2009: http://www.mtc.ca.gov/planning/2035_plan/FINAL/T2035_Plan-Final.pdf
- Contra Costa Transportation Authority: http://www.ccta.net/EN/index.html
- Goods Movement Initiatives 2009 Update (MTC), February 2009: Http://www.mtc.ca.gov/planning/2035_plan/Supplementary/T2035_Goods_movement_update.pdf
- Goods Movement Land Use Project for San Francisco Bay Area – December 2008 (MTC): http://www.mtc.ca.gov/planning/rgm/final/Final_Summary_Report.pdf
- MARAD: http://www.marad.dot.gov/documents/MarineHighway_Initiative_Descriptions_Designated.pdf
- MTC Home Page: http://www.mtc.ca.gov/
- Plan Bay Area--Regional Transportation Plan, March 2011, MTC: http://onebayarea.org/plan_bay_area/
- Regional Goods Movement Study for the SF Bay Area – Final Summary Report, December 2004 (MTC): http://www.mtc.ca.gov/pdf/rgm.pdf
- San Francisco Bay Area Seaport Plan, MTC and San Francisco Bay Conservation and Development Commission, January 2007: http://www.bcdc.ca.gov/pdf/planning/plans/seaport/seaport.pdf
- SFBCDC: http://www.bcdc.ca.gov/
- World Port Source: http://www.worldportsource.com/ports/index/USA_CA.php

This page is intentionally blank.

APPENDIX B-4-9: PORT OF SAN FRANCISCO

Port Address	Pier 1, The Embarcadero, San Francisco, CA 94111
Port Website	http://www.sfport.com/
Port Contact	Jim Maloney; Maritime Marketing Manager and Media Contact jim.maloney@sfport.com; (415) 274-0519
Caltrans Contacts	District 4: Joseph Aguilar; (510) 286-5591; Joseph_Aguilar@dot.ca.gov HQ: Julie Hutcheson; (916) 653-1965; Julie_Hutcheson@dot.ca.gov

The Port of San Francisco, located in the City and County of San Francisco, lies on the western edge of the San Francisco Bay near the Golden Gate Bridge. Founded in 1863 as the California Harbor Commission, it is the oldest port on the West Coast. In 1968, the State transferred operation of the Port to the City of San Francisco and created a Port Commission to govern and manage the Port property. The Port, an enterprise agency of the City and County of San Francisco, oversees a broad range of commercial, maritime, and public access facilities along the City's waterfront that are held in public trust for the people of California.



This Port, which operates an ongoing cargo business, is known for its tourism. The Port is the only break-bulk terminal in the Bay Area. The cruise industry alone generates approximately $30 million annually in direct economic impacts, supports 400 jobs in the City, and generates approximately $900,000 in annual revenues to the City's General Fund. Leasing Port property is the primary source of revenue. The Port is also known for having the largest floating drydock dedicated to ship repair on the West Coast of the Americas. It also offers full-service ship repair for either commercial or government vessels and can accommodate even post-Panamax class ships.

PORT INFRASTRUCTURE

Channel depth	38-40 feet average
Deepwater berths	6
Gantry cranes	4
Area	1,000+ acres
Area for expansion	40 acres
Waterfront	7.5 miles

PORT TRADE CHARACTERISTICS

Major Trading Partners

China, Taiwan, Japan, South Korea, Indonesia, and Germany

Imports	Exports
Steel products	Tallow
Boats / yachts	Vegetable oil
Wind turbines	
Project cargo	

Aggregate
Sand

PORT TRADE CHARACTERISTICS (cont'd.)

- Port specializes in non-containerized cargo (dry / liquid bulk, break-bulk, project cargo).
- Port is unable to develop container trade due to poor rail access, inability to move double-stack container trains due to tunnel height. restrictions, and limited room for expansion.
- In 2012, there were 65 cruise ship calls and 195, passengers sailed from the Port.
- Tonnage reported for 2012 included total bulk cargo (dry and liquid) of 1,216,545 tons.
- Port has capability for roll-on/roll-off service and container cargoes.

SURFACE TRANSPORTATION NETWORK & INTERMODAL CONNECTIONS

Highway Access Routes

Major State Highway System routes serving the Port include US 101, I-80, I-580, I-680, I-880, SR-84, SR-92

- Overweight truck corridors: I-280 and US 101 and all streets accessing terminals

Trucking

- Federal Highway Administration (FHWA) identified I-80 at I-580/I-880 (Bay Bridge approach) as among the worst freight bottlenecks in California's supply chain
- Major freight corridors experience high levels of pavement damage in lanes used by trucks

Freight Rail

- The San Francisco Bay Railroad (SFBR) is an independently owned and operated Class 3 short-line railroad that serves the City and the Port. Commodities are moved to and from the rail yard for interchange with the Union Pacific (UP) railroad. SFBR handles up to 300 rail cars for storage or transload services.
- UP provides intermodal (container), tanker or hopper car service for maritime cargo over the Donner route.
- The Port's newly completed Illinois Street Rail Bridge provides direct on-dock rail service at Pier 80 for cargo that requires ship-to-rail discharge or backhaul. Maintaining rail access to their facilities and investing in port infrastructure are key priorities for the Port. Freight moving by rail rather than truck provides significant environmental and congestion benefits throughout the region.

MAJOR PORT ISSUES

- Navigation maintenance and channel dredging
- Limited funding availability to maintain, preserve, and upgrade transportation infrastructure
- Urban location and encroachment by commercial and residential development
- Port's location makes rail transport for time-sensitive container cargoes less competitive than Port of Oakland
- Traffic congestion and limited parking
- Intermodal road and rail access
- Air quality
- Limited capacity and intermodal connections -
- The Port being on a peninsula limits the potential for container activity.

CALTRANS FOCUS AREAS

- Freight congestion; capacity, safety, and bottleneck issues on US 101 and I-280
- Air pollution and quality-of-life issues within neighboring Port communities from diesel engine emissions
- Improved truck access
- Heavy trucks causing pavement damage

PORT-RELATED PROJECTS

- Quint Street Lead Port Rail Access. On September 21, 2012, the Port was awarded a $2.97 million federal rail line relocation and improvement grant to improve a one-mile spur connecting Caltrain's mainline track to the Port's rail yard
- Pier 96 Proposed Bulk Export Terminal will facilitate export of bulk cargo.
- Downtown San Francisco Ferry Terminal Expansion
- New Cruise Terminal for America's Cup 2013 at Pier 27, where the Shoreside Power Project was completed in 2011

- Pier 70 Ship Repair Yard Shoreside Power Installation Project

Planning Documents

- San Francisco Bay Area Seaport Plan, Bay Conservation and Development Commission (BCDC), April 18, 1996, amended through January 2007
- San Francisco Bay Plan, BCDC, Amended October 6, 2011 (address sea level rise)
- Metropolitan Transportation Commission Goods Movement Initiatives 2009 Update
- Change in Motion –Transportation 2035 Plan for the San Francisco Bay Area, by ABAG, BAAQMD, BCDC, Final April 2009
- Port of San Francisco Waterfront Land Use Plan, Adopted by Port Commission 1997
- Bay Area Freeway Performance Initiative: A Strategic Plan for Bay Area Freeways – Report on Phase 1 Corridors, MTC, October 2008
- Bay Area 2010 Clean Air Plan, BAAQMD, September 15, 2010

Transportation Planning Partners

- Metropolitan Transportation Commission (MTC), MPO/RTPA
- Association of Bay Area Governments (ABAG)
- Bay Area Air Quality Management District (BAAQMD)
- Bay Conservation and Development Commission (BCDC)
- U.S. Army Corps of Engineers
- U.S. Environmental Protection Agency (EPA)
- San Francisco Bay Regional Water Quality Control Board
- California Air Resources Board (CARB)
- U.S. Maritime Administration (MARAD)
- San Francisco County Transportation Authority (SFCTA)
- Peninsula Corridor Joint Powers Board – JPB/Caltrain

Sources and Additional Information

San Francisco Bay Area Seaport Plan, Adopted 1996, Amended January 2012: http://www.bcdc.ca.gov/pdf/seaport/seaport.pdf

Change in Motion –Transportation 2035 Plan for the San Francisco Bay Area – Final April 2009: http://www.mtc.ca.gov/planning/2035_plan/FINAL/T2035_Plan-Final.pdf

Plan Bay Area--Regional Transportation Plan, March 2011 (MTC): http://onebayarea.org/plan_bay_area/

Goods Movement Initiatives 2009 Update (MTC), February 2009: Http://www.mtc.ca.gov/planning/2035_plan/Supplementary/T2035_Goods_movement_update.pdf

Regional Goods Movement Study for the SF Bay Area – Final Summary Report, December 2004 (MTC): http://www.mtc.ca.gov/pdf/rgm.pdf

Goods Movement Land Use Project for San Francisco Bay Area – December 2008 (MTC): http://www.mtc.ca.gov/planning/rgm/final/Final_Summary_Report.pdf

San Francisco Bay Area Seaport Plan, MTC and San Francisco Bay Conservation and Development Commission (BCDC), January 2007: http://www.bcdc.ca.gov/pdf/planning/plans/seaport/seaport.pdf

California Air Resource Board (CARB): http://www.arb.ca.gov

Bay Area Air Quality Management District (BAAQMD): http://www.baaqmd.gov/

American Association of Port Authorities (AAPA): http://www.aapa-ports.org/home.cfm

California Association of Port Authorities: http://www.californiaports.org/

The Port of San Francisco Maritime Cargo Market and Warehouse Analysis, January 2009: http://sf-port.org/index.aspx?page=735

Pier 96 Bulk Cargo Marine Terminal, Request for Interest, March 2011: http://www.sf-port.org/index.aspx?page=1726

This page is intentionally blank.

APPENDIX B-4-10: PORT OF STOCKTON

Port Address	2201 W. Washington Street, P.O. Box 2089, Stockton, CA 95201-2089
Port Website	www.portofstockton.com
Port Contact	Mark C. Tollini; Deputy Port Director mtollini@stocktonport.com; (209) 946-0246, (800) 344-3213
Caltrans Contacts	HQ: Julie Hutcheson (916) 653-1965; Julie.hutcheson@dot.ca.gov District 10: Michael Robinson, (209) 948-7575; Michael_Robinson@dot.ca.gov

The Port of Stockton (Port), California's largest inland deepwater port in acreage, is located in the Central Valley on the San Joaquin River just 75 nautical miles east of San Francisco's Golden Gate Bridge. It is the second busiest inland port after Portland on the West Coast. The Port lies within the Boggs Tract Community. Its strategic location, within one of the world's most productive regions, has made it an important distribution point for crop nutrients on the West Coast. Through the Base Realignment and Closure Act of 1990, the U.S. Navy's Rough and Ready Island was phased out of military use and acquired by the Port. More than 1,400 acres were transferred to the Port, greatly increasing their warehousing and storage operations. The Port is owned by a stand-alone agency created by the State of California and governed by a seven member Port Commission. Operations take place 24 hour a day, 7 days a week. The Port handles heavy steel, bulk, break-bulk, and containers. The Port is an economic generator for the region. It supports approximately 4,500 regionally and generated approximately $4.9 million in local tax revenue for 2011/2012.

PORT INFRASTRUCTURE

- The Port owns approximately 4,200 acres exceeded only in California by the Ports of Long Beach and Los Angeles
- Channel capacity—Panamax-size vessels partially loaded can sail into the Port at high tide

Channel depth	35 ft.
Land	2,000 acres
Deepwater berths	15
Mobile Harbor cranes	2
Barges	2

PORT TRADE CHARACTERISTICS

MAIN CARGO TYPES

Break Bulk	Steel products, project cargo bagged fertilizer, rice, and lumber
Dry Bulk	Cement, fertilizer, sulfur, grain products, coal, and iron ore
Liquid Bulk	Molasses, anhydrous ammonia, fertilizer and feed oils.

- In 2012, the Port handled 1.74 million metric tons of imported products and 1.14 of exported products. Combined the Port handled nearly 2.9 million tons of cargo.

Port Trade Characteristics (Cont.)

- In 2012, the Port of Stockton in a public-private partnership with Union Pacific, added 5,825 feet of new railroad tracks to the east port interchange. This enabled the Port to add three bulk unit trains of export iron ore.
- The Port is designated as Foreign Trade Zone (FTZ #231). The FTZ allows imports and exports to be transshipped under certain conditions, to do minor manipulation, and be sorted without paying duties.
- In 2012 exports shipments surpassed imports for the first time in the Port's history.

Trading Partners 2012

Imports	Exports
Trinidad	China
Australia	Japan
Norway	Mexico
Indonesia	Australia
Malaysia	Brazil
Thailand	Hawaii
China	New Guinea
Netherlands	Chile

Leading Commodities

Imports	Exports
Liquid Fertilizer	Iron Ore
Molasses	Sulfur
Bulk Fertilizer	Beet Pellets
Cement	Coal
Anhydrous Ammonia	Wheat
Cottonseed	Beet Pellets
Barite	Project Cargo
Steel Products	
Soybean	
Palm Oil	

Transportation Planning Partners

- San Joaquin Council of Governments (SJCOG)
- Stanislaus Council of Governments
- Ports of Oakland and West Sacramento
- Maritime Administration (MARAD)

Port Issues

- Bottleneck issues: I-5, I-580, SR-99, SR-4, I-80
- Community impacts and environmental justice issues associated with port operations.
- Harbor Maintenance Tax funding for dredging and related infrastructure. Funds collected are being borrowed against to assist other federal programs and are not fully available for their intended purposes. California's ports contribute more funds than received.
- Limited capacity and intermodal connections
- Impact of Jones Act on viability of short sea shipping which requires cargo bound from one U.S. port to another to be carried on U.S. flag ships built in U.S.shipyards
- Unknown impacts of the Panama Canal Expansion opening in 2014

Port Projects

Marine Highway Project

In 2010, a $30 million Transportation Investment Generating Economic Recovery (TIGER) I grant was awarded to the Ports of Oakland, Stockton, and West Sacramento for the California Green Trade Corridor (Marine Highway Project). The project was for a waterborne shipping route among the three ports with container-on-barge service. The first phase was recently implemented in June 2013 with barge service between Port of Oakland and the Port of Stockton. Anticipated benefits include reduction of round-trip and overall truck miles traveled to/from distribution centers and port facilities in the area; improved logistics, enhanced air quality, congestion relief, reduction in pavement impacts, and increased safety. Grant funds were used to erect new harbor cranes, purchase and retrofit two barges, construction of a container and transfer yard, demolition of outmoded crane and boiler house building, and installation for on dock shore power (cold ironing).

Trade Corridors Improvement Fund (TCIF)

- SR 4 West Crosstown Freeway Extension
- San Francisco Bay to Stockton Ship Channel Deepening
- Sperry Road Extension

Other Port Projects

- BNSF grade separation ($7.2 million federal, $4.4 million state) – Construction began 2011, to be completed by 12/31/13
- Navy Drive Bridge ($12.2 million federal) – Construction 2014. Completion 2015
- Fresno Avenue SR 4 Widening Project, Construction 2013. Completion 2/2014
- Navy Drive Corridor Improvements, Design 2013-2014, Construction 2015-16
- MH 580 Overweight corridor improvements, Design 2013-14. Construction 2015-16
- Washington Street widening, Design Construction 2016-17
- Fyffe Avenue grade separation, Design Construction 2016-17
- Robert's Island Bridge Project, Design Construction 2016-17
- Railroad Bridge to Rough and Ready Island Replacement Project, Design Construction 2016-17

Surface Transportation Network Access Routes

I-5, SR 99, SR-4, South of I-80

Trucking

- Lack of STAA Terminal access to Bay Area SR-4
- Over 200 truck companies serve Port causing major congestion along I-5, SR-99,and I-580
- Conflicts between commuters and freight traffic in this urban, fast-growing areas
- Shortages in resources including truck chassis, cold storage facilities, and concerns over shortage of qualified drivers

Environment

- The Port focuses on energy related cargos, e.g. large transformers and windmill components
- The Port uses "Green Diesel" and electric trains, saving 20-40% in fuel
- The Port has updated its entire fleet of diesel and propane powered equipment by installing diesel particulate matter filters on diesel powered equipment, retired older models in their flett and purchased newer, cleaner models
- On-dock equipment, e.g. electric cars, natural gas, and electric forklifts, reduce Nitrogen Oxides (NOx) and diesel particulates by 80%
- EPA Clean Air grant for state-of-the art locomative operating between the Port and Lodi

Caltrans Focus Areas

- Containerized cargo growth is expected to generate substantial truck and rail traffic
- Improvements to truck routes accessing Port
- Air pollution, health impacts, and quality-of-life issues within neighboring Port communities from diesel engine emissions from non-station sources

Rail

Class I

- Burlington Northern Santa Fe (BNSF) Railway
- Union Pacific (UP) Railroad

Shortline

- Stockton Terminal and Eastern Railroad
- Central California Traction Company
- More than 100 rail cars access the Port daily via the Central California Traction Railroad
- UP Lathrop and BNSF Mariposa are nearby key intermodal freight rail facilities

Rail Projects

- Clean Air Projects – San Joaquin Valley $5 million EPA Grant. Purchased one Genset state-of-the art locomotive for operations between Port and Lodi. Will be purchasing two more locomotives.
- Port, UP, and Metro Ports recently completed a loop of 5,828 feet of track enabling Port to increase capacity to six unit trains per week.
- Port is seeking $15 million for 6 new yard tracks of 15,000' for manifest business.

Sources and Additional Information

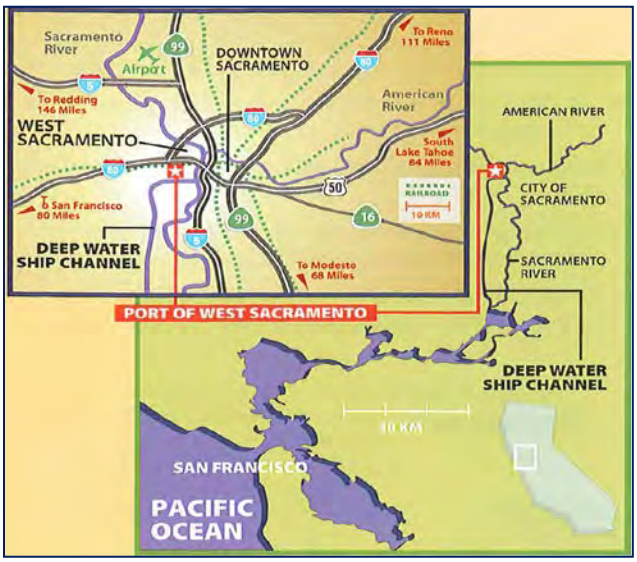
American Association of Port Authorities (AAPA): http://www.aapa-ports.org/home.cfm
California Association of Port Authorities: http://www.californiaports.org/
MARAD: http://www.marad.dot.gov/ships_shipping_landing_page/mhi_home/mhi_home.htm
Port of Stockton, 2012 Annual Report, http://www.portofstockton.com/annual-reports
San Joaquin Valley Interregional Goods Movement Planning Documents: http://www.sjvcogs.org/goods.html
TIGER Grants, U.S. DOT, February 17, 2010: http://www.dot.gov/documents/finaltigergrantinfo.pdf
World Port Source: http://www.worldportsource.com/ports/USA_CA_Port_of_Stockton_232.php

This page is intentionally blank.

APPENDIX B-4-11: PORT OF WEST SACRAMENTO

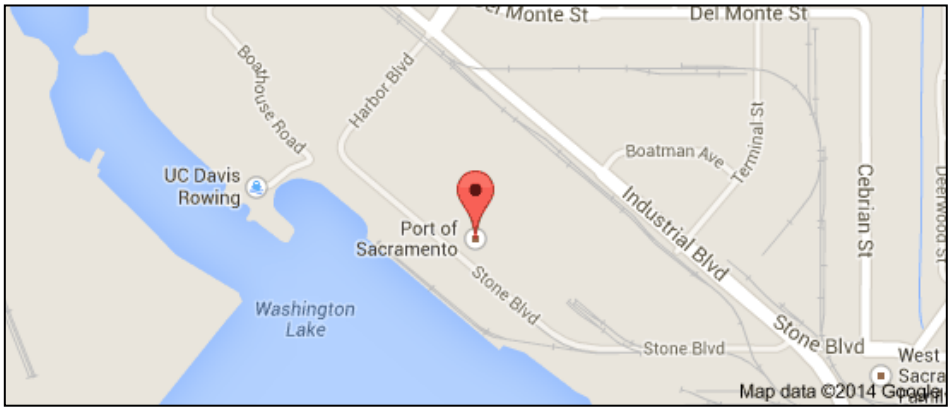
Port Address	2895 Industrial Boulevard, West Sacramento, CA 95691 (Mailing address: 1110 West Capitol Avenue, First Floor, West Sacramento, CA 95691 **Terminal Operator:** SSA Marine
Port Website	www.portofwestsac.com
Port Contact	Rick Toft, Port Business Manager; (916) 617-4880 rickt@cityofwestsacramento.org;
Caltrans Contacts	District 3: Florigna Feliciano; (530) 741-5455, Florigna_Feliciano@dot.ca.gov Headquarters: Julie Hutcheson; (916) 653-1965, Julie_Hutcheson@dot.ca.gov

The "Port of Sacramento," located in Yolo County, opened in 1963 and changed its name to the "Port of West Sacramento" in 2008. This inland port is 79 nautical miles northeast of San Francisco and is a deep-water gateway for Northern California agriculture and industrial bulk industries. It is in the heart of the Sacramento Metropolitan area.



The Port is centered in one of the world's richest agricultural regions, providing easy access for Northern California farmers. The Port mainly handles agricultural produce, industrial materials, and heavy equipment.

The Port is owned by the City of West Sacramento; the policy board is the Sacramento-Yolo Port Commission. In July 2013, the Port was leased to SSA in a five-year lease agreement that can be extended in five year increments up to 20 years. The Port is now a landlord port. The Port operates 24 hours a day, 7 days a week, and provides several thousand jobs in the area, as well as recreational opportunities. The Port's major issue has been the downturn in the economy. This agreement guarantees rent payments and shifts operation expense to their lessee.



Port Infrastructure

Channel depth	30 feet
Channel length	43 miles
Port size	1,112 acres
Berths	5
Rail Access	On-port

- 480 acres of maritime properties with 150 acres of operating terminals and 30 acres available for expansion
- 180,000 tons covered bulk storage capacity
- Open paved storage for 650,000 tons of cargo served by fixed conveyor system
- 30,000 ton capacity bulk rice elevator
- 30,000 ton capacity feed and grain elevator
- 700,000 square feet enclosed storage
- 120 ton mobile harbor crane

Port Trade Characteristics

- Overall annual tonnage handled annually is 1.0 million tons. The Port has the capacity to handle 3.5 million tons
- The Port specializes in bulk, break-bulk, agriculture, and construction cargo
- Non-container port, niche port
- Exports by value totaled $145.2 million and imports $3.7 million (2010)
- Rice exports mainly to Japan and South Korea

CARGO

Imports	Exports
Bulk cement	Bag and bulk rice
Fertilizers (bag and bulked)	Mineral ores
Project cargo	Grain
Wood pellets	Wood chips
Bio-fuels	

Surface Transportation Network & Intermodal Connections

Highway Access Routes

Major State Highway System routes serving the Port include US 50, I-5, I-80, and SR-99.

Trucking

- Congestion, air quality, and illegal truck parking issues due to high volumes of shipments transferred by truck.
- Corridors with elevated freight volumes, such as I-5 and I-80, have high truck pavement damage impacts.

Freight Rail

Class I

- Union Pacific (UP)
- Burlington Northern Santa Fe (BNSF)

Shortline

- Sierra Northern Railway (switching)

Environmental Initiatives

- Installed a 637-kilowatt solar array, which will supply the Port with 100% of its electricity needs
- Implementing a “marine highway” container barge service
- Port joined Clean Air Partnership (CAP)in 2012

Major Port Issues

- Dredging to maintain ship channels
- Cargo growth is expected to generate substantial truck and rail traffic.
- Better port access truck routes are needed.

Caltrans Focus Areas

- Currently, the rail system into the Port crosses a major route in West Sacramento. Alternatives for vehicle traffic are needed for long-term traffic management.
- The recently completed Harbor Boulevard project will improve highway access and traffic circulation in and around the Port. Caltrans may designate future High Occupancy Vehicle lanes on Harbor Boulevard.
- Caltrans working to accommodate truck parking shortages through ramp and intersection design and advocacy with local partners.

Port-Related Projects

- ***The California Green Trade Corridor/ Marine Highway Project.*** A $30 million investment to develop a marine highway system as an alternative to shipping freight by truck. The Ports of Oakland, Stockton, and West Sacramento are sharing a federal Transportation Investment Generating Economic Recovery (TIGER) grant to establish a new barge container system to move freight between the three ports. Funds have been used to purchase a $5 million mobile harbor crane and to strengthen the dock. Barge service began in the summer of 2013 between the Port of Oakland and the Port of Stockton and temporarily suspended in Summer 2014. To date, it is uncertain when or whether the Port of West Sacramento will begin barge service.

Transportation Planning Partners

- California Department of Boating & Waterways
- California Department of Water Resources
- California State Lands Commission
- California State Reclamation Board
- Central Valley Regional Water Quality Control Board
- Cities of West Sacramento and Sacramento
- Department of Parks and Recreation
- Sacramento Area Council of Governments
- State Department of Fish & Game
- U.S. Army Corps of Engineers
- U.S. Environmental Protection Agency
- U.S. Fish and Wildlife Service
- Yolo County Transportation District
- Yolo-Solano Air Quality Maintenance District

Planning Documents

- Sacramento-Yolo Port District, Municipal Service Review, 2009
- City of West Sacramento General Plan, 2009: http://www.cityofwestsacramento.org/generalplan2030/index.html
- Business Plan, Port of West Sacramento, 2013: http://www.cityofwestsacramento.org/city/depts/cmo/port_of_west_sacramento/
- Yolo-Solano Air Quality Management District Air Quality Attainment Plan, 2012: http://www.ysaqmd.org/state_plans.php

Sources and Additional Information

American Association of Port Authorities, Port Directory 2013, www.aapaseaports.com

SACOG Regional Goods Movement Study, Phases I (2006) & Phase II (2007): http://www.sacog.org/goodsmovement/study/

California Air Resource Board (CARB): http://www.arb.ca.gov

CARB and California Business, Transportation and Housing (Agency), Goods Movement Action Plan, 2005 and 2007: http://onramp.dot.ca.gov/hq/tpp/offices/ogm/gmap.html

California Association of Port Authorities: http://www.californiaports.org/

City of West Sacramento: http://cityofwestsacramento.org/

Maritime Administration, Marine Highway Program: http://www.marad.dot.gov/ships_shipping_landing_page/mhi_home/mhi_home.htm

Port of West Sacramento: http://www.cityofwestsacramento.org/city/depts/cmo/port_of_west_sacramento/

Sacramento -Yolo Port District: http://www.yolocounty.org/Index.aspx?page=1553

USDOT Transportation Investment Generating Economic Recovery (TIGER) Discretionary Grant Program: http://www.dot.gov/tiger/

Yolo-Solano Air Quality Management District: http://www.ysaqmd.org/district-about.php

This page is intentionally blank.

APPENDIX B-4-12:
UNIFIED PORT OF SAN DIEGO

Port Address	687 Switzer Street, San Diego, CA 92101-7810
Port Website	www.portofsandiego.org
Port Contact	Aimee L. Heim, Maritime Operations, aheim@portofsandiego.org Phone (619) 686-6390; Fax (619) 686-8055
Caltrans Contacts	District 11: Jose Marquez; (619) 688-3193, Jose_Marquez@dot.ca.gov Headquarters: Julie Hutcheson; (916) 653-1965, Julie_Hutcheson@dot.ca.gov

The Port of San Diego (Port) is a natural, deep water harbor located approximately 96 nautical miles southeast of the Port of Los Angeles and less than 20 miles north of the United States-Mexico International Border. Located within the San Diego Bay, the port is protected from the Pacific Ocean by two peninsulas. The area's temperate climate makes it conducive to year-round cargo handling.

The San Diego Unified Port District , established in 1962 by the State of California, is a public agency that manages the harbor area. Economic activity within the Port supports 57,000 jobs, excluding military activity. Maritime vessel and cargo activity directly supports 42,000 jobs, and is responsible for a $7.6 billion economic impact to the San Diego region (http://www.portofsandiego.org/portals/working-waterfront.html).

The Port's maritime facilities include two cargo terminals, the Tenth Avenue Marine Terminal and the National City Marine Terminal, and one cruise ship terminal.

Because of its location, deepwater berths, and proximity to highways and rail, the Port of San Diego was designated as one of United State's 17 "strategic ports" by the Maritime Administration of the U.S. Department of Transportation. San Diego is home to the fourth largest naval base in the United States, and is home to the only major shipyard on the west coast of the United States. It is the first port for vessels coming from the west coasts of Mexico, Central America, and South America.

PORT INFRASTRUCTURE

Channel depth	42 feet
Shoreline	33 miles
Acres, land and water	6,000
Rail Access	On-dock
Other facilities	Shipyards, Boatyards, and Fisheries

PORT TRADE CHARACTERISTICS

Major Trading Partners 2013

Japan, South Korea, China, Vietnam, Indonesia, India, Australia, Norway, Germany, Belgium, Spain, Great Britain, Brazil, Ecuador, Chile, Costa Rica, Guatemala, Honduras, and Nicaragua

2013

Imports	Exports
• Automobiles	• Oil and Gas
• Refrigerated fruit	• Automobiles
• Steel	• Heavy Equipment and Machinery
• Minerals	• Military Cargo
• Project Cargo	• Chemicals
• Windmill Components	• Refrigerated Fruit
• Transformers	• Boxboard
• Generators	• Soda Ash
• Construction Materials	• Windmill Components
• Heavy Equipment and Machinery	• Project Cargo
• Lumber	
• Chemicals	
• Military Cargo	
• Bauxite	

- The Port specializes in break-bulk, bulk, and roll-on/ roll-off cargo. It also handles rolling stock, project cargo, heavy equipment and machinery, fertilizer, cement, and fresh produce in containers and break bulk.
- Automobiles are the Port's #1 import in terms of value.
- Annually, over 2.2 billion bananas are passed through the Dole Food Company's facilities at the Tenth Avenue Terminal.
- The largest on-dock cold storage facility on the West Coast is located at the Port of San Diego.
- The Port is experiencing a rebound from an increase in imports of automobile, windmill components, and project cargo.
- Pasha Automotive operates a 157 acre terminal that handles vehicle imports and provides post production services to make vehicles "show room ready."

PORT STATISTICS - 2013

- One of every ten automobiles imported into the U.S. comes through the Port of San Diego.
- The Port ranks in the top third of the nation's 360 commercial sea and river ports and 28th among the U.S. ports that handle containers.
- In 2013, the Port achieved the following:
  - Processed more than 350 thousand automobiles.
  - Processed 2.7 million metric revenue tons of cargo, with a container volume of 102,156 Twenty-foot Equivalent Units (TEUS).
  - Value of imported cargo was $4.79 billions
  - Value of exported cargo was $77.9 millions
  - 556 Vessel Arrivals

Surface Transportation Network and Intermodal Connections

Highway Access Routes

Major State Highway System routes serving the Port include I-5, I-8, and SR-15.

Trucking

Trucks carry the majority of the cargo going to and from the Port. Ninety percent of Tenth Avenue Marine Terminal shipments and fifty percent of National City Marine Terminal shipments travel by truck, the remaining shipments travel by rail.

Freight Rail

Class I – BNSF Railway

BNSF provides rail service along the coast primarily for automobiles. BNSF interfaces in Los Angeles with a primary freight route that goes eastward to Chicago, Memphis, and Kansas City.

Short Line - San Diego and Imperial Valley Railroad (SDIY)

SDIY is a line haul carrier with 8-mile of track services and 12 berths. SDIY provides connections with BNSF, Union Pacific Railroad, and Baja California Railroad in Mexico.

BUSINESS CHALLENGES

- The Port is affected by urbanization and gentrification, which forces shared and incompatible land uses.
- The Port experienced the impacts of the economic downturn, though cargo tonnage is trending up faster than the West Coast as a whole.

Environmental Initiatives

- Climate Action Plan – The Plan, approved by the Board of Commissioners in December 2013, sets a goal to reduce the port's 2006 greenhouse gas emission (GHGE) by 10 percent by the year 2020, using 2006 as a baseline.
- Clean Air Program – The Port initiated a program to address air pollution from goods movement sources, such as ships, trucks, and trains at the marine and cruise ship terminals.
- Green Truck Program – All heavy-duty trucks accessing the Port of San Diego maritime terminals must comply with the clean air requirements under the State of California's Drayage Truck Regulation.
- In 2009, in an effort to reduce vessel emissions, shore power was installed at the cruise ship Tenth Avenue terminal, the Port implemented a voluntary vessel speed reduction program.
- The Port received an Environmental Protection Agency Climate Leadership Award in 2012.

Caltrans Focus Areas

- I-5, SR-15, and I-805 at traffic capacity levels
- Lack of dedicated truck lanes and bypass routes

Port-Related Projects

Transportation Corridors Improvement Fund (TCIF)

- At-grade freeway access improvements in the vicinity of the National City Marine Terminal, were completed in 2013.

Other Port Projects

- Tenth Avenue Marine Terminal Modernization Project
- Freeway Access Projects
- National City Marine Terminal Cargo Wharf, Rail Optimization, and Parking Facility Projects

Transportation Planning Partners

- Caltrans
- California Air Resources Board (ARB)
- City of Chula Vista
- City of Coronado
- City of Imperial Beach
- City of National City
- City of San Diego
- Maritime Administration (MARAD)
- San Diego Association of Governments (SANDAG)
- U.S. Coast Guard
- U.S. Customs and Border Protection
- U.S. Environmental Protection Agency (EPA)
- California Environmental Protection Agency

Planning Documents

Unified Port of San Diego Master Plan, Port of San Diego, October 2012

Compass Strategic Plan 2012-2017, Port of San Diego

San Diego Unified Port District Maritime Business Plan Update, Port of San Diego, December 2008

Natural Resources Management Plan, Port of San Diego, March 2013

Sources and Additional Information

Compass Strategic Plan 2012-2017, Port of San Diego, www.portofsandiego.org

Ron Popham, Unified Port of San Diego, email dated 01/09/14

San Diego Association of Governments (SANDAG), www.sandag.org

San Diego Unified Port District Maritime Business Plan Update, Port of San Diego, December 2008 www.portofsandiego.org

Unified Port of San Diego Master Plan, Port of San Diego, October 2012, www.portofsandiego.org

World Port Source, www.worldportsource.com

This page is intentionally blank.

APPENDIX B-5: BORDER PORTS OF ENTRY – COMMERCIAL VEHICLES

B-5-1: Otay Mesa Port of Entry

B-5-2: Otay Mesa East Port of Entry/SR 11

B-5-3: Calexico East Port of Entry

This page is intentionally blank.

APPENDIX B-5-1: OTAY MESA PORT OF ENTRY

Port Addresses 9777 Via De La Amistad, San Diego, CA 92154 (Commercial Facility)
2500 Paseo International, San Diego, CA 92154 (Passenger Facility)

Port Website http://www.cbp.gov/contact/ports/otay-mesa

Caltrans Contacts District 11: Sergio Pallares; (619) 688-3610; sergio.pallares@dot.ca.gov
Headquarters: Joanne McDermott; (916) 653-8747; joanne.mcdermott@dot.ca.gov

The Otay Mesa Port of Entry (POE) is a multi-modal (commercial, passenger vehicles, and pedestrians) international processing land POE. The POE is the busiest commercial facility on the California-Baja, Mexico international border. The port handles the second-highest volume of trucks, and the third-highest dollar value of trade among all United States-Mexico land POEs. In 2013, the Otay Mesa POE handled approximately 1.5 million trucks and $36 billion worth of goods in both directions.[1]

PORT INFRASTRUCTURE AND FACILITIES[2]

Commercial Facility

Northbound truck lanes:	10
Regular commercial lanes:	6
Commercial FAST[3] lanes[4]:	3
Empty trucks lane:	1
Southbound truck lanes:	3

Passenger Facility

Northbound lanes:	13
Regular lanes:	1-10
Northbound READY[5] lanes:	1-8
Northbound SENTRI[6] lanes:	1-4
Bus[7] lane:	1
Southbound lanes:	3
Northbound pedestrian lanes:	6
SENTRI lane:	1
READY lanes:	2
Regular lanes:	3
Southbound pedestrian lane:	1 revolving door

OPERATIONS

Commercial import and export facilities operate Monday through Friday 5:00 a.m. to 7:30 p.m. and Saturdays 8:00 a.m. to 4:00 p.m. Pedestrian and passenger vehicle crossings are processed 24 hours per day, seven days per week.

PORT DATA

2013 Port Statistics (Northbound crossings)[8]

Trucks:	769,886
Freight trains:[9]	254
Buses:	42,145
Bus passengers:	182,509
Personal vehicles:	6,235,300
Vehicle passengers:	10,884,910
Pedestrians:	3,289,778

[1] Department of Transportation: Research and Innovative Technology Administration (RITA) http://transborder.bts.gov/
[2] The number of each type of lane varies depending upon demand and staffing.
[3] Free and Secure Trade (FAST) is a commercial clearance program for known low-risk shipments entering the U.S. from Canada and Mexico.
[4] All northbound commercial lanes are FAST compatible.
[5] READY lanes allow express crossing to the U.S. with a valid Radio Frequency Identification (RFID) document.
[6] The Secure Electronic Network for Travelers Rapid Inspection (SENTRI) program provides expedited processing for pre-approved, low-risk travelers at the southern land border POEs.
[7] The bus lane could also act as a SENTRI lane when no buses are present, for a possibility of four SENTRI lanes.
[8] Department of Transportation: Research and Innovative Technology Administration (RITA) http://transborder.bts.gov/
[9] Trains cross the international border through the San Ysidro POE. However, data are reported for the Otay Mesa POE.

Surface Transportation Network

Access to the POE is via State Route (SR)-905, which connects with Interstates (I) 5 and 805. The SR-125 toll road also provides access to SR-905 via local streets.

Business Challenges

Due to excessive cross border delays experienced by trucks, Caltrans and SANDAG estimated that in 2008 San Diego County:[10]

- Lost $248 million in direct net revenue.
- Total economic negative losses amounted to $412 million in business output and 2,256 jobs.

Caltrans Focus Areas

Continue to collaborate with US and Mexican agencies, community members, and stakeholders to:

- Reduce north and southbound congestion and improve the safety and mobility at the Otay Mesa POE.
- Pursue the opening of the Otay Mesa East POE and SR-11 to increase cross border capacity.

Port-Related Projects

- The US General Service Administration (GSA) is proposing to reconfigure and modernize the existing passenger and cargo inspection areas and improve operational efficiency to meet current and forecasted needs. Currently no funding has been identified.
- A new Otay Mesa East POE with a tolled highway (SR-11) is scheduled to open in 2017 as a critical relief valve for cross border congestion. This project will help reduce freight and passenger traffic congestion, as well as deliver additional capacity for future growth by providing a new alternative for crossing the US-Mexico border.
- The City of San Diego is proposing to expand the existing southbound truck route. The route will provide a direct truck access into Mexico. The project seeks to address southbound truck traffic queues, eliminate blockage of intersections, and improve local business access.
- The San Diego-Tijuana Cross Border Facility (CBF) is a privately funded project. The CBF will provide a direct pedestrian bridge connection to the Tijuana International Airport (Abelardo L. Rodriguez). The CBF will be located about two miles west of the Otay Mesa POE.

Transportation Planning Partners

US Agencies and Stakeholders

- Federal Highway Administration (FHWA)
- US Customs and Border Protection (CBP)
- US GSA
- California Department of Transportation (Caltrans District 11)
- California Highway Patrol (CHP)
- SANDAG
- County of San Diego
- City of San Diego
- Otay Mesa Chamber of Commerce

Mexican Agencies

- Secretariat of Communications and Transportation (SCT)
- Secretariat of Foreign Relations (SRE)
- General Customs Administration
- Institute of Administration and Estimates of National Real Estate (INDAABIN)
- Secretariat of Infrastructure and Urban Development of Baja California (SIDUE)
- Municipal Planning Institute of Tijuana (IMPLAN)

Planning Documents

- California-Baja California Border Master Plans (2008 and 2014)
- City of San Diego Otay Mesa Community Plan
- SANDAG 2050 Regional Transportation Plan
- GSA/CBP Otay Mesa Expanded Feasibility Study
- SANDAG Freight Gateway Study
- Southern California Association of Governments (SCAG) Goods Movement Border Crossing Study and Analysis Phase 1

Sources and Additional Information

Caltrans D11
http://www.dot.ca.gov/dist11/

SANDAG
http://www.sandag.org/

US GSA
http://www.gsa.gov/

US CBP
http://www.cbp.gov/

[10] Economic Impacts of Wait Times at the California-Mexico Border 2009 Update.
http://www.dot.ca.gov/dist11/departments/planning/pdfs/systplan/ImpactsOfBorderDelayFinalReport_January2010.pdf

APPENDIX B-5-2:
OTAY MESA EAST PORT OF ENTRY/SR 11

Port Address	(Site not yet constructed)
Caltrans Contacts	District 11: Mario Orso; (619) 688-2561; Mario_Orso@dot.ca.gov Headquarters: Joanne McDermott; (916) 653-8747; Joanne_McDermott@dot.ca.gov
San Diego Association of Governments (SANDAG) Contacts	Marney Cox, Chief Economist; (619) 699-1930; Marney_Cox@sandag.org Christina Casgar, Goods Movement Policy Manager; (619) 699-1982; Christina_Casgar@sandag.org

The Otay Mesa East Port of Entry (POE) and new State Route (SR) 11 will improve the movement of goods and people between the United States (US) and Mexico. This project includes construction of SR 11, a new four-lane highway, a commercial vehicle enforcement facility (CVEF), and a new POE located in the unincorporated community of East Otay Mesa in the southernmost portion of San Diego County. From the future SR 125/SR 905 interchange, SR 11 will extend east approximately 2.5 miles to the proposed Otay Mesa East POE at the US-Mexico border.

SR 11 will feature interchanges at Enrico Fermi Drive and Siempre Viva Road. Future plans call for toll roads approaching the border crossing both north and south of the border – allowing travelers the opportunity to pay a fee to get to the border more quickly, drastically reducing the lengthy wait times they currently endure at other POEs.

The new freeway and port will curb traffic congestion and reduce frequent border wait times of several hours for both commercial trucks at the existing Otay Mesa POE and for vehicles at the San Ysidro POE. It will provide a seamless connection south of the border to the Tijuana-Rosarito Corridor, with links to the Tijuana-Tecate and the Tijuana-Ensenada toll roads in Baja California, Mexico. Caltrans is the lead agency for design and construction of SR 11, and San Diego Association of Governments (SANDAG) is the lead agency for the design and construction of the POE.

Project Status

The Otay Mesa East POE/SR 11 project is being developed in three segments:

Segment 1, which started construction in December 2013, includes connectors to SR 905, plus a stretch of the new SR 11 highway from SR 905 east to Enrico Fermi Drive.

Segments 2 and 3 will be built as funding becomes available, possibly starting construction as soon as 2016. Segment 2 will build a tolled highway segment, extending SR 11 from Enrico Fermi Drive to Siempre Viva Road, and the commercial vehicle enforcement facility. Segment 3 will build the new port of entry.

Project Costs and Financing

The cost of the project as a whole is estimated to be $700 million to $750 million. The first segment is $112 million, with $71 million coming from the Proposition 1B Trade Corridor Improvement Fund and $41 million from the federal Coordinated Border Infrastructure Program.

To fund Segments 2 and 3, innovative financing methods, such as the sale of bonds backed by future toll revenues, loans, grants, and private sector sources, are being pursued.

Milestones

- Obtained Presidential Perimit in 2008 to create the new Otay Mesa East POE
- Tier 1 environmental report completed in 2008, providing environmental clearance for the freeway and location of POE
- Memorandum of Understanding signed by partners – US General Services Administration, Customs and Border Protection, Federal Highway Administraion, SANDAG, and Caltrans in spring 2011
- Program Development Study completed in July 2011
- California Transportaion Commission approved implementation of the project in three segments in January 2012
- The Record of Decision for Tier 2 environmental report was completed in fall 2012, clearing the location of SR 11 interchanges
- Construction started on the first segment in December 2013

Planning Documents

- California-Baja California Border Master Plans (2008 and 2014)
- SANDAG 2050 Regional Transportation Plan
- SANDAG Freight Gateway Study
- Southern California Association of Governments (SCAG) Goods Movement Border Crossing Study and Analysis Phase 1

Sources and Additional Information

Information for this Appendix came from a joint SANDAG/Caltrans flyer on the SR 11/Otay Mesa East Port of Entry dated February 2014.

California Department of Transportation (Caltrans) District 11: http://www.dot.ca.gov/dist11/

Federal Highway Administration http://www.fhwa.dot.gov/

SANDAG: http://www.sandag.org/

US Customs and Border Protection (CBP): http://www.cbp.gov/

US General Services Administration (GSA): http://www.gsa.gov/

APPENDIX B-5-3: CALEXICO EAST PORT OF ENTRY

Port Address	1699 East Carr Road Calexico, CA 92231
Port Website	http://www.cbp.gov/contact/ports/calexico-east-class
Caltrans Contacts	District 11: Sergio Pallares; (619) 688-3610; sergio.pallares@dot.ca.gov Headquarters: Joanne McDermott; (916) 653-8747; joanne.mcdermott@dot.ca.gov

The Calexico East Port of Entry (POE) is the principal gateway for trade by truck in Imperial Valley and the second busiest commercial POE on the California-Baja California border. In 2013, the POE processed $5.8 billion in exports and $7.4 billion in imports ranking seventh among the United States POEs. The same year, the POE processed over 325,000 trucks; nearly 3.2 million passenger vehicles carrrying just under six million people; and over 700,000 pedestrians, which is nearly double from 2012.[1] This POE includes a General Services Administration (GSA) owned bridge spanning the All American Canal. A unique feature of this POE is an aggregate conveyor belt which processes various types of quarried materials from Mexico into the United States (US). The conveyor belt is almost one quarter of a mile long and is open as needed by the private owner.

Port Infrastructure and Facilities

Commercial Facility

Northbound truck lanes:	3
Commercial lanes:	1
Commercial FAST[2] lanes:	1
Commercial – empty trucks:	1
Southbound truck lanes:	2

Northbound conveyor belt (privately owned)

Passenger Facility

Northbound passenger lanes:	8
Regular passenger lanes:	2
READY[3] lanes:	5
SENTRI[4]lanes:	1-3
Northbound pedestrian lanes:	6
Normally only 2 are open	
Southbound pedestrian lanes:	2

Operations

Commercial hours of operation are as follows:
Monday through Friday
6:00 a.m. to 8:00 a.m. - Empty trucks only
8:00 a.m. to 8:00 p.m. - All trucks
Saturdays and Holidays - 10:00 a.m. to 6:00 p.m.

Hours of operation for autos are 3:00 a.m. to 12:00 midnight, Monday through Friday and 6:00 a.m. to 12:00 midnight on Saturdays, Sundays, and major holidays.

Port Data

2013 Port Statistics (Northbound)[1]

Trucks:	325,690
Trains[5]:	250
Buses:	2,571
Personal vehicles:	3,198,849
Vehicle passengers:	6,019,407
Pedestrians:	717,009
Southbound Statistics:	No data available

Surface Transportation Network

Access to the POE is via I-8 and SR-7 with SR-98 providing east/west access.

Business Challenges

- Because of delays experienced by trucks at the border, it is estimated that Imperial County lost $40 million in net revenue in 2008[6].
- Accounting for the indirect and induced effects of net revenue losses, the total impact amounts to a $58 million loss in business output and 276 jobs lost in Imperial County[6].

Caltrans Focus Areas

- Continue to collaborate with US and Mexican agencies, community members, and stakeholders.
- Improve Imperial County goods movement routes.

Port-Related Projects

- The region is working together to identify low cost, high impact, expedited implementation of vehicular (passenger and commercial) capacity enhancing projects.
- The Imperial Valley regional stakeholders are undertaking a "Binational Toll Pilot Project" to finance and complete improvements at Calexico East POE.
    - Future expansion of the commercial facility is identified as the fourth priority in the California-Baja California Border Master Plan Update (2014) and includes:
        - Add three new northbound truck lanes, for a total of six truck inspection lanes.
        - Construct inspection booths with associated canopy, electrical service, and lighting, etc.
    - Project components for the automobile portion of the POE include the construction of six additional passenger lanes.
    - Widen bridge over the All American Canal.
    - Preliminary project cost for all components is estimated at $60 - $75 million.

Transportation Planning Partners

US Agencies and Stakeholders

- Federal Highway Administration
- US Customs and Border Protection (CBP)
- US General Services Administration (GSA)
- California Department of Transportation (Caltrans)
- California Highway Patrol (CHP)
- Southern California Association of Governments (SCAG)
- Imperial County Transportation Commission (ICTC)
- County of Imperial
- City of Calexico
- Calexico Chamber of Commerce

Mexican Agencies

- Secretariat of Communications and Transportation (SCT)
- Secretariat of Foreign Relations (SRE)
- General Customs Administration (Aduanas)
- Institute of Administration and Estimates of National Real Estate (INDAABIN)
- Secretariat of Infrastructure and Urban Development of Baja California (SIDUE)
- Municipal Institute for Research and Urban Planning of Mexicali (IMIP)

Binational

- Binational Alliance Committee (ICTC, GSA, CBP, Office of Congressman Juan Vargas, Office of Assembly Member V. Manuel Perez, SIDUE, IMIP, SCT, INDABBIN, among others)

Planning Documents

- California-Baja California Border Master Plans (2008 and 2014)
- SCAG Regional Transportation Plan 2012-2035
- Imperial County Long Range Transportation Plan 2013 Update
- San Diego and Imperial Counties Comprehensive Freight Gateway Study Update, 2010, SanDAG ICTC

Sources and Additional Information

Caltrans D11
http://www.dot.ca.gov/dist11/departments/planning/pages/planningproducts.htm#goodsmovement

ICTC	http://www.imperialctc.org/
US GSA	http://www.gsa.gov/
US CBP	http://www.cbp.gov/

[1]Department of Transportation: Research and Innovative Technology Administration (RITA) http://transborder.bts.gov
[2]Free and Secure Trade (FAST) is a commercial clearance program for known low-risk shipments entering the U.S. from Canada and Mexico.
[3]READY lanes allow express crossing to the U.S. with a valid Radio Frequency Identification (RFID) document.
[4]The Secure Electronic Network for Travelers Rapid Inspection (SENTRI) program provides expedited processing for pre-approved, low-risk travelers at the Southern land border POEs.
[5]Trains cross the border at Calexico West POE, but are reported at Calexico East POE
[6]Economic Impacts of Wait Times at the California-Mexico Border 2009 Update.

APPENDIX B-6: REGIONAL SUMMARIES

B-6-1: Northern California

B-6-2: Sacramento Valley

B-6-3: San Francisco Bay Area

B-6-4: Central Coast

B-6-5: San Joaquin Valley

B-6-6: Los Angeles Basin

B-6-7: San Diego and Imperial Counties

This page is intentionally blank.

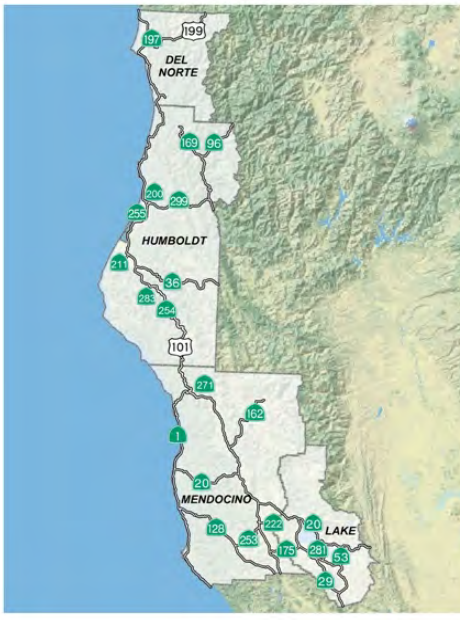
APPENDIX B-6-1: NORTHERN CALIFORNIA

INTRODUCTION

Mount Shasta

The Northern California region abuts Oregon's southern border and the northwest edge of Nevada, follows the northern boundaries of both the Sacramento Valley and San Francisco Bay Area regions, and the western boundary follows the North Pacific coastline. It coincides with the combined Caltrans Districts 1 and 2, which include the 11 counties of Del Norte, Humboldt, Mendocino, Lake, Siskiyou, Modoc, Trinity, Shasta, Lassen, Tehama, and Plumas. Whether along the coast, or through the central or eastern sections, common characteristics of this region are rural areas with hilly, coastal, and/or mountainous terrain. Counties to the south with flatter terrains are able to cultivate land for agriculture.

According to the U.S. Census Bureau, the 2010 population for the Northern region counties totaled 679,699. The most concentrated areas are scattered throughout the region in cities like, Redding, Red Bluff, Crescent City, Ukiah, Susanville, Eureka, Arcata, and Clearlake. Redding is the region's largest incorporated city with 89,861 residents in 2010. The next largest city is Eureka with a population of 27,191. There are no incorporated cities within Trinity County and no communities or cities within Plumas or Modoc Counties larger than 3,000. Natural forest and coastal lands dominate this region. Such steep and unpredictable terrain creates challenges for developing surface roads, which end up meandering along narrow, winding, steep passageways that are not ideal for large truck transport.



District 1

District 2

Importance of Goods Movements and Economic Benefits

The 11 counties of this Northern California region together with the counties of Glenn, Colusa, Butte, Sierra, and Nevada formed a 16-county alliance called the North State Super Region to help identify common transportation, growth, and land use issues as well as formulate unified strategies that can be advocated to implementing agencies and the public. The following economic information was mainly extracted from the alliance's 2013 *North State Transportation for Economic Development Study*.

In 2010 the Super Region produced roughly $12 billion in commodities; of that amount, over $6.8 billion was attributed to the Northern California region counties. It is estimated that the top two Northern California region commodities, agricultural or food products and wood products, produced about $1.3 billion each. Approximately $0.6 billion was generated by machinery and metal products, and the remaining portion by a variety of other commodities including chemicals and pharmaceutics; petroleum, coal, and products; miscellaneous manufactured goods; and natural resource extraction.

Tourism in the region also performs well. Sharp declines in timber harvesting region-wide and commercial fishing along the coast have prompted several communities (some with several times the number of visitors than residents) to boost tourism and recreation as a means of economic improvement. Recently, local governments in the Super Region have had difficulty promoting economic development due to the Great Recession and passage of Assembly Bill X1 26 (2011), which dissolved redevelopment agencies.

Regional Overview

Counties	Distinguishing Characteristics
Del Norte	This county is known for giant Coastal Redwoods – some reaching over 350 feet. Crescent City, the county's only incorporated city, is home to Crescent City Harbor and Pelican Bay State Prison. Cattle, milk, and nursery products are the county's primary commodities.
Humboldt	Many tourists visit Humboldt County to enjoy the redwood trees. This county possesses the longest California coastline and is home to the Port of Humboldt Bay. It is the State's largest timber-producing county. Other top commodities include cattle and calves, milk products, and nursery products.
Lake	This county is home to the largest freshwater lake (Clear Lake) and has the cleanest air in the State. The world's largest complex of geothermal power plants resides there and it is the largest supplier of premium fresh pears in California. Other commodities include wine grapes, wine, English walnuts, cattle, and calves.
Lassen	Government agencies manage approximately 63 percent of the land and almost 30 percent of the population is incarcerated within the county's three prisons. Diverse natural settings include: Lassen Volcanic National Park, Lassen National Forest, Sierra Nevada mountains, high desert areas, and several lakes. Eagle Lake is the second largest natural lake in California. Hay (primarily alfalfa) and livestock have long been the principal agricultural commodities, and some logging remains.
Mendocino	This county is known for its distinctive coastline and forest lands. Its main commodities are wine grapes, wine, timber, Bartlett pears, cattle, and calves.
Modoc	Approximately 90 percent of the land is national forest and wilderness. This county has a combination of high desert terrain, spectacular mountain ranges, green fertile valleys, wetlands, crystal clear lakes and streams, and the Warner Mountain Wilderness area. A very unique attraction is the Lava Beds National

	Monument with many lava tube caves. The principle crop is alfalfa hay.
Plumas	This county boasts 100-plus lakes, more than 1,000 miles of rivers and streams, and over a million acres of national forest – providing a multitude of outdoor adventure opportunities year-round. Top commodities include timber, livestock, and alfalfa and meadow hay.
Shasta	Recreation is the county's primary economic activity, with the top tourist attractions being Shasta Lake, Lassen Volcanic National Park, Whiskeytown National Recreation Area, and the Sundial Bridge. Main commerce includes timber, cattle, hay, nursery stock, and wild rice.
Siskiyou	This county is in the Shasta Cascade Region, home to Mount Shasta (over 14,000 feet tall). More than 60 percent of the land is managed by federal and state agencies. Strawberry plants are the top commodity in this county, followed by timber, hay, steers and heifers, raspberry plants, and wheat.
Tehama	This county is bisected by Interstate 5 (I-5) and the Sacramento River. By far, the primary commodity is walnuts, followed by olive products, almonds, and prunes.
Trinity	The Klamath Mountains occupy a vast portion of the county. The top commodities include forest products as well as cattle and calves.

PRIMARY FREIGHT CORRIDORS AND FLOWS

Running through the heart of the Northern California region is I-5, the main north-south interstate highway that crosses the length of the state. Other smaller (many two-lane) state routes traverse the region providing links to other highways beyond the region and state. Rail lines play a similar role by serving local markets, connecting regions, and crossing state borders. The deepwater seaport at Humboldt Bay entertains ocean vessels, and small aircraft can be flown from almost any airport to link with the global marketplace.

According to commodity flow data from the Super Region study, about 15 percent of the commodities produced within the 16-county region are consumed there, while around 70 percent flow throughout the nation and the remaining 15 percent are exported to other countries. Many products are exported in raw form by truck to the Sacramento and San Francisco Bay regions and southern Oregon. The North State's closest economic competitor is southern Oregon, which has no sales tax and more accessible rail freight service.

Presented next is more detailed freight information by mode.

TRUCKING

Primary Truck Routes

- I-5 (National Highway System and "Corridor of the Future[i]"), State Route (SR) 70, SR 139, SR 197, and United States (US) 97 and 199 are all "High Emphasis Routes[ii]"
- In addition to being "High Emphasis Routes", the following highways are also "Focus Routes[iii]": US 101 (considered the "lifeline of the North Coast"), SR 20, SR 29, SR 53, SR 99, SR 299/44/36, and US 395
- All of the above routes, in addition to portions of SR 1, SR 89, and SR 128, are part of the Interregional Road System (IRRS)

Goods moved by ship, plane or train almost always travel the "first and last mile" by truck. Within California's northern region, trucking will continue to be the primary freight transportation mode. However, the region's vast swaths of rugged forest and coastal land, tall mountains, and wild-flowing rivers, paired with slow-moving agricultural, timber, construction, and quarry equipment, and large commercial and recreational vehicles traversing along narrow, steep, windy lanes, create a challenge for moving goods.

According to Caltrans traffic counts, I-5 is the region's main freight highway with the heaviest truck traffic occurring in Shasta County (with segments consisting of over 30 percent trucks) and around Red Bluff in Tehama County (where annual average daily truck counts for 5-plus axle truck counts reach over 6,000 trucks). Some corridors in the region provide the shortest and best freight movement routes between Nevada/Arizona and the Pacific Northwest. Weather-related road closures create havoc for freight transportation. Because SR 70 has the lowest elevation of any trans-Sierra crossing, it is an important alternate highway freight corridor during snow conditions. Other routes lack viable alternatives when closures occur.

Damage from heavy truck traffic and limited maintenance funding has adversely impacted pavement conditions within the region. Since Congress began allowing heavier truck weights in 1997 with no maintenance funding increase, many rural roads and suburban arterials have significantly deteriorated. The 2012 Statewide Transportation System Needs Assessment identifies Lake and Mendocino counties as having a "poor" Pavement Condition Index rating and the region's remaining nine counties in the "at risk" category. Funding levels for bridge maintenance, repair, and replacement has also dwindled to the point of diminishing returns, leaving many bridges throughout the region with maintenance concerns or without meeting current Federal Highway Administration (FHWA) design criteria standards. More than 36 bridges along I-5 do not meet the new minimum vertical clearance standard of 16 feet above roadway and over 24 lack weight capacity for full permit loads.

Truck Issues

- Construction for the Richardson Grove Realignment Project, which will adjust the alignment and slightly expand the roadway width on US 101 through Richardson Grove State Park to allow access for State Transportation Assistance Act (STAA) trucks, is currently on hold due to litigation.
- Four safety improvement projects along the SR 197/US 199 corridor, which will bring these important freight movement routes up to STAA standards, have also been delayed due to litigation.
- The 299/44/36/395 Focus Route corridor is important because it provides the only continuous east/west transportation facility in Northern California for moving freight between US 101 and US 395. This corridor currently has barriers hindering STAA trucks between I-5 and US 101. A series of projects are planned to eliminate barriers along the "Buckhorn Grade." Strategies are in place to remove the remaining barriers by 2020.
- For goods movement north of Redding, SR 299 and 89 provide a detour around the Siskiyou Mountains and Sacramento River Canyon during closures and inclement weather; however, during severe snow events, tractor trailers and semi trucks are advised not to use this alternative.
- Low Levels of Service exist where there are limited passing opportunities or physical restrictions like narrow, unforgiving vertical and horizontal road alignments.
- In the many rural communities where State highways also serve as local "Main" Streets and in busy tourist and recreation areas, high turning volumes and road curvatures that limit sight distances create potential safety issues as well as vehicle congestion.
- Only six passing lanes exist along a 65 mile stretch of SR 299, including a 52-mile gap between Oregon Mountain and Willow Creek; however, some residents may not want the additional traffic that improvements may generate.

- Some areas do not have an energy source to power Intelligent Transportation (IT) system equipment to direct/assist truck movements. In addition, it is difficult to maintain communication with remote ITS equipment in northern California.
- On SR 175 from 5.4 miles east of US 101 to North Junction Route 29 near Kelseyville, no vehicles or those with combinations over 39 feet are allowed.
- Deteriorated roadway conditions exist.
- Demand for truck parking exceeds available truck accommodations on a number of routes, especially during inclement weather.

FREIGHT RAIL

Class I[iv] Railroads

Two Class I railroads, Union Pacific (UP) and BNSF Railway (BNSF), provide most freight rail service within the region. The main UP route runs north and south through District 2, paralleling the I-5 corridor and connecting service with main east-west corridors at Seattle, Portland, Oakland, and Los Angeles. BNSF has a route (using some UP trackage rights[v]) in District 2 that serves primarily unit and manifest (mixed car/cargo) freight. Major commodities shipped in the region include tomato products, olives, rice, cheese, frozen foods, beer, wine, and wheat with some stone, petroleum and lumber products, and chemicals.

Short Line[vi] Railroads

The North Coast Railroad Authority (NCRA) owns the Northwestern Pacific (NWP) Railroad short line (which partially parallels US 101) from Korbel (Humboldt County) to Healdsburg (Sonoma County) and has an operating easement from Healdsburg to Lombard (Napa County). In 1998, the Federal Rail Authority (FRA) ordered freight operations on the NWP line to cease due to the deterioration of tracks and highway crossing signals to below minimum requirements. Since 2006, NCRA has concentrated on rehabilitating the segment of track from Healdsburg to Lombard. In May 2011, the FRA permitted freight trains to run along the 62-mile segment in District 4 between Lombard and Windsor (Sonoma County).

Other rail service in the region includes:

- Service in Tehama County, provided by the California Northern Railroad (CFNR) and UP, is focused on heavy or bulky freight materials produced locally and shipped regionally.
- Rail tracks from Lassen County transport lumber products and perlite to Oregon.
- Several rail spurs in Shasta County exist for freight loading/unloading.
- The Central Oregon and Pacific Railroad (CORP) is a Class II[vii] railroad out of Eugene, Oregon that interfaces with the UP at Black Butte and Montague in California. Lumber and related products are its primary carload business.
- Although the Skunk Train between Fort Bragg and Willits is currently exclusively passenger service, it could resume freight service in the future.

Rail Issues

- Rail infrastructure is expensive to build, repair, and maintain – especially in geologically challenging terrain. Resumption of service on the NWP line would require rehabilitation to FRA Class I or II track standards and lifting of the FRA executive order along the remaining unpermitted track segments.
- Lack of freight rail service demand has led to rail track abandonment and removal. For example: the McCloud Railway Company could provide freight service in Shasta County; however, it is in the process of abandoning and removing rail lines east of McCloud in Siskiyou County, which includes the railway serving Burney; an abandoned rail spur from Crescent Mills to Chester is being removed, and; some abandoned tracks are being converted to bike/pedestrian trails. Once tracks are removed, the likelihood of replacement for future economic rail activity is remote.

- In the Tehama region, if the need for a new at-grade rail crossing is proposed, the railroad insists that an existing one be identified for potential closure and removal.
- A diverse group of stakeholders, led by the City of Eureka, is seeking funds for a feasibility study to explore at least three possible east-west routing alternatives between the national rail system and Humboldt Bay.

SEAPORTS

Maritime facilities exist in all three coastal counties of Del Norte, Humboldt, and Mendocino. The once-bustling Port of Humboldt Bay is California's northernmost deepwater shipping port and the only port between San Francisco (225 nautical miles south) and Coos Bay, Oregon (156 nautical miles north). Over the years, logging restrictions, natural events, and competition have dramatically lowered the port's activity levels. Canada and China are the port's main trading partners. Harbor deepening projects allow the port to accommodate large Panamax vessels[viii]. Forest products dominate both exports and imports; but petroleum products are also imported. Approximately 90 percent of Humboldt County's gasoline and diesel, as well as about 70 percent used by Del Norte, Trinity, and Mendocino counties, is imported into Humboldt Bay. Over half of the fresh oysters consumed in California are grown in the bay. The port also serves cruise ships, Navy vessels, the U.S. Coast Guard, and commercial fishing.

In Del Norte County, Crescent City owns and maintains a harbor with a commercial fishing fleet and public-access docks. The Crescent City Harbor cannot accommodate large container ships, but it is the only "harbor of refuge" between Humboldt Bay and Coos Bay. Most docks at Crescent City Harbor were destroyed by surges from the March 10, 2011 Japan tsunami. A tidal gauge was installed in the Crescent City boat basin in 1934. Since its installation, Crescent City has been hit by 34 tsunamis, large and small. In Mendocino County, maritime services for commercial fishing, the U.S. Coast Guard, and private vessels are provided by Noyo and Point Arena Harbors.

Port Issues

- With regard to Humboldt Bay, shoaling, sedimentation, and need for regular dredging are issues for deepwater shipping.
- Due to the huge timber industry decline in Humboldt Bay since its heyday, many former milling facilities have sat idle and fallen into disrepair.
- Humboldt County has a small local market size (population and economic base) which generates little inbound freight for consumption. The other maritime sites also possess small markets.
- According to the Humboldt Bay Harbor Recreation, and Conservation District, the port's primary limitation to expanded use is the constrained access of goods movement on SR 299 due to existing STAA trucking barriers, which hinders connections to I-5.
- Humboldt Bay is in a remote area with rugged terrain resulting in limited connectivity issues with truck and rail.
- Events such as tsunamis and sea level rise are risks to Northern California seaports and coastal regions

AIR CARGO

Although the smaller airports of the Northern California region do not have the same economic impact as the large Southern California and San Francisco Bay Area airports (which move more than 90 percent of the state's airborne freight), they do play an important role by handling cargo like mail and parcels for remote rural communities. Rural airports connect smaller communities to larger global markets as well as play other vital roles – especially when quick reactions are needed (e.g., critical medicine and organ transport and disaster response). Uncharacteristic of traditional truck, sea, and rail freight, commodities

transported by aircraft tend to be light-weight, of high-value, time-sensitive, and travelling a long distance.

There are fifty public use airports spread throughout the region, but only three scheduled service commercial airports – Redding Municipal, Jack McNamara, and Arcata. The closest international airports are Sacramento International Airport in California, Rogue Valley International-Medford Airport in Oregon, and the Reno-Tahoe International Airport in Nevada. Virtually all airports move light cargo and/or serve as delivery transfer locations; however, the following list contains the more prominent cargo-carrying airports in the region.

- **Redding Municipal Airport** handles most of the regional cargo and is at the center of airfreight and package movement activity. Federal Express (FedEx), United Parcel Service (UPS), and United States Postal Service (USPS) serve this airport using heavy and light trucks, airfreight, and charter air services.
- **Jack McNamara Field/Del Norte County Airport** is served by FedEx and SkyWest, making it an important cargo hub for the area.
- Both **Murray Field** and **Arcata-Eureka Airports** are run by Humboldt County Public Works. In 2013, Murray Field transported over 860 metric tons of cargo and Arcata-Eureka carried over 190 metric tons. Primary carriers at both airports were West Air and AmeriFlight.
- **Ukiah Airport** provides recreational flying, pilot training, charter, fuel, maintenance, corporate, small business, air freight (scheduled FedEx and UPS flights), and courier services.

Air Cargo Issues

- Siskiyou County Airport has the only Instrument Flight Rule (IFR) approach between Redding and Medford, Oregon.
- Migratory flocks of waterfowl during Spring and Fall may cause conflicts such as bird strikes and wildlife hazards to aircraft.
- Obstacles such as mountains, rising terrain and fog (in some locations) create navigational challenges.

System Performance and Freight Needs

The rural Northern California region will continue to be an important thoroughfare for freight, with trucks being the dominant mode due to their flexibility and need for other modes to use them for the "first and last mile." Several projects to ease horizontal and vertical roadway alignments, allowing State Transportation Assistance Act (STAA) access and to expand trade opportunities within and beyond the state are planned or underway. It is also critical to find stable funding to maintain roadways that handle heavy trucks and equipment in adequate condition.

Most freight rail activity will continue to be agricultural, timber, and mined products through and within the region and with Oregon and Nevada/Utah. Due to declines in timber activity and the Northwestern Pacific Railroad's cease-operation order by FRA, meaningful service along the west coast rail corridor is not anticipated in the near future. The best chance for freight rail improvement would be to provide support for retention (not abandonment) of track, use of existing spurs, and future resumption along the NWP line.

The challenge of a drastically-reduced timber industry, competition from other seaports, continued expense of dredging, and deteriorating infrastructure make it difficult for Humboldt Bay to reclaim a thriving status. Businesses which will entice imports and create wanted exports would increase demand for port services. Should business be revived, truck and port rail access would also need attention.

Although Northern California is largely rural and less densely populated than other regions, it will continue to play an important role in freight movement. The resounding issue of deferred maintenance due to lack of funding cannot be ignored much longer because it costs much more to replace than repair freight infrastructure. Ensuring that all main freight highways are STAA compliant would result in enhanced regional livelihood and increased competitiveness.

Environment

Several state and federal laws and requirements exist to protect the environment. Of the fifteen California Air Basins, counties within the Northern California region belong to the following five: North Coast, Northeast Plateau, Sacramento Valley, Mountain Counties, and Lake County. Air districts within the region are listed below.

- North Coast Unified Air Quality Management District
- Siskiyou County Air Pollution Control District
- Modoc County Air Pollution Control District
- Shasta County Air Quality Management District
- Lassen County Air Pollution Control District
- Tehama County Air Pollution Control District
- Mendocino County Air Quality Management District
- Lake County Air Quality Management District
- Northern Sierra Air Quality Management District (Plumas)

California's air emission standards are more stringent than the nation's. A chart with detailed information regarding ambient air quality standards can be found on the California Air Resources Board website at http://arb.ca.gov/research/aaqs/aaqs2.pdf.

Lake is the only county to uphold 2013 State ambient air quality standards across all criteria pollutants [ozone, particulate matter (PM) 2.5 (micrometers), PM10, carbon monoxide, nitrogen dioxide, sulfur dioxide, and lead]. Jurisdictions within the region which exceeded the State air quality standard levels and are in nonattainment for ozone were Shasta and Tehama counties. All counties in the region, with the exception of Plumas and Tehama, are in attainment for fine PM2.5. The only counties in attainment for PM 10 were Del Norte, Lake, Siskiyou, and Trinity – all other counties in the region were in nonattainment. The following seven counties were designated as unclassified for carbon monoxide: Del Norte, Lassen, Modoc, Shasta, Siskiyou, Tehama, and Trinity – the remaining were in attainment. Within this region, nonattainment for many pollutants is typically attributed to controlled burns, wood stoves, wind-blown dust, and wildfires – not transportation.

Regional Transportation Planning

Regional transportation planning organizations are important decision-making bodies responsible for preparing applications, programs, studies, and long-range regional plans. Designated Metropolitan Planning Organizations (MPOs) are responsible for meeting specific urban transportation planning requirements established by federal law. (The population threshold for an MPO is 50,000.) Some regional agencies take on additional responsibilities such as supporting Transportation Management Associations (TMAs), housing and analyzing census and other statistics, and administering local transportation sales tax programs.

Within the Northern California region, the Shasta Regional Transportation Agency (SRTA) is the only MPO. Other regional agencies in the area include:

- Del Norte Local Transportation Commission
- Humboldt County Association of Governments
- Mendocino Council of Governments
- Lake County/City Area Planning Council
- Siskiyou County Transportation Commission
- Modoc County Transportation Commission
- Trinity County Transportation Commission
- Lassen County Transportation Commission
- Tehama County Transportation Commission
- Plumas County Transportation Commission

Plans and Studies

Regional transportation planning documents provide pieces of the complex multimodal transportation puzzle. In addition to the aforementioned *North State Transportation for Economic Development Study*, in 2007, the Del Norte Local Transportation Commission (DNLTC) prepared a position paper called *Achieving STAA Route Status for the SR 197/US 199 Corridor: A Goods Movement Action Plan* (found at http://www.dnltc.org/planningdocs/GoodsMovementActionPlan.pdf). It set the stage for corridor improvements, making salient points. Several projects are currently underway that will bring that corridor up to STAA standards. Links to some of the county Regional Transportation Plans are included in the next section.

Resources and Additional Information

The following selected internet websites provide additional information pertaining to the Northern California region, including regional transportation planning agencies, Caltrans offices, and other organizations that handle freight-related matters.

Regional Transportation Planning Sites

Del Norte Local Transportation Commission: http://www.dnltc.org/mission.html
Humboldt County Council of Governments, including 2008 Regional Transportation Plan: http://www.hcaog.net/
Lake County/City Area Planning Council, including the 2010 Lake County Regional Transportation Plan: http://lakeapc.org/index.asp
Lassen County Transportation Commission: http://www.lassencounty.org/govt/dept/transportation/Transportation.asp
Mendocino Council of Governments (MCOG) Regional Transportation Plan: http://www.mendocinocog.org/reports_projects-RTP.shtml
Modoc County Transportation Commission: http://modoctransportation.com/
Plumas County Transportation Commission: http://www.countyofplumas.com/index.aspx?NID=1967
Shasta Regional Transportation Agency: http://www.srta.ca.gov/
Tehama County Transportation Commission: http://www.tehamacountypublicworks.ca.gov/Transportation/index.htm
Trinity County Transportation Commission: http://www.trinitytransportation.org/

Caltrans Sites

Office of System and Freight Planning: http://www.dot.ca.gov/hq/tpp/offices/ogm/index.html

- Air Cargo Mode Choice and Demand Study (TranSystems 2010): http://onramp.dot.ca.gov/hq/tpp/offices/ogm/aircargo.html

Trade Corridors Improvement Fund (TCIF): http://www.catc.ca.gov/programs/tcif.htm
California Corridor Mobility (System Planning documents): http://www.dot.ca.gov/hq/tpp/corridor-mobility/
District 1: http://www.dot.ca.gov/dist1/
District 2: http://www.dot.ca.gov/dist2/
Legal Truck Access Information: http://www.dot.ca.gov/hq/traffops/engineering/trucks/

Other Resources

Research and Innovative Technology Administration of the Bureau of Transportation Statistics (2010): http://www.transtats.bts.gov/airports.asp?pn=1&Airport=ACV&Airport_Name=Eureka/Arcata,%20CA:%20Arcata/Eureka

Trucking
California Trucking Association: http://caltrux.org/

Seaport
Port of Humboldt Bay: http://humboldtbay.org/port-humboldt-bay
American Association of Port Authorities (AAPA): http://www.aapa-ports.org/home.cfm

Rail

California State Rail Plan: http://californiastaterailplan.dot.ca.gov/
Union Pacific (UP): http://www.up.com/
BNSF: http://www.bnsf.com/
North Coast Railroad Authority: http://www.northcoastrailroad.org/index.html

Aviation

Redding Municipal Airport: http://ci.redding.ca.us/transeng/airports/index.htm
Arcata-Eureka Airport: http://co.humboldt.ca.us/aviation/default.asp
Del Norte County Regional Airport/Jack McNamara Field Airport: http://flycrescentcity.com/

Environmental

Air Resource Board (ARB): http://www.arb.ca.gov

- CARB and Business, Transportation and Housing Goods Movement Action Plan (2007): http://www.arb.ca.gov/gmp/docs/gmap-1-11-07.pdf

---

[i] **Corridor of the Future:** One of the first six interstate routes identified by the U.S. Department of Transportation in 2007 to participate in a new federal initiative to develop multi-state corridors to help reduce congestion (Interstates 5, 10, 15, 69, 70, and 95).

[ii] **High Emphasis Route:** Highways having the State's highest priority for programming to meet freeway/expressway standards or otherwise designated for their critical important to interregional travel. It was first recognized in the 1990 Interregional Road system Plan (Caltrans).

[iii] **Focus Route:** Identified in the Interregional Transportation Strategic Plan (ITSP), this subset of the *High Emphasis Routes* highlights the State's highest priority routes that, when complete, will connect all urban areas and geographic goods movement gateways, as well as link rural and small urban areas to the trunk system.

[iv] **Class I:** A large freight rail carrier generating annual operating revenues (in 2011 dollars) of $433.2 million or more as defined by the U.S. Surface Transportation Board (STB). This group includes the nation's major railroads.

[v] **Trackage rights**: An arrangement where the company that owns the line retains all rights, but allows another company to operate over certain sections of its track.

[vi] **Short line**: An independent or subsidiary railroad that operates over a relatively short distance; generally a Class III railroad.

[vii] **Class II**: A freight rail carrier having annual operating revenues (in 2011 dollars) of less than $433.2 million but more than $34.6 million. They are considered "regional railroads" by the Association of American Railroads.

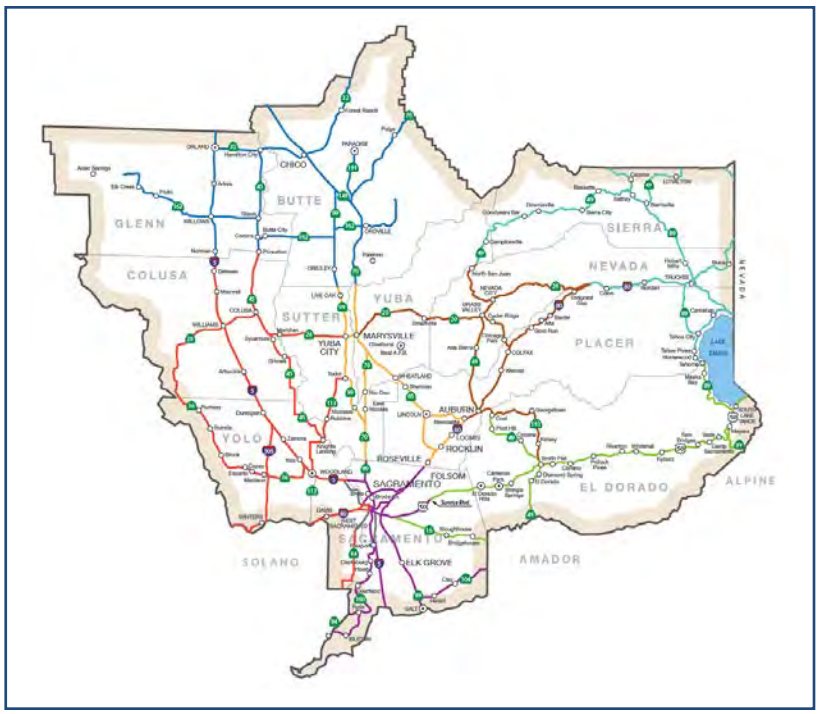
[viii] **Panamax vessel:** Ocean-going ship with dimensions of the maximum size possible to pass through the Panama Canal (roughly 295 meters, by 32.25 meters by 13.5 meters).

APPENDIX B-6-2: SACRAMENTO VALLEY

INTRODUCTION

Located in the heart of California and home to its Capitol, the Sacramento Valley region mimics the 11 Caltrans District 3 counties of Sacramento, Yolo, Colusa, Glenn, Butte, Sutter, Yuba, El Dorado, Placer, Nevada, and Sierra. This geographically-diverse northern Central Valley area is comprised of the Sacramento Metropolitan area to the south, the interior coastal range to the west, Sutter Buttes to the north, flat agricultural land across the valley, and foothills, river canyons, Sierra Nevada Mountains, and Lake Tahoe Basin to the east.

In 2010, nearly 2.7 million people lived in this region, with the heaviest concentration in Sacramento's downtown city core. With shrinking but vast fertile agricultural land, issues involving the transportation of food from farms to markets are of regional focus and concern. Trucking is and will continue to be the dominant freight transportation mode by tonnage for the region. International trade mainly comes into the area via the Sacramento International Airport, by ocean vessels from the San Francisco Bay Area, by trucks, or by trains.



IMPORTANCE OF GOODS MOVEMENTS AND ECONOMIC BENEFITS

According to the 2035 Sacramento Area Council of Governments (SACOG) Metropolitan Transportation Plan (MTP), the region's economic vitality is dependent upon its ability to transport consumer goods, which is critical to the viability of the manufacturing, distribution, and agricultural sectors. The 2014 San Francisco Bay Area Freight Mobility Study (SFBAFMS) reported that, in 2011, the San Francisco Customs District (which includes Sacramento County) was the second most important trade gateway in California, the third most important gateway on the U.S West Coast, and the 10th largest international U.S. trade gateway in terms of value of two-way trade. The District 3 Goods Movement Study draft (anticipated completion in Fall 2014) revealed that the region has a higher than statewide concentration in two key economic

sectors that use transportation: construction (goods producing) and trade, transportation, and utilities (consumption).

Regional Overview

Counties	Distinguishing Characteristics
Butte	Elevations range from 60 to 8,100 feet and 14 percent of the land is federally-owned. Most freight is generated by online retail, manufacturers of canned fruits and vegetables, and fruit and vegetable growers.
Colusa	In this agriculture-dominant county, rice and almonds are the main crops. Growth in manufacturing, wholesale, and agriculture is expected.
El Dorado	Site of the first finding which sparked the gold rush, this county is also known for its recreational draw – including Lake Tahoe skiing. Otherwise, agriculture and logging are dominant industries.
Glenn	With over 1,188 farms, agriculture is the primary source of the county economy. Major commodities include rice, almonds, milk products, prunes, and livestock.
Nevada	Cattle, heifers, and steers accounted for one-third of the county's agriculture production value in 2010. Pasture/rangeland, wine grapes, timber, and manufacturing are other major economic generators.
Placer	This county was home to the 1960 Winter Olympic Games. The Union Pacific J. R. Davis Yard, the largest classification rail yard on the West Coast, is located in Roseville. This county attracts many technical software and manufacturing companies such as Hewlett-Packard and Oracle. Top crops include rice, cattle, calves, nursery stock, walnuts, and timber.
Sacramento	Home to the State Capitol, this county is known as a government employment hub. Sacramento International and Mather airports are located there. Other major employment centers are in the healthcare industry. Wine grapes are the top crop based on value, then milk production. Other commodities in the county include poultry, field corn, pears, nursery stock, alfalfa hay, cattle, calves, aquaculture, and rice.
Sierra	Divided by the Pacific Crest, this rural county's largest industries involve construction and wood products. Crops grown in the county include alfalfa hay, barley, Christmas trees, forestry, timber, hay, grass hay, meadow oats, and rye.
Sutter	Birthplace of the seedless grape and home to the Sutter Buttes, 13 percent of this county's employment revolves around farming, with rice as the predominant crop. Growth in industrial production is expected. Leading agricultural commodities include rice, walnuts, dried plums (prunes), peaches (processing), tomatoes (processing), and nursery products.
Yolo	Agriculture is the leading industry which also depends upon warehousing, distribution, and food processing. The Port of West Sacramento is located in the county, as is the University of California, Davis. Tomatoes, wine grapes, rice, alfalfa hay, walnuts, and almonds are the top county commodities, with rice ranking the highest in value.
Yuba	Home to Beale Air Force Base, the county's main industries involve steel and wood product manufacturing and publications. Agricultural production for the county includes walnuts, almonds, timber, fruit, nuts, cattle, claves, and milk. Rice has the highest crop value, then walnuts.

GOODS MOVEMENT GATEWAYS, CORRIDORS, HUBS, AND FLOWS

Many California freight modes connect with other states, nations, and globally. Whether goods are moved by ship, plane or train they must almost always travel the "last mile" to its destination by truck. According to Federal Highway Administration's (FHWA's) Freight Analysis Framework, the following are approximate regional flow characteristics:

- 29 percent of movements are entirely within the region (35 percent gravel and other non-metal mineral products, 20 percent gasoline and petroleum products, and 9 percent waste or scrap)
- 33 percent of movements come into the region from outside the region
- 22 percent of goods flow through the region
- 16 percent of the total flow volume is exports from the region (mostly agricultural, both fresh and processed)

According to the draft District 3 Goods Movement Study, the region is a net exporter of goods produced in the region, but is a major crossroads for through tons (mostly north to south). Most area inbound and outbound flows are with the San Francisco Bay Area. Presented below is more detailed freight information by mode.

TRUCKING

Primary North-South Routes

- Interstate 5 (a "Corridor of the Future[i]")
- SR-99/70/149 (a "Focus Route[ii]" and "Farm to Market[iii]" corridor)

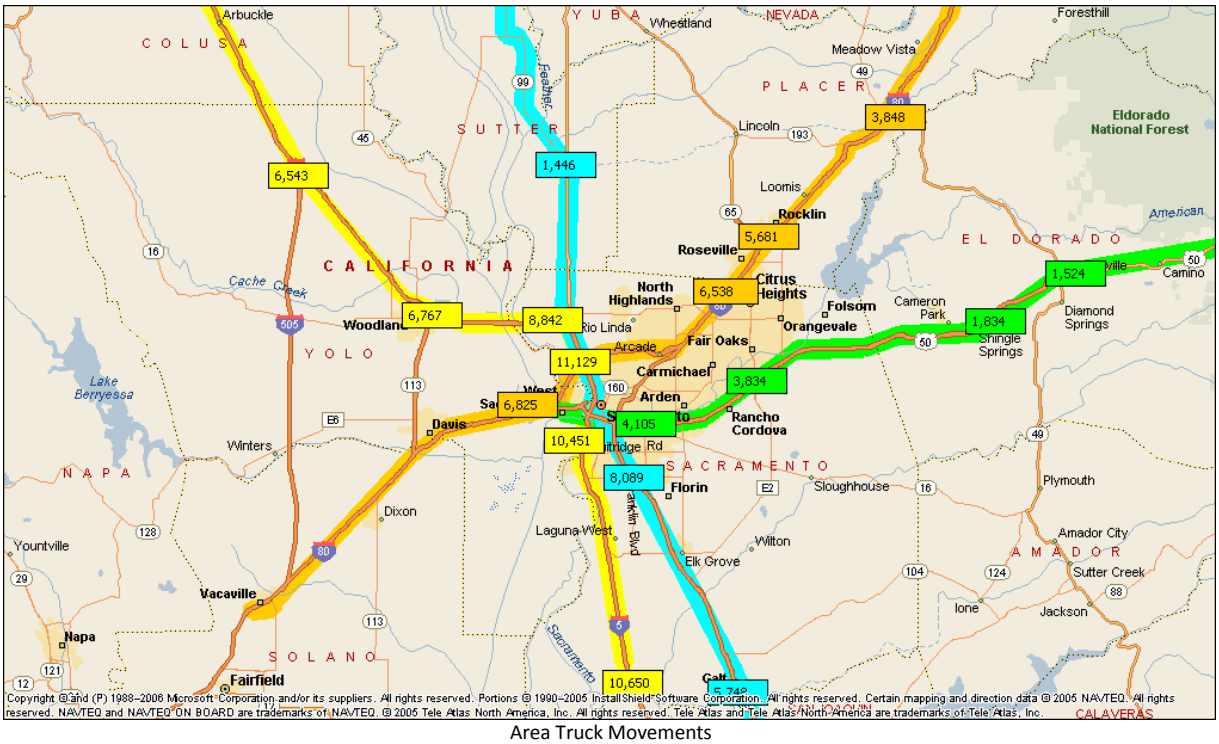
Primary East-West Routes

- Interstate 80 (part of a national freight corridor targeted for multi-state operations coordination efforts, including the I-80 Winter Operations Coalition)
- US 50 (traverses the nation from West Sacramento, California to Ocean City, Maryland)
- SR-20 (a "Focus Route")

Interstate 5 (I-5) traverses the length of the state from the border with Mexico, through the Sacramento Valley on to Oregon, Washington, and Canada, and I-80 links global markets arriving in the San Francisco Bay Area with Nevada and across the entire country. Reflected in the 2006 SACOG Regional Goods Movement Study truck movement map on the next page, in 2004, weekday average truck volumes were about 3,000 on SR 70; 4,100 on US 50; 8,000 on SR 99 and I-80; and 10,650 on I-5. The SACOG MTP forecasts that commercial vehicle miles traveled are expected to increase by 38.3 percent between 2008 and 2035 to 13.2 million.

The trend of businesses to move into suburban areas with limited highway access has resulted in more truck trips internal to the region using arterial roads such as Power Inn, North Watt, and Sunrise. Since Congress began allowing heavier truck weights in 1997 without increasing maintenance funding, many rural roads and suburban arterials have significantly deteriorated.

According to the 2011 SACOG Rural Urban Connections Strategy (RUCS) booklet, around 70 percent of the region consists of agricultural land, forest, or other open space. Regional mobility conflicts and inefficiencies occur when slow-moving farm equipment and commercial trucks are combined with commute vehicles, especially along smaller state routes. The region has lost most of its processing facilities to San Joaquin County, forcing trucks to travel longer distances which increases mileage and emissions. In addition, when processing and packaging are complete, the finished products are then trucked back into the region for consumption. Farmland aside, along the vast winding country roads, narrow lanes and steep grades make it difficult for long, heavy trucks to negotiate.



Area Truck Movements

Truck Issues

- Corridors with elevated freight volumes, such as I-5 and I-80, have high truck pavement damage impacts
- Oversized loads have difficulty negotiating the narrow, steep, windy Sierras and under overpasses
- Increased congestion through Sacramento and Roseville is anticipated
- For parts of SR-49 and SR-89 in Sierra County, improved Surface Transportation Assistance Act (STAA) truck access in rural areas is needed
- Low Levels of Service (LOS) exist due to limited passing opportunities or physical restrictions like narrow, winding roadways with steep grades and/or sharp curves
- Although Caltrans works to accommodate truck parking through ramp and intersection design and advocacy with local partners, a truck parking shortage for mandatory driver breaks exists
- Trucking issues would be exacerbated by acceptance of other states' longer STAA truck lengths and higher axle weights
- Increasingly, freight shipments are being carried by truck – a trend which is likely to continue, particularly as e-commerce continues to expand

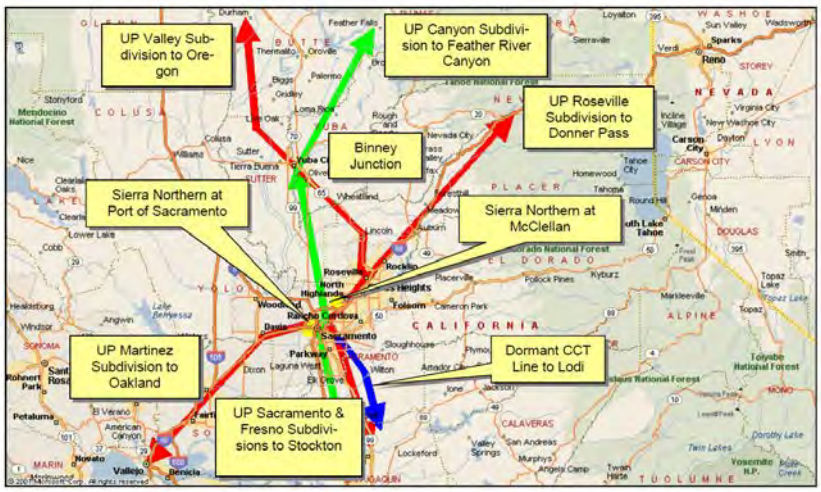

J.R. Davis Rail Yard

Freight Rail

Class I Railroads

Rail lines play a similar role to highways by traversing both north and south and east and west within and beyond the State. Union Pacific (UP) is the primary Class I[iv] railroad in the area, with BNSF Railway having some trackage rights. North-South connections exist from beyond the Oregon border through the region and past the California-Mexico border and East-West corridors run from the San Francisco

Bay Area through the region and beyond Nevada. Both UP and BNSF provide transcontinental rail service using either Donner or Tehachapi routes to ship freight to eastern destinations such as Chicago, Kansas City, and Memphis. UP's J. R. Davis Rail Yard in Roseville has the capacity to move up to 2,300 cars per day, and is the largest railyard in the Western U. S. It handles only non intermodal rail cars.



Sacramento Region Rail Lines

General information from the SACOG MTP reveals that railroads currently operate at near capacity and can only compete with trucks that haul goods for more than 700 miles. The 2020 outbound rail movement forecast is 27,519 carloads at 1.9 million tons, and outbound at 48,518 carloads and 3.7 million tons (mostly to and from the Bay Area). Freight train miles are forecasted to double between 2020 and 2035 with very little new track added. It costs $3.5 million to construct a mile of track and about $500,000 annually to maintain.

Short Line Railroads

The following short line railroads also serve the area:

- **Sierra Northern Railway (SERA)** serves the Port of West Sacramento with about 75 miles of track, interchanging with both UP and BNSF. Commodities include lumber and lumber products, wallboard, gypsum, plastics, canned goods, chemicals, steel, grain and grain products, ethanol, and propane.
- **California Northern Railroad (CFNR)** operates 261 miles of track and interchanges with UP, Northwestern Pacific Railroad, and Napa Valley Railroad. Most commodities carried are food related, including tomato products, olives, rice, cheese, frozen foods, beer, wine, and wheat.
- **Sacramento Valley Railroad (SAV)** provides switching and other rail-related services within McClellan (airport) Business Park on seven (7) miles of rail line. SAV supports transloading (the operation of transferring cargo from one transportation mode to another) activities and interchanges with both UP and BNSF.

Rail Issues

- Air quality/environmental issues exist in areas near the J. R. Davis Rail Yard
- In general, railroads are not earning a high enough rate-of-return to significantly expand and maintain main-line track, which is needed to keep up with anticipated demand
- Freight railroads are privately owned and public sector jurisdictional influence may or may not be required for projects on their right of way which they privately fund.
- Government funding should be more flexible to help pay for public freight rail projects; this would also facilitate NEPA, CEQA and other reviews.

SEAPORTS

The seaport at West Sacramento intermingles with ocean-vessels via use of area waterways. The Port of West Sacramento, located just west of downtown Sacramento along the Sacramento River, is the region's only deepwater port. Conveniently located near I-5 and I-80, the port is served by UP and Sierra Northern Railway, and has a Foreign Trade Zone within the facility. It is the major launching point for rice grown in the region for export to Japan and Turkey, and also handles general bulk cargo and the occasional import shipment of project cargo (e.g., wind generation equipment).

Partnering with the Port of Oakland and Port of Stockton, a federal grant was awarded in 2010 to initiate a "Marine Highway" barge container service between the ports. The West Sacramento portion of the project is not yet providing service. SSA Marine has operated the Port's North Terminal cargo facilities since mid-2013.

Seaport Issues

- Lack of sustained channel maintenance to 30' and deepening to at least 35' hinders port use by fully-loaded ocean vessels.
- Facility maintenance and improvements are needed for the port to become more competitive.
- There is minimal product diversification and a relatively small local market for heavy bulk goods.

AIR CARGO

Goods can also be flown by aircraft to almost anywhere in the world from the region's international airport. The Sacramento Valley region is home to two of the top 12 air cargo airports in the State: Sacramento International Airport (SMF) and Mather Airport (MHR). The Sacramento County Airport System (SCAS), which owns and operates these airports, has designated MHR as the region's air cargo airport; however, most air cargo is still transported through SMF. Following is some additional information about these airports:

- **SACRAMENTO INTERNATIONAL AIRPORT (SMF)** is located just off I-5 with convenient access and connections to major interstate highways and currently has room to expand. FedEx has a sort facility at SMF and operates daily flights. Much cargo to/from the airport is transported in bellies of passenger aircraft. According to the SCAS, over 71,624 tons of freight was processed through SMF in 2013.
- **MATHER AIRPORT (MHR)** near SR 50 has onsite warehousing and one of its two

Sacramento International Airport

runways is very long (11,301 feet). It is home to the Federal Aviation Administration's Northern California Terminal Radar Control (TRACON) facility. Main tenants are United Parcel Service (UPS) and businesses with perishable, medical, and high-technical related shipments. In 2013, the SCAS reported that Mather processed over 54,644 tons of freight.

According to the 2006 SACOG Goods Movement Study, the air cargo growth rate at both SMF and MHR is expected be 1.8 percent from 2006-2016, slow to 1.2 percent between 2016 and 2032, and decrease to 0.8 percent between 2032 and 2050.

Most of the region's air cargo is inbound, consisting of goods to meet the needs of the local population. As very little freight is manufactured in the region, there is considerably less demand for outbound air cargo. McClellan Airport is another cargo-carrying airport in Sacramento. It has both truck/rail access and expansion potential. Air cargo-related truck traffic in this region mainly consists of small delivery trucks with only a few larger 53' trucks.

Airport Issues

- Encroachment of incompatible land uses (like housing) is a big issue at many airports. At Mather, noise problems abound, which threaten the viability of the airport due to restrictions that reduce efficiency. Planned improvements to accommodate more air cargo at Mather have stalled due to litigations over noise issues.
- Although Mather has been designated the region's air cargo facility, cargo operators are reluctant to leave SMF because of the large volume of international cargo transported and access to other carrier belly cargo space.
- Until the instrument landing system is upgraded, aircraft cannot land at Mather when visibility is low
- The economic downturn has stalled plans for an Aerotropolis-like business complex east of SMF to support air cargo activity.

Small, rural towns also have goods movement needs (Colfax in Placer County)

System Performance and Freight Infrastructure Needs

The Sacramento Valley region will remain an important area for freight movement due to its central location and great connections throughout the State, the Nation, and globally. Trucks will continue to be the dominant mode for freight transport because of their time and maneuvering flexibility and need for other modes to use them for "the first and last mile." Funding to maintain rural roads handling heavy trucks and equipment in adequate condition is critical. Roadway congestion will continue to deteriorate, and although high occupancy vehicle lanes will help with freight movement, they are not on par with dedicated truck lanes. Need for truck parking for mandatory breaks remains.

As the economy picks up, more single and double-stacked freight rail container movements are anticipated through the region. Neighborhood complaints about negative environmental impacts of the J. R. Davis Rail Yard are also likely to increase. Most infrastructure improvements will continue to be paid for by either UPS or BNSF in addition to cooperative projects like grade separations. Upon

completion, the Donner Double Track project will likely be the most effective for improving regional rail mobility.

A successful Marine Highway barge service would help the local economy, alleviate truck traffic on the highways up to the region, as well as reduce emissions.

A critical, universal need exists for on-going goods movement project funding. Available revenues do not come close to covering costs for needed freight infrastructure improvements and maintenance. A balance needs to be struck between fees and taxes (to raise revenue and attract business). Perhaps regional or state funding (like bonds and measures) could help address local impacts. In the future, federal reauthorization will hopefully include a dedicated goods movement fund.

Emphasis on urban infill encourages older freight facilities to sell large centrally-located parcels and move to cheaper remote locations – ones with no rail access, which could result in more vehicle miles travelled, emissions, and overall congestion.

If these challenges are not addressed in the long term, the economic boost that goods movement brings would decrease, quality of life would diminish, and adequate infrastructure for general mobility would be impossible to revive. Aging infrastructure needs to be preserved and improved; otherwise, the delay, congestion, wear and tear on vehicles and roads in addition to negative health consequences will be felt by all who live in the area and use the system.

Environment

Several state and federal laws and requirements exist to protect the environment. According to the California Air Resources Board (CARB), the transportation sector was the largest source of greenhouse gas (GHG) emissions (gases that trap heat in the atmosphere) in 2011, with 37.6 percent of the inventory. Recognizing that global warming will have wide-spread detrimental statewide effects, Assembly Bill (AB) 32 requires reduction of GHG emissions to 1990 levels by 2020.

Due to the Sacramento Valley region topography, and under certain meteorological conditions, air pollutants become trapped within the basin. In addition to pollutants generated within the Valley, depending on weather conditions, San Francisco Bay Area emissions are also carried into the region by Delta breezes.

The following counties within the Sacramento Valley region are designated in non-attainment for the listed criteria pollutants:

- Ozone (O_3) – Butte, El Dorado (part), Nevada, Placer (parts), Sacramento, Yolo
- Particulate Matter 2.5 (PM2.5) – Butte
- Particulate Matter 10 (PM10) – All eleven counties
- Carbon Dioxide (CO_2) – none
- Nitrous Oxides (NO_x) – none
- Sulfur Dioxide (SO_2) – none
- Lead – none

A list of pollution control districts has been included under the resource section.

Regional Transportation Planning

Regional transportation planning organizations are important decision-making bodies responsible for preparing long-range regional plans, programs, applications, and studies. Designated Metropolitan Planning Organizations (MPOs) are responsible for meeting specific urban transportation planning

requirements established by federal law. Some of these agencies take on more responsibility in their regions such as supporting Transportation Management Associations (TMAs), housing and analyzing census and other statistics, and administering local transportation sales tax programs.

Within the Sacramento Valley region, SACOG is the Regional Transportation Planning Agency (RTPA) for Sacramento, Sutter, Yolo and Yuba counties and the MPO for Placer and El Dorado counties in addition to those just mentioned. Placer County Transportation Planning Agency and El Dorado County Transportation Commission retain RTPA status up to the Sierra Nevada crest, Tahoe Regional Planning Agency (TRPA) and Tahoe Metropolitan Planning Organization (TMPO) operate in the Tahoe Basin, and Butte County Association of Governments serves as both the RTPA and MPO. Transportation Commissions for Glenn, Colusa, Sierra, and Nevada counties are all non-MPO RTPAs.

Plans and Studies

Regional transportation planning documents provide pieces of the complex multimodal transportation puzzle. For example, the MTP states that the amount of freight generated by a location is a function of many factors including: the volume of commerce in the region, the economic health of particular business sectors, technology changes, trade agreements, the climate for business production and innovation, and government policies, programs, and regulations. The primary freight document for this area is the SACOG Regional Goods Movement Study Phases 1 and 2, completed in 2006 and 2007. Caltrans District 3 is in the process of developing a regional Goods Movement study and will soon be embarking on a Truck Parking study. Some other planning documents can be found below.

Resources and Additional Information

The following websites provide additional information pertaining to the Sacramento Valley region.

Regional Transportation Planning Sites

Sacramento Area Council of Governments (SACOG): http://www.sacog.org/

- SACOG Regional Goods Movement Study, Phases 1 and 2: http://www.sacog.org/goodsmovement/study/
- Metropolitan Transportation Plans for SACOG: http://www.sacog.org/mtp/2035/final-mtp
- Sacramento Region Preferred Blueprint Scenario: http://www.sacregionblueprint.org/adopted/
- SACOG Rural Urban Connections Strategy (RUCS): http://www.sacog.org/rucs/pdf/RUCS%20Booklet%202011%20Web.pdf

Butte County Metropolitan Transportation Plan (MTP): http://www.bcag.org/Planning/MTP--SCS/index.html
Nevada County Regional Transportation Plan (RTP): http://www.nctc.ca.gov/Reports/Regional-Transportation-Plan/index.html
Glenn County RTP: http://www.gcppwa.net/resources.aspx#Planning
Placer County Transportation Planning Agency RTP: http://pctpa.net/regional-planning/
El Dorado County Transportation Commission: http://www.edctc.org/
Tahoe Regional Planning Agency RTP: http://www.trpa.org/regional-plan/regional-transportation-plan-2/
Tahoe Metropolitan Planning Organization: http://www.tahoempo.org/
Butte County Association of Governments: http://www.bcag.org/About-BCAG/index.html
Glenn County Transportation Commission: http://gcppwa.net/divisions.aspx
Colusa County Transportation Commission: http://www.countyofcolusa.org/index.aspx?nid=19
Sierra Local Transportation Commission: http://www.sierracounty.ca.gov/index.aspx?NID=321
Nevada County Transportation Commission: http://www.nctc.ca.gov/

Caltrans Sites

Office of System and Freight Planning: http://www.dot.ca.gov/hq/tpp/offices/ogm/index.html

- Air Cargo Mode Choice and Demand Study (TranSystems 2010): http://onramp.dot.ca.gov/hq/tpp/offices/ogm/aircargo.html

Trade Corridors Improvement Fund (TCIF): http://www.catc.ca.gov/programs/tcif.htm
California Corridor Mobility (System Planning documents): http://www.dot.ca.gov/hq/tpp/corridor-mobility/
District 3: http://www.dot.ca.gov/dist3/
Office of Traffic Engineering Truck Information: http://www.dot.ca.gov/hq/traffops/engineering/trucks/truck-length-routes.htm
Aviation Capital Improvement Plan:
http://www.dot.ca.gov/hq/planning/aeronaut/documents/casp/casp_2013_cip2014-2023.pdf

Other Resources

Trucking
California Trucking Association: http://caltrux.org/

Seaport
Port of West Sacramento: http://www.cityofwestsacramento.org/city/depts/cmo/port_of_west_sacramento/
Sacramento-Yolo Port District: http://www.yolocounty.org/government/yolo-lafco/special-district-directory/river-port-district
American Association of Port Authorities (AAPA): http://www.aapa-ports.org/home.cfm
Marine Highway Program: http://www.marad.dot.gov/ships_shipping_landing_page/mhi_home/mhi_home.htm

Rail
California State Rail Plan: http://californiastaterailplan.dot.ca.gov/
Union Pacific (UP): http://www.up.com/
BNSF Railway: http://www.bnsf.com/
Sierra Northern Railway: http://www.sierranorthern.com/
J. R. Davis Rail Yard: http://www.uprr.com/aboutup/facilities/davis.shtml

Aviation
Sacramento County Airport System: http://www.sacairports.org/
Sacramento International Airport Master Plan: http://www.sacramento.aero/scas/about/planning_design/
Mather Airport: http://www.sacramento.aero/mhr/
Air Cargo World: http://www.aircargoworld.com

Environmental
California Air Resource Board (CARB): http://www.arb.ca.gov
- CARB and Business, Transportation and Housing Goods Movement Action Plan (2007): http://www.arb.ca.gov/gmp/docs/gmap-1-11-07.pdf

Sacramento Metropolitan Air Quality Management District (SMAQMD): http://airquality.org/index.shtml
Colusa County Air Pollution Control District: http://www.colusanet.com/apcd/
El Dorado County Air Quality Management District: http://www.edcgov.us/AirQualityManagement/
Feather River Air Quality Management District: http://www.fraqmd.org/
Glenn County Air Pollution Control District: http://www.countyofglenn.net/govt/departments/air_pollution/
Northern Sierra Air Quality Management District (Nevada and Sierra Counties): http://www.myairdistrict.com/
Placer County Air Pollution Control District: http://www.placer.ca.gov/Departments/Air.aspx
Yolo-Solano Air Quality Management District: http://www.ysaqmd.org/

---

[i] **Corridor of the Future:** One of the first six interstate routes identified by the U.S. Department of Transportation in 2007 to participate in a federal initiative to develop multi-state corridors to help reduce congestion (Interstates 5, 10, 15, 69, 70, and 95).

[ii] **Focus Route(s):** Identified in the Interregional Transportation Strategic Plan (ITSP), this subset of the *High Emphasis Routes* highlights the State's highest priority routes that, when complete, will connect all urban areas and geographic goods movement gateways, as well as link rural and small urban areas to the trunk system.

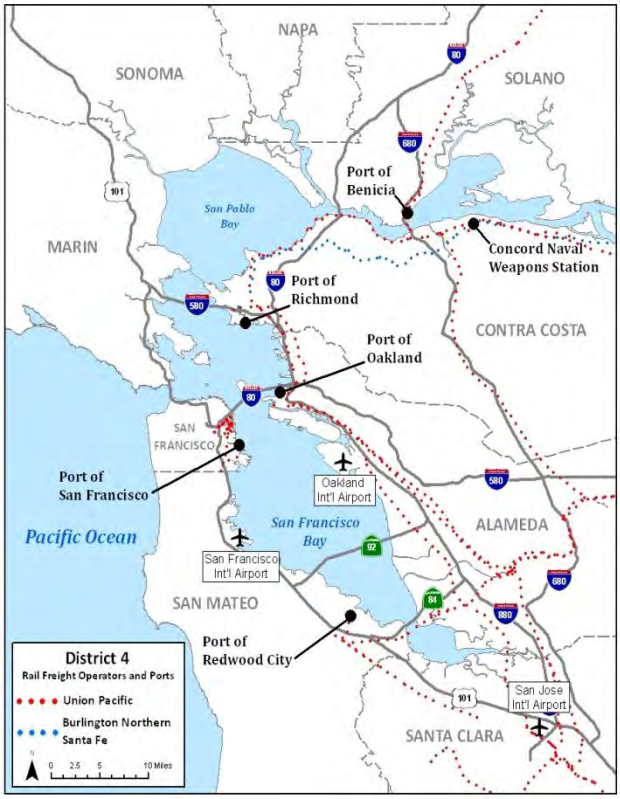
[iii] **Farm to Market:** The U.S. Department of Transportation has defined the California Farm to Market Corridor, SR 99 from south of Bakersfield to Sacramento, as a High Priority Corridor on the National Highway System.

[iv] **Class I:** A large freight rail carrier generating more than $433.2 million in annual operating revenues. This group includes the nation's major railroads.

APPENDIX B-6-3: SAN FRANCISCO BAY AREA

INTRODUCTION

The San Francisco Bay Area (Bay Area), which coincides with Caltrans' District 4 boundaries, is home to the world's 19th largest economy. It covers the nine counties of Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, and Sonoma. Within this area there are 101 cities and towns, which are anchored by the three major metropolitan cities of San Francisco, Oakland, and San Jose. Significant freight infrastructure includes five seaports, three commercial airports, two major (Class I) rail lines, and two key truck/rail freight corridors.



The Bay Area's unique geographical layout and strong dependence on several bridges coupled with a projected population increase from 7 million (in 2011) to 9 million (by 2040) bring their own array of major planning challenges. Additional complications facing the region include potential sea level rise and earthquake risks associated with the San Andreas Fault, which pose hazards that could devastate freight mobility throughout the region and beyond.

The Bay Area encompasses several freight generators, like the San Francisco International Airport; both the Port of Oakland and Oakland International Airport along I-880; several corporate campuses in San Mateo and Santa Clara counties; and agricultural (especially wine) production in Sonoma and Napa counties. Many goods movement generators such as manufacturing, warehousing, and distribution facilities have been forced out of urban core areas (to inland valley locations) in favor of residential and other uses partially due to rising land costs. Such trends ultimately impact the efficiency of freight transportation throughout the region.

The information for this report is a conglomeration of several plans and studies (listed at the end of this report) and has been broken down by the major freight modes. Challenges, issues, needs, and solutions have been highlighted.

IMPORTANCE OF GOODS MOVEMENTS AND ECONOMIC BENEFITS

Nationally

As a major international gateway, Bay Area goods movement provides an important link to the national economy. In the 2004 Regional Goods Movement Study for the San Francisco Bay Area, approximately "37 percent of economic output is manufacturing, freight transportation, warehouse, and distribution businesses." However, the economy is continuing to shift away from manufacturing towards the service sector, especially professional, technical, and information services. As reported in the 2014 San Francisco Bay Area Freight Mobility Study (SFBAFMS):

> "In 2011, the San Francisco Customs District (which includes all of the region's seaports and airports, as well as those of Monterey County, Sacramento County, Fresno County, and Reno)

reported two-way trade valued at $119.1 billion moving through its international gateways. This makes the San Francisco Customs District the second most important trade gateway in California, the third most important gateway on the West Coast of the U.S., and the 10th largest international trade gateway in the U.S. (in terms of value of two-way trade)."

Regionally

Goods movement is also critical to the regional economy. According to the SFBAFMS, in the region, "goods movement-dependent industries spent $20.3 billion on transportation, 52 percent (approximate) of which were outsourced, while the remaining 47 percent (approximate) were in-house spending. This is equivalent to 2.1 percent of total regional output and represents 64 percent of all spending on transportation services in the region. Manufacturing industries in the Bay Area spend $9.4 billion a year on transportation, the highest of any industry group. Of this $9.4 billion, 79 percent ($7.4 billion) was spent on outsourced transportation, and 21 percent ($2 billion) was spent on in-house transportation, which is in contrast with most other industries, where the majority of transportation spending is in-house" in 2011. Goods movement not only contributes to the economic diversity of local economies, it also enhances regional competitiveness on costs of goods and services. Major domestic trading partners are Southern California, the San Joaquin Valley, and the western states.

Regional Overview

Counties	Distinguishing Characteristics
Alameda	Oakland is the County's central hub and the third largest city in the Bay Area. Home to the Port of Oakland and the Oakland International Airport, it is the region's major industrial center.
Contra Costa	This suburban county includes the Port of Richmond. The area has a number of active oil refineries and is a site for heavy industry and chemical plants. At one time, there was a substantial steel plant; however, steel is now reduced to secondary production of strip sheet and wire.
Marin	This county includes several natural sites, such as Point Reyes National Seashore and Muir Woods National Monument, and is known for its scenic beauty and affluence. It is also home to San Quentin State Prison.
Napa	Considered one of the nation's top wine producing regions, the combination of Mediterranean climate, geography and geology of the region are conducive to growing quality wine grapes and other crops. The dairy industry is also substantial. Almost 4.5 million tourists visit Napa Valley annually.
San Francisco	San Francisco is the second most densely populated major city in North America after New York City. This city and county includes the Port of San Francisco, which specializes in non-containerized cargo (dry/liquid bulk, and break-bulk, and project) and tourism.
San Mateo	This county encompasses most of the south San Francisco peninsula, including the Port of Redwood City and the San Francisco International Airport (SFO). At SFO, 56 airlines provide air cargo service, including seven cargo-only airlines. It is a major trade hub with Pacific Rim countries including China, South Korea, Japan, and Taiwan. Many of the region's bio-pharmaceutical companies are located in Alameda and San Mateo Counties. Although the region is mostly suburban, it is also has urban areas that are home to several corporate campuses.
Santa Clara	Commonly known as the "Silicon Valley", this county is located between the Santa Cruz Mountains and the Diablo Mountain Range at the southern end of San Francisco Bay. Silicon Valley is known for its high technology manufacturing and needs goods movement industrial businesses to supply and to support the industry. Strong demand for manufacturing and warehouse space in this county, combined with the scarcity of available sites, constrains future expansion of these sectors.

COUNTIES	DISTINGUISHING CHARACTERISTICS
Solano	Located in the Bay Area-Delta region between San Francisco and Sacramento, this county is home to the privately-owned Port of Benicia. An auto processing facility operates there.
Sonoma	Within California's Wine Country, it is the largest and northernmost county in the region, known for its agricultural productivity and as a leading tourist destination. It is one of the nation's leading centers for grape growing and wine production. While much of the wine products and supplies are moved between grape growers and vintners by truck, larger wineries are increasingly taking advantage of intermodal rail services to move large shipments of equipment and supplies.

GOODS MOVEMENT GATEWAYS, CORRIDORS, HUBS, AND FLOWS

TRUCKS – FREIGHT

In the Bay Area, trucking has the largest share of total freight movement by tonnage at 67 percent, the majority being intrastate trips. A substantial amount of interregional trade is with Southern California and the San Joaquin Valley, whereas intraregional flows made up 23 percent of domestic truck movements by weight in 2011 (155 million tons). According to the SFBAFMS, area commodity flows by truck are expected to grow significantly – from 290 million tons in 2011 to 565 million tons in 2040. The region's projected increases in population and economic activity will result in increased truck movement, especially near airports and seaports.

Primary North-South Routes
I-880, US 101, I-680, and SR-29

Primary East-West Routes
I-80 (western leg of a national freight corridor; route subject to multi-state coordination efforts), I-580, SR-12, SR-152, SR-4, and SR-37

Major Freight Corridors

- **Altamont Corridor:** The highway portion of this corridor runs from the Port of Oakland, along I-880, I-238, and I-580, connecting with I-5 and SR 99 at the southern end of the San Joaquin Valley. The rail portion connects the port with transcontinental routes also in the Central Valley. This corridor links the State's agriculture commerce with the Port and also serves the growing Central Valley population. Inadequate rail capacity, especially at Niles Junction near Fremont due to conflicts between Altamont Corridor Express (ACE) passenger trains and Union Pacific Railroad (UP) freight traffic, is a major cause of chokepoints along the corridor. Expected goods movement growth along this corridor to 292 million tons by 2016 will further exacerbate rail conflicts.
- **Central Corridor:** This major east-west highway and rail corridor extends from the west to the east coast. Interstate 80, which most closely approximates the first transcontinental U.S. (Lincoln) highway, traverses several population centers such as San Francisco, Oakland, Richmond, Vallejo, Fairfield, Vacaville, Davis, Sacramento, Auburn, and Truckee before entering Nevada. I-80 terminates in Teaneck, New Jersey. In the Bay Area, this interstate highway is well known for bottlenecks. The nearly parallel rail route is primarily served by UP from the Port of Oakland to Roseville and beyond. BNSF Railway runs a limited number of trains on this corridor through trackage right agreements with UP.

Truck Issues

- The Federal Highway Administration (FHWA) identified I-80 at I-580/I-880 (San Francisco-Oakland Bay Bridge approach) as among the worst freight bottlenecks in California's supply chain.
- In terms of traffic, more than 80 percent of goods movement in the Bay Area involves trucking on I-80, I-580, I-880, and US 101. In 2011, I-880 and I-580 had the highest overall truck traffic volumes in the region with I-580 being the primary interregional truck corridor. In addition to providing access to the Port and Oakland

International Airport, I-880 is also one of the core intraregional highways moving goods to and from major population centers in the East Bay.

- Heavy commercial trucks with four axles or above have a greater impact on highway congestion than autos, create unique operational challenges, and cause substantial damage and wear on pavement.
- Truck idling, due to congested roadways and port entry gates, has significant adverse impacts to the region's air quality.
- The lack of truck parking in the region contributes to negative community impacts. These issues are exacerbated by a lack of specified truck routes, which leads to noise, safety, and pavement impacts when trucks travel through residential areas. Establishing designated truck routes would be a major step towards improving the region's trucking problems.

PORTS

Demand at port facilities is driven by international trade. There are four public ports in the Bay Area Region and one private port. Although not located in the region, the Port of Stockton plays an integral role in maritime cargo movement. Bay Area ports include the Port of Oakland, Port of San Francisco, Port of Richmond, Port of Redwood City, and the Port of Benicia (private).

- **Port of Oakland:** Located in Alameda County on the eastern shore of San Francisco Bay, the Port is 300 nautical miles closer to Asia, the Port of Oakland's major trading partner, than the southern California ports and is an economic engine for the region. The port is an international gateway with major trading partners such as Japan, China, South Korea, Taiwan, and Hong Kong. It was designated as one of fourteen National Strategic Ports (NSP) by the U.S. Department of Defense, because it plays a critical role in the logistics transfer of our military overseas and has the necessary infrastructure to provide rapid military deployment. The port owns Oakland International Airport, commercial properties and development (Jack London Square), and hundreds of acres of public parks and conservation areas.
- **Port of San Francisco:** This port is known for having the largest floating dry-dock dedicated to ship repair on the West Coast of the Americas. It offers full-service ship repair for commercial and government vessels and can even accommodate ships larger than can fit through the current Panama Canal locks. It is also home to the cruise industry, generating approximately $30 million annually in direct economic benefit and supporting hundreds of jobs.
- **Port of Richmond:** This deepwater port is located approximately nine miles northeast of the Golden Gate Bridge in Contra Costa County on the east shore of San Francisco Bay in Richmond. Currently, of the ports in the Bay Area, Richmond ranks number 1 in liquid bulk and automobile tonnage. The port has five city-owned terminals and ten privately-owned terminals for handling bulk liquids, dry bulk materials, vehicle and break-bulk cargoes; but it does not handle containers.
- **Port of Redwood City:** The only deepwater port in southern San Francisco Bay, this port is located in San Mateo County, approximately 25 miles southeast of San Francisco. This self-supporting port, owned by Redwood City, receives no tax dollars. Approximately 75 percent of the port's revenue is from marine activities and the remainder is from rent and commercial leases. The port handles mostly dry-bulk, neon-bulk, and liquid bulk cargoes. Land uses at the port mainly consist of handling, processing, storage and transportation of imported construction materials, scrap metal exports, construction debris for recycling, and chemicals.
- **Port of Benicia:** This port, located in Solano County on the northern bank of the Carquinez Strait, is approximately 19 miles northeast of the Port of Oakland, and is privately-owned and operated by APS West Coast, Incorporated. When the Benicia Arsenal Base was closed, city leaders converted the grounds into an industrial park which includes the Valero Benicia Refinery. The port specializes in handling bulk products such as agricultural products and motor vehicles. AMPORTS, a leader in the vehicle processing industry, operates a vehicle processing facility there.

M-580 Marine Highway Corridor

In 2010, the U.S. Department of Transportation awarded a $30 million Transportation Investment Generating Economic Recovery (TIGER) Discretionary Grant to the Ports of Oakland, Stockton, and West Sacramento to develop a container-on-barge service between the ports, known as the M-580 Marine Highway. Service between the Ports of Oakland and Stockton began in 2013. The project is currently not operating but future service is anticipated in 2015. The purpose of the project was to provide a viable marine highway (short sea shipping) alternative to decrease truck congestion on major roadways such as the I-580 corridor (potentially removing 350 trucks from the highway system with each barge move), thereby reducing the amount of emissions and improving traffic flow.

AIRPORTS -CARGO

Typically, air cargo travels in the lower level of passenger planes (as "belly cargo") or on all-cargo (freighter) airlines. These services rely on networks and allied services generally only available at larger international gateways. The three commercial cargo airports in the Bay Area Region are:

- Oakland International (OAK)
- San Francisco International (SFO)
- Norman Y. Mineta San Jose International (SJC)

Oakland International Airport serves as the principal domestic air cargo airport for the Bay region handling 52 percent of regional air cargo. The airport averages 200 flights each month and sorts over 250,000 packages every day, handling markets in the Western U.S., Canada, Hawaii, and Alaska. OAK facilitates operations for United Parcel Service (UPS) and is the FedEx Super Hub. The total tonnage in 2011 was 499,365 metric tons, down 65% from 2000 levels. Southwest carries the greatest amount of belly cargo, due to the high frequency of its passenger flights which generate a fairly substantial amount of freight tonnage.

San Francisco International is the principal international air cargo airport. Like seaports, airports in the Bay Area are major international trade gateways. The 2013 California Air Cargo Groundside Needs Study noted that SFO was one of the U.S. airports most adversely impacted by changes occurring after the terrorist attacks on September 11, 2001 (9/11), partially due to domestic passenger carriers "right sizing" their fleets and switching from wide-body service to narrow-body regional jets, which substantially reduced cargo capacity. In 2012, SFO captured 55 percent of the Bay Area air cargo market, including about 95 percent of the international market. Approximately 74 percent of cargo at SFO is carried on passenger aircraft. Over 60 percent of this belly cargo is international.[1] United Airlines is the largest carrier of international merchandise imports and the second largest carrier of exports. Future growth at SFO is projected to be primarily international air cargo.

Norman Y. Mineta San Jose Airport has also seen its cargo volumes fall dramatically from about 163,000 metric tons in 2000 to 44,000 metric tons in 2011. Part of that decline can be attributed to the universal impact of 9/11, the collapse of the regional dot-com industry, and diversion of cargo activity to SFO and OAK.

[1] Caltrans, California Air Cargo Groundside Needs Study, July 2013.

FREIGHT RAIL

Class I Railroads

Only two Class I (generating more than $433 million in annual operating revenues) railroads operate in the Bay Area and in California, Union Pacific (UP) and BNSF Railway, serving a critical role in goods movement. Rail freight activity is concentrated in the East Bay, with major UP and BNSF facilities in Oakland and BNSF facilities in Richmond. The UP provides double stack intermodal (container) or trailer-on-flatcar (TOFC) service over the Donner route and eastward to Chicago. BNSF serves the Port customers via the Tehachapi route, which ties into their transcontinental route serving Chicago, Kansas City, and Memphis.

Two major rail projects that are partially funded through the voter approved Highway Safety, Traffic Reduction, Air Quality, and Port Security Bond Act of 2006, Trade Corridors Improvement Fund (TCIF) program are currently under construction. Details follow:

- The ***Richmond Rail Connector*** project includes an at-grade rail connection and signal improvements between the BNSF Stockton Subdivision and UP's Martinez Subdivision near San Pablo, just north of Richmond. The project is needed to accommodate and better serve both current and future freight traffic on the corridor while reducing the impacts to the local community by reducing congestion, air emissions and noise in downtown Richmond.
- The ***Outer Harbor Intermodal Terminal (OHIT)*** project is critical to the transformation of the Oakland Army Base (OAB) Gateway Development Area into a world-class intermodal trade and logistics center. The construction of a new intermodal rail terminal capable of handling increased container cargo-based transfers is a key component of OHIT. Trains accessing the Port's Joint Intermodal Terminal must currently cross through the UP's yard, requiring all trains accessing the Port to slow to no more than 5 miles per hour, causing significant delays to both BNSF and UP operations. By eliminating this conflict, the freight operations will be improved, with spillover benefits for the 60 passenger trains (commuter and Amtrak) that pass by the port every day and share the rail corridor.

Short Line Railroads

Short line railroads play a vital role in moving freight to and from California regions and local communities. Short lines in the Bay Region include the following:

- **Oakland Terminal Railway (OTR)** is jointly owned by UP and BNSF Railway and operates ten miles of switching track in Oakland.
- **Richmond Pacific (RPRC)** is a privately held company that operates 2.5 miles of track in the Port of Richmond and interchanges with UP and BNSF Railway.
- **San Francisco Bay Railroad (SFBR)** is independently owned and operated, running rail terminals in both San Francisco and Richmond. It operates five miles of track along the southern waterfront of the Port of San Francisco and interchanges cargo with UP.
- **California Northern (CFNR)** operates 261 miles of track and interchanges with Northwestern Pacific Railroad Company. Most of the major commodities carried are food related, including tomato products, olives, rice, cheese, frozen foods, beer, wine and wheat.
- **Northwestern Pacific Railroad Company (NWP)** is an independently-owned short line company that operates freight service from the CFNR to Windsor, California over 62 miles of main line track between Lombard (Napa County) to Windsor (Sonoma County).
- **Napa Valley Railroad (NVRR)** is an independent rail company which mainly operates as a passenger excursion train between Napa and St. Helena, but occasionally runs freight trains carrying agricultural products.

MODAL AND SYSTEM PERFORMANCE

- The predominant demand by weight in the Bay Area continues to be intraregional commodity flows.
- Continued outward dispersion of industrial activities due to existing land use polices and escalating Bay Area real estate prices makes it challenging to expand port, rail, and air cargo freight facilities. As freight activities

move eastward, increases in truck travel time (distance and delay) will contribute to negative economic and environmental impacts.

- In the San Francisco Bay Area, a 0.5 meter sea level rise would have 120 miles of highway at risk (Pacific Institute, July 2012). The Bay Area ports, SFO, and OAK as well as bridge clearances and access routes are also vulnerable to flooding from sea-level rise.
- Higher transportation costs translate into higher costs of goods and living in Bay Area.
- Declines in South Bay/Silicon Valley industrial land availability creates a risk of losing high-tech manufacturing to other parts of the U.S. and the world.
- High volumes of fast growing international cargo trade places strain on the region's overburdened and outdated infrastructure.

FREIGHT INFRASTRUCTURE NEEDS

Freeway Gaps, Major Highway Bottlenecks and Corridor Improvement Strategies

- There are large gaps in the highways connecting the San Francisco-Oakland Bay Bridge western terminus (I-80) with the southern terminus of the Golden Gate Bridge and US 101 through San Francisco.
- In addition to the I-80/I-580/I-880 distribution structure at the San Francisco-Oakland Bay Bridge, there is also congestion at the I-880/I-238 and I-80/SR-12 interchanges, and along the Altamont Pass (I-580), a chokepoint for passenger and freight vehicles.
- **Corridor Improvement Strategies**
  - I-880 corridor improvement strategies include: addressing bottlenecks, implementing Intelligent Transportation Systems (ITS) where applicable, correcting older interchanges design deficiencies, and improving parallel arterial street connections.
  - Complete improvements at the I-80/I-680/SR-12 interchange.
  - An east bound truck scale facility was recently completed and a new west bound truck scale in the same general vicinity is being planned for I-80 in Solano County.
  - Upgrades on SR-152 between US 101 and the eastern Santa Clara County line including realignment of SR-152 and an eastbound truck climbing lane over Pacheco Pass.
  - Various operational improvements between San Jose and San Francisco on US 101.

Port Issues

- Freight congestion (capacity, safety, and bottleneck issues on I-880, I-580, I-238 and I-80)
- Limited capacity and intermodal connections – port capacity and infrastructure have not kept pace with demand
- Growth in containerized cargo, population, and the economy is expected to generate substantial truck traffic and air quality issues near airports and seaports
- North-south freight rail capacity increases are needed at the Port of Oakland to alleviate bottlenecks
- Seaport security
- Need for secure funding and financing for on-going freight infrastructure maintenance and improvements
- Return and equitable dispersion of Harbor Maintenance Tax Funding based on contribution for navigation maintenance and channel dredging

ENVIRONMENT

One of the region's main concerns is that increases in truck emissions could threaten the Bay Area's air quality conformity goals. Trucks are the major contributors to increased emissions of particulate matter (PM) (currently: truck 57%, marine 25%, air 12%, and rail 6%) and nitrogen oxide (NOx) (currently: truck 73%, air 11%, marine 9%, rail 7%). The Metropolitan Transportation Commission (MTC) Plan Bay Area (Regional Transportation Plan through 2040) integrates transportation, land use, and sustainability in response to Senate Bill 375. The U.S.

Environmental Protection Agency (U.S. EPA) new emission mitigation standards for heavy-duty diesel aim to reduce emissions for NOx and PM by 90 percent.

The California Air Resources Board set emissions reduction targets for the Bay Area. Relative to a base year of 2005, the targets represent a 10 percent per-capita reduction by 2020 and a 15 percent per-capita reduction by 2035. However, the region is projected to increase from 7 million to 9 million people which means the region will be challenged to accommodate a nearly a 30 percent increase in population by 2040 while still meeting emission targets.

Strategies to mitigate parking and idling by large commercial trucks in socially and/or economically disadvantaged neighborhoods (due to lack of parking at ports) are warranted for local and regional good. Reuse of land located within the vicinity of the ports should be considered and given priority for industries that are part of the warehouse and supply chain distribution channels. The region should also continue working on ways to divert freight from truck to rail.

REGIONAL AND LOCAL TRANSPORTATION PLANNING AGENCIES

- Alameda County Transportation Commission (ACTC)
- Association of Bay Area Governments (ABAG)
- Bay Area Air Quality Management District (BAAQMD)
- Contra Costa Transportation Authority (CCTA)
- Metropolitan Transportation Commission (MTC)
- Napa County Transportation Planning Agency (NCTPA)
- San Francisco Bay Conservation and Development Commission (BCDC)
- San Francisco County Transportation Authority (SFCTA)
- City/County Association of Governments of San Mateo (CCAG)
- Santa Clara Valley Transportation Authority (VTA)
- Solano Transportation Authority (STA)
- Sonoma County Transportation Authority (SCTA)
- Transportation Authority of Marin (TAM)

PLANS AND DOCUMENTS

"Plan Bay Area," adopted in 2013, is one of the region's most comprehensive planning efforts to date and was a joint effort of 9 counties, 101 cities, 4 agencies (ABAG, MTC, BAAQMD, and BCDC), and others. Following is a list of various freight-related plans and documents.

BAY AREA REGION PLANS & STUDIES	SPONSOR	DATE	WEBSITE
Regional Goods Movement Study for the SF Bay Area–Final Summary Report	MTC	Dec. 2004	http://www.mtc.ca.gov/planning/rgm/
Goods Movement Emissions Reduction program for Transportation 2035	BAAQMD	2011	http://www.baaqmd.gov/
Goods Movement Initiatives	MTC	2009	http://www.mtc.ca.gov/planning/2035_plan/Supplementary/T2035_Goods_movement_update.pdf
Goods Movement Land Use Project for San Francisco Bay Area	MTC	Dec. 2008	http://www.mtc.ca.gov/planning/rgm/final/Final_Summary_Report.pdf
Plan Bay Area – Regional Transportation Plan	MTC	2013	http://onebayarea.org/plan_bay_area/
West Coast Corridor Coalition (WCCC) Business Plan – (Alaska, Washington, Oregon, and California)	WCCC	April 2009	http://www.westcoastcorridors.org/library/WCCC_BusinessPlan.pdf
Port of Oakland – Maritime	Port of	June	http://www.portofoakland.com/pdf/CTMP_fin

BAY AREA REGION PLANS & STUDIES	SPONSOR	DATE	WEBSITE
Comprehensive Truck Management Program	Oakland	2009	al_090616.pdf
Port Activity and Competitiveness Tracker (PACT) Progress Report	Southern California Association of Governments	Feb. 2011	http://www.gensteam.com/resources/reports/Liner%20Trades-West%20Coast%20Port%20Analysis.pdf
San Francisco Bay Area Freight Mobility Study	Caltrans	Mar. 2014	http://www.dot.ca.gov/hq/tpp/offices/ogm/regional_goods_movement_plans.html

PARTNERSHIPS

- Air Resources Board
- Alameda Corridor-East Construction Authority
- Association of Bay Area Governments
- Bay Area Air Quality Management District
- Bay Conservation and Development Commission
- California Airports Council
- California Association of Councils of Governments
- California Association of Port Authorities
- California High-Speed Rail Authority
- California State Transportation Agency
- California State Association of Counties
- California Transportation Commission
- Federal Highway Administration
- Ports of Oakland, San Francisco, Richmond, Redwood City, Benicia, and Stockton
- U.S. DOT Maritime Administration

RESOURCES AND ADDITIONAL INFORMATION

Air Cargo Mode Choice and Demand Study (2010), prepared for Caltrans by TranSystems – http://www.dot.ca.gov/hq/tpp/offices/ogm/key_reports_files/Air_Cargo_Mode_Choice_&_Demand_Study_080210.pdf

Air Resources Board (ARB) – http://www.arb.ca.gov

Alameda County Transportation Commission (ACTC) – http://www.alamedactc.org

American Association of Port Authorities (AAPA) – http://www.aapa-ports.org/home.cfm

Association of Bay Area Governments (ABAG) – http://www.abag.ca.gov/

Bay Area Air Quality Management District (BAAQMD) – http://www.baaqmd.gov/

California Air Cargo Groundside Needs Study, prepared for Caltrans by System Metrics Group and Landrum and Brown, July 2013 – http://www.dot.ca.gov/hq/tpp/offices/ogm/air_cargo.html

Caltrans Office of Truck Services / Maps – http://www.dot.ca.gov/hq/traffops/trucks/

Impacts of Sea-Level Rise on the California Coast, Herberger, Matthew, Cooley, Heather, Herrera, Pablo; et. al. California Climate Change Center, 2009 – http://www.mtc.ca.gov/planning/climate/sea_level_report.pdf

Marine Highway Program – http://www.marad.dot.gov/ships_shipping_landing_page/mhi_home/mhi_home.htm

Metropolitan Transportation Commission (MTC) – http://www.mtc/ca/gov

Regional Goods Movement Study for the San Francisco Bay Area (2004), MTC – http://www.mtc.ca.gov/planning/rgm/

Port of Benicia – http://www.amports.us/

Port of Oakland – http://portofoakland.com/

Port of Redwood City – http://www.redwoodcityport.com/

Port of Richmond – http://ci.richmond.ca.us/

Port of San Francisco – http://www.sf-port.org/

Transportation Investment Generating Economic Recovery (TIGER) Grants, U.S. DOT, February 17, 2010 – http://www.dot.gov/documents/finaltigergrantinfo.pdf

World Port Source – http://www.worldportsource.com/ports/USA_CA_Port_of_Oakland_231.php

This page is intentionally blank.

APPENDIX B-6-4: CENTRAL COAST

INTRODUCTION

The Central Coast Region in Caltrans District 5 covers the five counties of Monterey, San Benito, San Luis Obispo, Santa Barbara, and Santa Cruz. From 2000 to 2010, the population of this region grew by nearly 70,000 people to approximately 1.4 million – about 5.1 percent. Santa Barbara and Monterey Counties are the area's largest economic engines at about $17.7 billion and $16.0 billion, respectively. The entire region's gross regional product (GRP) was nearly $54 billion in 2009.

The region is expected to continue to grow in population and be economically productive. With this anticipated growth, along with commensurate freight demand, it is important for Central Coast policy-makers and agency planners to be responsive and to proactively address regional transportation challenges that will result from this activity.

IMPORTANCE OF GOODS MOVEMENT AND ECONOMIC BENEFITS

The Central Coast region's key freight-dependent industries of agriculture, manufacturing, and truck transportation/warehousing are critical in terms of jobs and contribution to the regional economy. They also are critical to one another. Without a strong agricultural crop, it would be difficult for regional truckers and food processors to make a living. Without local carriers to move goods, it may become more expensive to ship goods from the region to outside producers, making the region's products less competitive. California is the nation's most productive agriculture state and it produces nearly one-half of U.S. grown fruits, nuts, and vegetables. Each county in this region ranks within the top half of all California counties in gross value of agricultural production – in 2012 Monterey ranked 4.

Regional Overview

Counties	Distinguishing Characteristics
Monterey	Agriculture and tourism are the key industries for Monterey County. The County is known as "the salad bowl of the world" due to the volume of lettuce grown there. It also is home to a thriving wine industry. In fact, much of the tourism in Monterey County is driven by agriculture as visitors come from all over to experience the wine country and coastal regions. Cut flowers also are grown and exported from the County. Other key industries include retail and wholesale trade, food manufacturing, warehousing (including agricultural coolers), health care, and accommodation and food services.
San Benito	Located directly to the east of Monterey County, San Benito County is also highly dependent on agriculture and farming. The County retains significant activity in retail trade, wholesale trade, manufacturing (especially food manufacturing), and construction. Manufacturing is the largest freight-dependent industry in the County by both employment and earnings. Most of this activity is concentrated in food manufacturing and various durable goods manufacturing activities.
San Luis Obispo	Key freight-dependent industries in the County include retail trade, construction, manufacturing, farming and farm support activities, and utilities. Manufacturing activity is diverse in the County and includes machinery, metal products, beverage and tobacco products (mainly wine), and electrical equipment. The northern portion of the County benefits from the Napa Valley-San Luis Obispo County wine trade. Grapes produced in Paso Robles are frequently sold to Napa Valley winemakers. Agricultural tourism – including wine tastings, golf, resort and spin-off activities – is a key growth industry for the region. Olive growing and olive oil production is another growth sector for the economy. The County also imports large quantities of sand and gravel for the local construction industry.
Santa Barbara	Santa Barbara County has the largest population in the Central Coast region at nearly 424,000 people in 2010. The top goods movement-dependent industries by employment include retail trade, and manufacturing. Agriculture is also an important activity, especially in the North County area from Buellton to Santa Maria. Farms employ more than 9,000 people in the County. Fruits and vegetables are produced in the Santa Maria Valley, wine in Santa Ynez and other locales, and flowers in Lompoc Valley. Although manufacturing employs fewer people than retail trade, it is the largest freight-dependent industry by earnings in the County. Manufacturing in the County revolves around computers and electronics, miscellaneous manufacturing, beverage and tobacco products, and chemicals. Vandenberg Air Force Base is a key driver of the local economy, supporting a thriving aerospace and high-technology cluster. Construction in the area has begun to rebound and is also a key seasonal industry.
Santa Cruz	The top four freight-dependent industries in Santa Cruz County are retail trade, construction, manufacturing, and farming. There are numerous agricultural cooler and packing facilities for agricultural products in and around Watsonville, which has substantial freight traffic in farm products. Granite Rock operates a quarry in Santa Cruz and ships large quantities of sand by truck. There is also logging in the County.

Goods Movement Gateways, Corridors, Hubs, and Flows

Trucking

Central Coast North-South Routes

- SR 1, SR9, SR17, SR25, SR33, SR135, SR154, SR183, SR217, SR229
  US 101 is the primary goods movement route and corridor in the Central Coast region.

Central Coast East-West Routes

- SR68, SR129, SR146, , SR198, SR236, SR246
  SR41, SR46, SR152, SR156, SR166 are the primary East-West goods movement routes in the region and to the Central Valley.

Trucking Issues

- There is minimal truck parking available along most of the US 101 corridor and routes east and west. Illegal truck parking is mostly not enforced by the California Highway Patrol and local law enforcement. Two truck parking facilities are being examined in western Santa Barbara County and just south of Salinas. Caltrans District 5 continues to meet with local trucking firms and freight organizations to seek solutions.
- Most of the key truck routes in the region are designated as being part of the National Truck Network or the Surface Transportation Assistance Act (STAA) network.
- The 2012 *Central Coast California Commercial Flows Study* details various trucking and route related issues in Chapter 5, Table 5.1.
- Caltrans Office of Traffic Engineering (http://www.dot.ca.gov/hq/traffops/engineering/trucks/) provides information on truck routes, truck stops, roadside rest areas, truck traffic data, weigh in motion, truck scales and other topics pertaining to truck and commercial vehicle operations.

Central Coast Warehousing and Distribution Centers

In the Central Coast Region most agricultural products are grown, processed and packaged by a large number of individual growers and individual facilities. The industry is highly regulated from an environmental and health standpoint and the organizations involved are actively involved in quality control to address those requirements. Consequently there are relatively no large, centralized centers that process produce in the region for growers; however below are a few areas of freight concentration.

- Santa Maria, Santa Barbara County: Industrial commercial areas of Blosser and Betteravia Roads; products arrive from the farms or is manufactured and uses either SR 166 or Betteravia Road to access US 101. Betteravia Industrial Park has many agricultural, lumber, energy and other industry clients.
  http://www.smvrr.com/bip.html
  http://www.smvrr.com/misc/smvrr-system-map.pdf
- Salinas, Monterey County: Distribution occurs from farms, greenhouses and various manufacturing. Firestone Business Park is one of the largest, non agricultural specific distribution centers in the region.
  http://www.showcase.com/property/340-El-Camino-Real-South/Salinas/California/1593904
- Watsonville, Santa Cruz County: Distribution shares geography with manufacturing and agricultural processing and dominates south Watsonville largely concentrating along SR 129 and SR 1.

Freight Rail

The Union Pacific Railroad (UP) is the only Class I carrier in the region. The Coast and Santa Barbara Subdivisions run from the north end of the region to the south. There are various industrial rail leads

which serve areas such as Santa Cruz, Hollister, Lompoc, White Hills, and Montalvo. This route primarily serves the regions agricultural and manufacturing industries. Lumber and fertilizer is also moved over this route.

- In this region all of the freight moved is of a mixed carload variety, no intermodal freight is moved over this route by the UP.
- Two primary short line railroads interface with the UP to move freight in the area including the ***Santa Maria Valley Railroad*** and ***Sierra Northern Railroad***. Primary commodities moved include: lumber, coal, frozen foods, construction materials, fertilizer, steel, machinery, and other goods. The Santa Maria Valley Railroad serves the Betteravia Industrial Park and interfaces with the UP.
- The Association of Monterey Bay Area Governments (AMBAG) is studying the feasibility of constructing an intermodal facility in the Salinas region that would move freight between Monterey County and the rest of the U. S. by rail. Agricultural and other products would be moved from the facility. This facility would shift most of the 2,500 trucks per day that currently leave the area to rail greatly reducing roadway wear, improving safety, and reducing truck emissions. Rail service would also be less costly than trucking.
- It is estimated that the site would be 150 to 200 acres near the city of Chualar on US 101 just south of Salinas.

System Performance and Freight Infrastructure Needs

- Truck congestion throughout the region is the number one issue on all goods movement routes. Improvements and key issues relating to various routes are discussed in detail in Chapter 5 of the Central Coast study in tables 5.1, 5.2, and 5.3 by county. These tables also indicate where there are gaps in the system, freight bottlenecks, and system performance challenges.
- Aging infrastructure is also frequently mentioned as another area of concern throughout the region. On many of the goods movement route interchanges, roadways and other highway structures, and geometry are outdated.
- East to West connectivity to the Central Valley is also an issue due to the topography of region being extremely mountainous in places.
- In terms of relationships between goods movement and land use, including warehouse districts and effects on communities, the region is typical of many agriculture based economies.
- Crops are served primarily by trucks which deliver materials for growing the crops and then pick up the harvested crops. Truck vehicle miles traveled in agricultural communities such as this are typically very high.
- A key driver of population in the region is the external demand for shipments of agricultural products that other regions of the State and nation consume.
- Montery County in the Central Coast region supplies 80 percent of the nation's lettuces and nearly the same percentage of artichokes. Broccoli, cauliflower, spinach, strawberries, peppers, squash, carrots, asparagus, celery, tomatoes, mushrooms, brussel sprouts, garlic, onions and flowers are also grown in abundance.
- In addition, Monterey County has become one of the largest premium grape growing regions in California, with over 40,000 acres of wine grapes. The Salinas Valley is the State and national leader in agricultural exports.

Regional Transportation Planning

Regional transportation planning agencies in the Central Coast Region include:

Association of Monterey Bay Area Governments (AMBAG)
http://www.ambag.org/
Council of San Benito county Governments (SBCOG)

http://www.sanbenitocog.org/
Santa Barbara County Association of Governments (SBCAG)
http://www.sbcag.org/
San Luis Obispo Council of Governments (SLOCOG)
http://www.slocog.org/
Santa Cruz County Regional Transportation Commission (SCCRTC)
http://sccrtc.org/
Transportation Agency for Monterey County (TAMC).
http://www.tamcmonterey.org/

- Within these planning organizations are freight related groups including the US 101 Central Coast Coalition, Freight Action Strategy Taskforce (FAST).
  http://www.centralcoastcoalition.com/about-US101.htm

  AMBAG in association with the other Central Coast planning organizations completed the *Central Coast California Commercial Flows Study* in February 2012 which was prepared by Cambridge Systematics. Also, due to a severe shortage of truck parking space on US 101 in the Central Coast region there is currently ongoing discussion about another study which will focus on this specific issue. Discussion of freight and goods movement is also included briefly, but not a primary focus in Central Coast regional transportation plans (RTPs), overall work programs (OWPs), and other primarily planning and environmental documents. Caltrans headquarters and district staff works with these organizations providing technical review, analysis and input.
  http://www.dot.ca.gov/dist05/planning/pdf/CentralCoastFreightFlowsStudyFinalReport.pdf

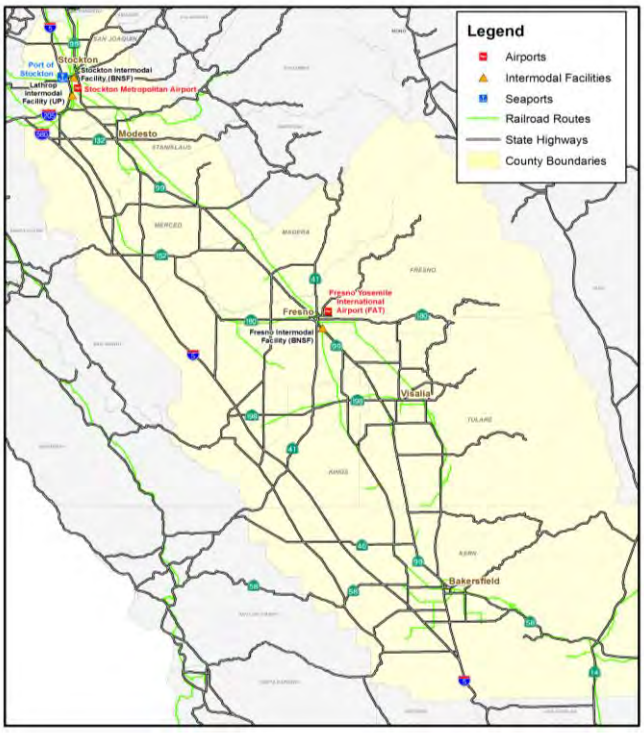
Resources and Additional Information

California Agricultural Statistics Review:
http://www.cdfa.ca.gov/Statistics/PDFs/2013/CountyStatisticalData.pdf
Caltrans District 5: http://www.dot.ca.gov/dist05/
Caltrans Office of Freight Planning: http://www.dot.ca.gov/hq/tpp/offices/ogm/index.html
California State Rail Plan: http://californiastaterailplan.dot.ca.gov/
Union Pacific (UP): http://www.up.com/
BNSF Railway: http://www.bnsf.com/

This page is intentionally blank.

APPENDIX B-6-5: SAN JOAQUIN VALLEY

INTRODUCTION



The San Joaquin Valley (SJV) goods movement region encompasses eight counties - Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, and Sutter. It also includes all of Caltrans Districts 6 and 10. The area includes 62 cities of which Fresno, Bakersfield, Modesto and Stockton have populations over 200,000. According to the recently completed San Joaquin Valley Goods Movement Plan (a major reference source for most of this document). A SJV region population is over 4 million and is anticipated to grow to 6.05 million by 2040. It is California's fastest growing region.

The SJV region is effectively served by all major California seaports, although only the Port of Stockton is actually within the region itself. The Ports of Oakland, West Sacramento, Los Angeles, Long Beach, and others are linked to SJV origins and destinations by truck. The Port of Stockton is primarily a bulk commodity port and has two sections: the East Complex (the original Port of Stockton property) and the West Complex (the former Naval base on Rough and Ready Island). Both complexes are home to numerous non-maritime businesses on port property as well as to maritime shippers, receivers, and handling facilities. Both complexes have extensive rail trackage operated by the California Central Traction, with connections to Union Pacific and BNSF Railway.

The Port of Stockton is one of three ports to be connected by the Marine Highway, a container-on-barge service that links the Port of Oakland, Port of Stockton and Port of West Sacramento. The first phase was completed and began operation in 2013 with barge service between the Port of Stockton and the Port of Oakland. Currently the service has been halted but is anticipated to return in 2015. The Port of West Sacramento will become part of the service at a later date. Among these public benefits are reduced miles of truck travel on congested regional highways; less wear-and-tear on highways and bridges by removing heavy and overweight loads; lower fuel consumption by shipping goods via barge rather than via exclusive truck movements; reduced GHG production and improved air quality by reducing diesel emissions from trucks; and improved public safety by reducing truck traffic.

The area is also served by numerous short line railroads and by the Union Pacific Railroad (UP) and BNSF Railway class I [1]railroads within the region, and to points east such as Chicago, Kansas City, Saint Louis, Omaha, Memphis, New Orleans, Dallas, Fort Worth, and New York. The primary freight rail routes that

[1] The seven Class I freight railroads in the U.S. are BNSF Railway, CSX Transportation, Grand Trunk Corporation, Kansas City Southern Railway, Norfolk Southern Combined Railroad Subsidiaries, Soo Line Railroad, and Union Pacific Railroad. Class I railroads have operating revenues of $432.2 million or more. Federal Railroad Administration, https://www.fra.dot.gov/Page/P0362

serve the region are the Tehachapi and Transcontinental (Transcon) routes. There are numerous rail yards, and rail served warehousing and distribution facilities in the region located in and around Bakersfield, Fresno and Stockton.

The highway and local road system is the primary freight infrastructure for the region, and trucking is the dominant freight mode. Truck movements are centered on the main north-south arteries, including I-5 and SR 99, as well as numerous east-west corridors such as SR 58, SR 108, SR 120, SR 180, I-580 to 205, SR 152, SR 46, and SR 198. There are over 31,420 roadway miles in the SJV consisting of interstate highways, such as I-5 and I-580; state highways, including SR 99 and SR 58; and major county roadways. Due in large part to the SVJ's north-south orientation, the key regional highways are the north-south corridors, I-5, and SR 99. In addition to its role as an interregional connection for SJV shippers, I-5 also carries large volumes of through traffic connecting most of the major population centers and markets on the West Coast. The Valley's urban centers are located predominantly on SR 99.

Importance of Goods Movements and Economic Benefits

The Central Valley has a diverse internal economy and plays a major role in the distribution of agricultural products, processed food, and energy products throughout California, the Nation, and the world. A number of companies have located large regional and national distribution centers in the Central Valley in the Valley to take advantage of its relatively inexpensive land and low labor costs, good access to the national rail and interstate highway networks, connections to major deepwater ports such as Oakland, Los Angeles and Long Beach and its closeness to major consumer markets in Southern California and the San Francisco Bay Area. It is also home to a burgeoning logistics and distribution industry. It is California's fastest growing region.

Region Overview

Counties	Distinguishing Characteristics
Kern	County is a major producer of grapes, milk, vegetables, almonds, and pistachios. Major goods movement industries include: Oil Services, Fruit and Vegetable Farming, Mineral Extraction, and Logistics. Such companies as Chevron Corporation, Giumarra Farms, Sears Logistics SVC, and U.S. Borax operate in the county.
Kings	Kings county is a major producer of milk, cotton, cattle and calves, tomato products, and pistachios. County goods movement industries include: Meat and Poultry Farming and Processing, Fruit and Nuts, and Produce Exporting. Companies such as Central Valley Meat Co., Del Monte Foods, Nichols Farms, Leprino Foods, J.G. Boswell Co operate in the county.
Tulare	Tulare county is a major producer of milk, oranges, grapes, cattle and calves, and corn. County goods movement industries include: Canning and Other Food Processing, Fruit and Vegetable Farming, Ranching, Warehousing and Distribution. Companies operating in the county include: Enns Packing Co., Sun Pacific Ranches, and Walmart Distribution Center.
Fresno	County is a major producer of grapes, tomatoes, poultry, almonds, cattle and calves. Goods movement industries include: Meat and Poultry Farming and Processing, Fruit and Nuts, and Produce Exporting. Companies such as Cargill Meat Solutions, Foster Farms, and Sun-Maid Growers operate in the region.

COUNTIES	DISTINGUISHING CHARACTERISTICS
Madera	Major producer of grapes, almonds, milk, pistachios, cattle and calves. Goods Movement industries include: Food Processing, Trucking and Distribution, and Manufacturing. Companies operating in the county include: Lamanuzzi and Pantealeo Cold Storage, Panella Trucking L.L.C and Georgia Pacific Corp. Madera.
Merced	Major producer of milk, chickens, almonds, cattle and calves, and sweet potatoes. Goods Movement industries include: Meat and Poultry Farming and Processing, Fruit and Vegetable Farming, and Food Processing. Local companies include: Bianchi and Sons Packing Co., Foster Farms, Hilmar Cheese Co.
Stanislaus	Major producer of milk, almonds, chickens, cattle and calves, and tomatoes. Goods Movement industries include: Wineries, Canning and Other Food Processing, and Vineyards. Companies operating in the area include: Carlo Rossi Winery, Conagra Foods, Del Monte Foods.
San Joaquin	Major producer of grapes, milk, cherries, tomatoes, walnuts. Goods Movement industries include: Ranching, Food Processing, Fruit and Vegetable Farming, and represent companies such as B&B Ranch, Pacific Coast Producers, Morada Produce Co.

REGIONAL TRANSPORTATION PLANNING

The Central Valley region is home to many MPO and regional transportation planning agencies. The San Joaquin Valley Regional Transportation Planning Agencies (RTPAs) include: the Council of Fresno County Governments, Kern Council of Governments (COG), Kings County Association of Governments, Madera County Transportation Commission, Merced County Association of Governments, San Joaquin Council of Governments, Stanislaus Council of Governments and Tulare County Association of Governments.

Within these planning organizations are many freight related groups including: San Joaquin COG Goods Movement Task Force and Fresno COG Rail Committee.

There have been numerous goods movement and multi modal freight related studies within the region and for the various planning organizations.

CENTRAL VALLEY GOODS MOVEMENT GATEWAYS, CORRIDORS, HUBS, AND FLOWS

TRUCKING

Primary Central Valley North-South Routes

- Interstate 5 (a "Corridor of the Future" [1])
- SR 99/70/149 (a "Focus Route" [2] and "Farm to Market" [3] corridor)
- I-580, SR-41

Primary Central Valley East-West Routes

- Interstate 80 (part of a national freight corridor targeted for multi-state operations coordination efforts)
- US 50, I-205
- SR 4, SR 12, SR 26, SR-46, SR-58, SR 104,

- SR 108, SR 120, SR 132, SR 140,
- SR-152, SR-180, SR-198, SR 219

Trucking Issues

- Corridors with elevated freight volumes, such as I-5 and I-80, have high truck pavement damage impacts.
- Arch Road at SR 99 and Airport Way at Roth Road in Stockton are key truck access routes to freight rail intermodal facilities at the BNSF Mariposa and UP Lathrop Intermodal yards.
- STAA Access and STAA route signage issues continue to be a very significant issue in the Valley Illegal Truck Parking due to a lack of truck parking facilities in the Valley is also a significant issue.
- Because a truck parking shortage exists, Caltrans works to accommodate parking through ramp and intersection design and advocacy with local partners.
- Trucking issues would be exacerbated by acceptance of other states longer STAA truck lengths and higher axle weights.

CENTRAL VALLEY WAREHOUSING AND DISTRIBUTION CENTERS

- *North Pointe Master Planned Business Park* - Industrial and logistics facilities designed to serve the California Central Valley and the western United States.
  http://www.northpointebusinesspark.com/

- *International Trade and Transportation Center* (ITTC) - ITTC is a 700-acre rail-served logistics park located in Shafter, California. ITTC has direct rail access with Union Pacific and BNSF Railway's mainlines and easy access to I-5 and SR 99. http://www.ittc.com/

- *Tejon Ranch Industrial (TRI) Complex* - A master planned development located at the heart of California's north-south connection, Interstate 5 and Highway 99, comprised of 1,450 acres. TRI provides outbound capabilities able to serve California and 11 western states within 24 hours. Currently it is served by trucks only but is investigating rail service and initiating contact with both UP and BNSF to discuss.
  http://www.tejonranch.com/tic/index.asp

- *San Joaquin Partnership* - The San Joaquin Partnership is a non-profit, private-public economic development corporation assisting business and industry to locate into San Joaquin County, California, including the Cities of Escalon, Lathrop, Lodi, Manteca, Ripon, Stockton and Tracy.
  http://www.sjpnet.org

Freight Rail

- Railroad freight service is integral to the development of agriculture and commerce in SJV.

- Unlike truck traffic, nearly all SJV rail traffic moves to or from other states. Carload rail service in the SJV is dominated (about 75 percent of the total tonnage) by inbound flows, reflecting the region's consumption of agricultural inputs (e.g., grain and animal feed for the livestock industry, fertilizers and chemicals for farming); heavy bulky materials (e.g., coal and petroleum products, wood products); and semi-finished goods.

- All intraregional rail traffic is carload. The intermodal traffic is slightly imbalanced in the outbound direction.

- UP is the primary Class I railroad in the area, with BNSF Railway having major trackage rights, particularly over the Tehachapi Route where they move 70% of the rail volume.

- UP and BNSF both have lines that run north and south through Caltrans District 6 and connect to the Port of Oakland with points east and west towards Chicago, Kansas City, SJV shippers.

- UP Lathrop and BNSF Mariposa are key intermodal freight rail facilities. Rail lines through the SJV connect with mainline trackage in the LA Basin to the south and mainlines to the north.

- Various shortline freight railroads interface with the Class I railroads to move commodities, agricultural products, and other freight throughout the Central Valley, the State, and the U.S. They are: California Northern Railroad, Central California Traction Company, Modesto and Empire Traction Company, Stockton Terminal and Eastern Railroad, San Joaquin Valley Railroad (SJVR), Sierra Northern Railway, West Isle Line (WFS), and Tulare Valley Railroad (TVRR). All interface with the Class I railroads to move Central Valley freight and agricultural goods throughout the State, U. S., and to Far East markets.
  http://www.gwrr.com/about_us

Positive Train Control (PTC)

- The Rail Safety Improvement Act of 2008 (RSIA), signed by the President Obama on October 16, 2008, as Public Law 110-432, has mandated the widespread installation of PTC systems by December 2015. The railroads are currently seeking an extension of the deadline into 2016. All of the affected railroads are pursuing development of the PTC implementation plans required by the RSIA and are adapting their individual PTC systems to maximize interoperability. The BNSF Railway, UP, Norfolk Southern Railway, and CSX Transportation are leading the interoperability effort for technologies based on the Electronic Train Management System .

Seaports

Port of Stockton

- Situated between three major highways and I-5. Also has shortline and class I freight rail service and is served by the Stockton Regional Airport. Port can provide domestic, national and international distribution of imports and exports.
- On the San Joaquin River, approximately 75 miles east of San Francisco and can berth 17 vessels.
- Approximately 60 tenants on leased land construct and operate their own facilities. Tenant and Port operations handle liquid bulk, dry bulk, and warehouse/distribution activities.
- Part of the "Marine Highway" Project (with the ports of Oakland and West Sacramento)—a federal Transportation Investment Generating Economic Recovery (TIGER) grant.
  http://www.portofstockton.com/

Port Issues

- Major infrastructure improvements are needed to become more competitive.
- Currently, the United States Corps of Engineers is studying the deepening of the Stockton ship channel from 35 feet deep to 40 feet deep.

AIRPORTS

- Airports in the SJV collectively account for less than 1 percent of all air cargo handled by California's civilian airports. Products moved by air continue to use airports outside of the SJV. Airports in the SJV collectively account for less than 1 percent of all air cargo handled by

California's civilian airports. However, on a tonnage basis, the leading exports from Los Angeles International and San Francisco International are agricultural commodities, substantial shares of which were grown in the SJV.

- According to foreign trade statistics published by the U.S. Commerce Department, California shipped just over $1 billion in agricultural exports by air in 2011, a 27% increase over the preceding year. Due to the lack of direct flights linking SJV airports with overseas markets, virtually all of these airborne exports must first be trucked to LAX or SFO.

AIR CARGO AIRPORTS

- *Fresno Yosemite International Airport*
  Cargo carriers include Airborne Express, FedEx, and United Parcel Service.
  http://www.fresno.gov/DiscoverFresno/Airports/AirlineServiceandAirCargoInformation.htm
- *Stockton Metropolitan Airport*
  Located between the two primary north-south routes in the region, Interstate 5 and State Highway 99. Currently, the airport is underused due to the economic downturn.
  http://www.sjgov.org/airport/

SYSTEM PERFORMANCE AND FREIGHT INFRASTRUCTURE NEEDS

- Freight transportation in the Central Valley is influenced by the agricultural sector. While there is growth projected for all major goods movement industries, agriculture and farming have experience rising crop values over the past 10 years of nearly 30 percent.
- Agriculture, mining and manufactured goods account for over 87% of all commodities; inbound, outbound or locally.
- Other industries such as warehousing and distribution in the goods movement transportation system will continue to expand and will serve higher margin agricultural products. Agricultural growth is expected to level off around 2040 with a 1 percent growth rate per year for the next 30 years.
- The SJV is experiencing the demands of the modern global logistics system across a range of goods, from raw agricultural materials to consumer products. The Nation's food supply will continue to require effective goods movement to distribute and export products quickly and efficiently.
- The rise in globalization has caused supply chains to lengthen, disperse, and become more complex as producers look to gain competitive advantage by accessing lower labor costs in locations outside of the U. S.
- In 2007 over 85% of all tonnage in the Central Valley moved by truck. Rail movements are almost exclusively outbound, inbound or through the region. Distances within the region are too short for cost effective rail service.

ENVIRONMENT

- The SJV is classified by the Environmental Protection Agency (EPA) as in serious nonattainment for particulate matter 2.5 (PM2.5) and extreme nonattainment for Ozone. In order to help mitigate these issues, regulations from state and Federal agencies have been implemented to reduce emissions. The main Truck and Bus regulation from the California Air Resources Board became effective (along with amendments) on December 14, 2011; and requires the upgrading of diesel trucks and buses in the State to include PM filters by 2012.[21] Throughout the regulatory process, stakeholders reported uncertainty about how the regulation would be implemented,

who it would affect, and how the regulation would impact business for goods movement industries in the SJV.

- The regulation described previously requires the retrofitting trucks with exhaust filters to capture pollutants (particularly diesel particulate matter) before they are emitted. There are incentives programs through the State to help users with the financial costs associated with these retrofit programs; however, some stakeholder participants have reported that the funding behind these programs has not always been available.

The University of California, Davis report *Land of Risk Land of Opportunity* (November 2011) identified the following environmental conditions in the San Joaquin Valley:

- Nearly one-third of the nearly four million people in the region face both high degrees of environmental risks (for example, toxic air and water pollutants) and high degrees of social vulnerability (poverty, low levels of formal education, and low English literacy). Other research has shown that such social vulnerability increases susceptibility to environmental hazards and increases risks of health problems.
- There are many more environmental hazards identified by area residents than are documented in state and federal regulatory inventories.
- The combined conditions of environmental hazards and social vulnerability are not randomly distributed across the region but are concentrated in a range of urban and rural communities.
- These areas of high environmental vulnerability deserve special attention from regulators and policy makers to protect the health and well-being of area residents.

As a result of air pollution generated by stationary agricultural and industrial sources coupled with the automobiles and diesel trucks that stream through the region's highways, residents of the San Joaquin Valley suffer from high rates of asthma and other respiratory ailments. Madera, Fresno, and Kings Counties for example, have rates approximately twice that of the state as a whole for asthma-related emergency room visits by young children (ages 0-4).

The combination of high social vulnerability and environmental hazards such as drinking water contamination is not an isolated phenomenon, but is found in a large number of communities in the region. A recent study of San Joaquin Valley water systems found 10 community water systems with high levels of nitrate contamination and another 24 communities with medium levels of contamination (above the safety standard).

Resources

Highway 99 Updated Business Plan, Volume 1, September 2009, prepared by Caltrans District 6 and 10
http://www.sjvcogs.org/pdfs/2009/99bp1.pdf

Highway 99 Business Plan, Volume II, September 2009, prepared by Caltrans District 6 and 10
http://www.sjvcogs.org/pdfs/2009/99bp2.pdf

Land of Risk, Land of Opportunity, Cumulative Environmental Vulnerabilities in California's San Joaquin Valley, University of C California – Davis, Center for Regional Change, November 2011
http://regionalchange.ucdavis.edu/ourwork/publications/ceva-sjv/full-report-land-of-risk-land-of-opportunity

San Joaquin Valley Interregional Goods Movement Plan, Cambridge Systematics, Incorporated, prepared for San Joaquin Valley Regional Transportation Agencies, January 2012
HTTP://WWW.SJVCOGS.ORG/PDFS/2012/GOODSEC011212.PDF

This page is intentionally blank.

APPENDIX B-6-6: LOS ANGELES BASIN

INTRODUCTION

The "Southern California Region" is defined as the area covered by the counties of Los Angeles, Orange, Riverside, San Bernardino, and Ventura. The region is located south of the Central Coast and the San Joaquin Valley/Sierra regions and north of the San Diego/Border Region. In the Caltrans organization, the Southern California Region corresponds to districts 7, 8, and 12.

Southern California Region Counties by Caltrans District

District	Counties
7	Los Angeles, Ventura
8	San Bernardino, Riverside
12	Orange

The Southern California Region extends from the Pacific Ocean and the Los Angeles Metropolitan Area across the state to the "Inland Empire" – i.e., the area directly east of Los Angeles, including the Riverside-San Bernardino-Ontario Metropolitan Area – and the state border with the states of Nevada and Arizona. It is a highly diverse area in terms of geography, population distribution, and land use. On the Pacific Coast, greater Los Angeles is the largest, most densely populated metropolitan area in the state; on the east side, the Mojave Desert area is one of the least inhabited.

In total, the region covers approximately 33,955 square miles and has a total population (2010) of 17,877,006. With about 22 percent of the total California land area, the Southern California Region is home to approximately 48 percent of the state's total population. The population is ethnically diverse and growing. As shown in the following table, the population density is much greater in Los Angeles and Orange counties than elsewhere in the region.

Southern California Region Population Distribution by County (2010)[1]

County	Population		Land Area		Persons per sq. mi.
	Number	% of region	Sq. mi.	% of region	
Los Angeles	9,958,091	54%	4,057.88	12%	2,455
Orange	3,081,804	17%	790.57	2%	3,898
Riverside	2,255,059	12%	7,206.48	21%	312
San Bernardino	2,076,274	12%	20,056.94	59%	103
Ventura	835,436	5%	1,843.13	5%	453
Region Total	18,208,677	100.00%	33,955.00	100%	540

The Southern California Region is a major gateway for international, national, state, and regional trade. Goods movement and freight transportation are essential to support the Southern California Region's economy. In 2010, over 1.15 billion tons of cargo valued at almost $2 trillion moved across the region's system.[2] According to *On the Move: Southern California Delivers the Goods*, "goods movement-dependent industries employed over 2.9 million people in Southern California."[3] Particularly important to regional freight movement are the ports of Los Angeles and Long Beach,

[1] California Department of Finance, Cities, Counties and the State Population Estimates with Annual Percentage Change – January1, 2012 and 2013. http://www.dof.ca.gov/research/demographic/reports/estimates/e-1/view.php. *Retrieved 04/22/14.*

[2] Southern California Association of Governments (SCAG) 2011: 2012 Regional Transportation Plan

[3] Ibid.

collectively known as the Ports of San Pedro Bay, the largest container port complex in North America. The two ports combined move more than $350 billion worth of goods and materials annually and sustain hundreds of thousands of jobs in Southern California.

The region also has one of the busiest freight rail systems in the country, with long-haul mainlines connecting the ports to the rest of the country via the Midwest and South rail lines. The air cargo system in the region is the busiest in the State and the second busiest in the United States (U.S.). The region hosts one of the largest clusters of logistics activity in North America, including warehouses and distribution facilities.[4]

Many active or former military installations are also located in the Southern California Region, including Naval Base Ventura County, Edwards Air Force Base, the Los Angeles Air Force Base, Twentynine Palms Marine Corps Air Ground Combat Center, Fort Irwin National Training Center, and the China Lake Naval Weapons Center.

Regional Transportation Planning

In terms of regional transportation planning, the five counties of the Southern California Region are represented by Southern California Association of Governments (SCAG), the nation's largest Metropolitan Planning Organization (MPO), representing 191 cities and 18 million residents. The six-county SCAG region also includes Imperial County (included in these Regional Summaries as part of the California-Mexico Border Region, Caltrans District 11). Within the SCAG region are six Transportation Commissions (five of which are in the Southern California Region), which provide transportation planning services at the county level, as identified below:

Southern California Regional Planning Agencies

- Southern California Association of Governments (SCAG)
- Los Angeles County Metropolitan Transportation Authority (LA Metro)
- Ventura County Transportation Commission (VCTC)
- Riverside County Transportation Commission (RCTC)
- San Bernardino Associated Governments (SANBAG)
- Orange County Transportation Authority (OCTA)

* Imperial County Transportation Commission is also in the SCAG region, but not covered in this Summary.

Air quality regulatory compliance rules in the Southern California Region are administered in four air basins by four air quality districts. The greater Los Angeles metropolitan area is in the South Coast Air Basin, which includes portions of Los Angeles, San Bernardino, Riverside, and Orange counties. While ambient levels of air pollutants in Southern California are improving, the region continues to have the worst air quality in the nation. Air pollution contributes to thousands of premature deaths every year, as well as other serious adverse health conditions. The South Coast Air Quality Management District (AQMD) estimates the monetary cost of air pollution in Southern California to be at least $14.6 billion annually.[5]

Southern California Regional Air Quality Management Districts

Air Basin	Districts	Counties
South Central Coast Air Basin	7	Ventura, Los Angeles
South Coast Air Basin	7, 8, 12	Los Angeles, San Bernardino, Riverside, Orange
Mojave Desert Air Basin	8	San Bernardino, Los Angeles, Riverside
Salton Sea Air Basin	8	Riverside

Transportation planning in the Southern California Region has been, and continues to be, an ongoing, cooperative effort of many state, regional, and local agencies, as well as special districts and authorities. Freight transportation is typically

[4] Ibid.
[5] Ibid.

a component of comprehensive transportation plans, as well as the subject of many technical studies by government and academia. Transportation planning documents are required by state and federal laws; many additional planning reports and studies are conducted by federal, state, and regional agencies, air management districts, the major seaports, and other organizations.

Goods Movement Gateways, Corridors, Hubs, and Flows

Goods movement in Southern California is a large-scale, complex, decentralized network of systems with interconnected infrastructure components, involving many entities in the public and private sectors. This infrastructure and logistics framework serves international, national, and regional markets, moving goods by ship, rail, truck, and airplane from manufacturers and suppliers to destinations and consumers in California and across the country. Where and how freight moves in the region is subject to many factors in terms of the transportation infrastructure, supply and demand, and countless decisions made daily by suppliers, shippers, carriers, and consumers.

Major System Components

The major components of the Southern California Region goods movement systems consist of the following major elements.

Highways and Other Roads

In total for all highways, state routes, and other public roadways, the Southern California Region contains about 50,114 total road miles, most of which are the responsibility of the cities and counties. Road miles by functional classification by county are presented below. Major truck routes in the region are presented by Caltrans district and county in the table labeled "Major Freight Roadways in the Southern California Region by District and County."

Road Miles by Functional Classification by County (2010)

County	Interstate	Principal Arterial Other Freeways & Expressways	Principal Arterial Other	Minor Arterial	Major Collector	Minor Collector	Local	Total
Los Angeles	316.67	192.73	1,995.28	2,837.17	2,783.85	442.51	13,178.38	21,746.59
Orange	69.77	133.42	713.89	688.82	393.00		4,572.75	6,571.65
Riverside	244.81	50.79	300.94	948.25	1,345.09	135.90	5,178.69	8,204.47
San Bernardino	400.59	43.59	560.23	1,397.90	1,858.67	148.55	6,101.31	10,510.84
Ventura		73.13	236.51	334.31	348.91	35.20	2,052.88	3,080.94
Total	1,031.84	493.66	3,806.85	6,206.45	6,729.52	762.16	31,084.01	50,114.49

Source: Caltrans; Division of Transportation System Information: 2010 California Public Road Data – Statistical Information derived from the Highway Performance Monitoring System

Major Freight Roadways in the Southern California Region by District and County

District	County	Highways
7	Los Angeles Ventura	Interstates: 5, 10, 105, 110, 210, 405, 605, 710 State Routes: 47, 57, 60, 91, 170 U.S. Highways: 101
8	San Bernardino Riverside	Interstates: 10, 15, 40, 215 State Routes: 58, 60, 86, 91, 210 U.S. Highways: 395
12	Orange	Interstates: 5, 405 State Routes: 55, 57, 73, 90, 91, 133, 241, 261

Several routes in the Southern California Region are designated under the Interregional Transportation Strategy Plan (ITSP) as "high-emphasis" routes or "focus routes." The High Emphasis category represents routes that have high interregional importance from a statewide perspective. This makes them a top priority to be programmed and constructed to at least the minimum facility standard. The Focus Routes, a subset of the High Emphasis routes, represent corridors that are of the highest priority for completion to at least minimum facility standards over the next 20 years.

High Emphasis Routes in the Southern California Region include Interstates 5, 10, 15, 40, 210, and 215; US Routes 95, 101, and 395; and State Routes 58 and 395. Of these, the Focus Routes are US 101 and 395, and State Routes 14, 58, and 86.

Southern California Region Interregional High Emphasis Routes and Focus Routes

County	High Emphasis & *Focus* Routes	District
Los Angeles	Interstates 5, 215 State Routes 138, ***14***	7
Ventura	US ***101*** State Route 126	7
Riverside	Interstate 10, 15, 215 US 95 State Route ***86***	8
San Bernardino	Interstates 15, 40, 215 US 95, ***395*** State Routes 18, ***58***	8
Orange	Interstate 5	12

In addition, some routes in the Southern California Region are designated as part of the federal Strategic Highway Network (STRAHNET). The STRAHNET – a nationwide system of highways within the National Highway System (NHS) that may be used to transport personnel and equipment in emergencies – was created and is administered by the U.S. Department of Defense. Highways and State Routes in the Southern California Region in the STRAHNET system include: Interstates 5, 10, 15, 110, 115, 210, 215, 405, 605, and 710; US 101 and 395; and State Routes 56, 62, and 91.

Sections of I-710, I-605, SR-60, and SR-91 carry the highest volumes of truck traffic in the region, averaging over 25,000 trucks per day in 2008. Other major components of the regional highway network that serve significant numbers of trucks include I-5, I-10, I-15, I-40, and I-210, with some sections carrying over 20,000 trucks per day. These highways carry local destination, domestic trade, as well as some longer haul international cargoes. The arterial roadway system also plays a critical role providing "last mile" connections to regional ports, manufacturing facilities, intermodal terminals and warehouses, and distribution centers.

Truck traffic in the region is generated by a variety of market segments, not just trade at the ports. In addition to port-related traffic, truck traffic in the region is associated with domestic warehousing and manufacturing, which includes both inter-regional and intra-regional traffic, and with local goods movement, construction, and service trucking.

Seaports

Three seaports are located in the Southern California Region: the Port of Los Angeles, Port of Long Beach, and the Port of Hueneme.

The ports of Los Angeles and Long Beach comprise the San Pedro Bay Port Complex, the principal international, water-trade gateway in California. In 2013, the ports ranked third ($40.9 trillion) and fifth ($39.5 trillion) by cargo valued, respectively, valued at over $80.4 billion. The two ports combined handle approximately 33 percent of all U.S.

containerized waterborne imports. Sixty percent of imports or more are shipped to destinations outside California.[6] Nationally, the ports support approximately 4.7 million jobs across the U.S.

The third port, the Port of Hueneme is located in Ventura County. Hueneme is the sixth largest port in California by cargo volume,[7] moving over $7 billion in cargo value each year and supporting approximately 4,500 jobs in Ventura County. [8] The Port of Hueneme specializes in automobiles, fresh fruit, and produce. It is one of the nation's busiest banana-importing ports and among the nation's top ten automobile-importing ports. Hueneme also serves as a major support facility for the Southern California offshore oil industry.

Air Cargo

The Southern California Region is a major hub of air cargo activity. Particularly significant is Los Angeles International Airport (LAX), which is the busiest air cargo airport in the State, with more than 1,000 cargo flights departing and arriving daily. LAX reported 1,773,073 tons of air cargo in 2012 of which 41% was domestic and 59% was international.[9] Approximately 79 percent of the region's air cargo is handled through LAX. More than 400 freight forwarders and over 100 customs house brokers are available in the vicinity of LAX.

Another busy airport is Ontario International Airport (ONT) in San Bernardino County, which reported 412,440 tons of air cargo in 2012 of which 92% was domestic and 8% was international.[10] Other regional airports with air cargo services in the region include Bob Hope (formerly Burbank) Airport, John Wayne Airport (Orange County), Long Beach, March Air Reserve Base, and Palm Springs International.

Relatively high-value commodities tend to go by air transportation and typically move in relatively small lot sizes. By weight, the top exported air commodities are vegetables, fruit, and nuts, comprising 15.1 percent of the total tonnage. Apparel is the top imported air cargo commodity, followed by computer equipment, audio and video media, and fish.[11]

In the past decade, regional growth in air cargo has been steadily declining, compared to the previous decade. Reasons for the decline include the economic recession and the increased diversion of domestic air cargo to electronic and ground transport modes.[12] The decline has affected domestic air cargo primarily; international air cargo is expected to continue to grow in the future.

Freight Rail

Two Class I railroads – Burlington Northern Santa Fe Railway (BNSF) and Union Pacific (UP) – operate in the Southern California Region. These two major freight lines carry international and domestic cargo to and from Southern California as part of an extensive, private, nationwide system of freight rail transportation. Both lines connect the region – and particularly the San Pedro Bay Ports – with markets in the Midwest, South, and the rest of the U.S. BNSF uses the Transcon Route out of California to points east and UP uses the Sunset Route to El Paso and Houston to points east. The rail system serving the Ports facilitates the transport of approximately 40 percent of the nation's container cargo from

---

[6] American Association of Port Authorities (AAPA), North American Container Traffic (1990-2010), cited in SCAG. 2012-2035 RTP: Goods Movement Supplemental Report.

[7] U.S. Army Corps of Engineers, Waterborne Commerce Statistics Center, cited by the American Association of Port Authorities: U.S. Port Ranking by Cargo Volume 2010 (Short Tons). http://aapa.files.cms-plus.com/Statistics/2010%20U.S.%20PORT%20RANKINGS%20BY%20CARGO%20TONNAGE.pdf.

[8] Port of Hueneme: http://www.portofhueneme.org/home.php

[9] California Air Cargo Groundside Need Study, July 2013, System Metrics Group Incorporated and Landrum and Brown, prepared for Caltrans, Division of Transportation Planning,http://www.dot.ca.gov/hq/tpp/offices/ogm/air_cargo.html

[10] Ibid.

[11] Caltrans; 2013. Freight Planning Fact Sheet for LAX.

[12] SCAG. 2012-2035 RTP: Aviation and Airport Ground Access Supplementary Report.

the Ports to inland destinations. [13] Currently, this intermodal cargo is transferred to and from the rail system through on dock, near-dock, and off-dock terminals, rail yards, and intermodal facilities.

BNSF operates on the Transcontinental (TRANSCON) Route; UP operates on the Sunset Route. Both railroads operate on the Alameda Corridor, a dedicated 20-mile rail corridor, completed in 2002, which connects the San Pedro Bay Ports to the Class I mainlines. The dedicated freight rail corridor is being extended east under the administration of the Alameda Corridor East (ACE) Construction Authority.

The ACE Project consists of multiple construction projects including safety upgrades and approximately 20 grade separations along the UP and BNSF lines in Los Angeles, Riverside, and San Bernardino counties. One project underway is the ACE San Gabriel Trench Project,[14] which will eliminate four at-grade rail crossings along a 2.2-mile segment of the UP line in the cities of Alhambra and San Gabriel, providing a grade-separated freight train corridor lowered in a trench. The ACE Project connects to the end of the Alameda Corridor at the Los Angeles Redondo Junction.

Short line railroads operating in the region provide short-haul and switching services. In the vicinity of the San Pedro Bay Ports is the Pacific Harbor Line, one of the shortest railroads in the nation, operating on 18 route miles entirely inside the ports. In the vicinity of the Port of Hueneme is the Ventura County Railroad, a short line subsidiary of Genesee and Wyoming, connecting UP and the port.

The freight rail lines operate in conjunction with intermodal terminals and rail yards, including on-dock rail terminals and several other major intermodal terminals (yards) operated by BNSF and UP. These yards, listed below, are critical to the movement of intermodal cargo.

Southern California Intermodal Terminals

Terminal	Railroad Company	Location	Description
Hobart Yard	BNSF	Los Angeles Intermodal Facility. Commerce, CA; near the junction of I-710 and SR-60	Largest intermodal rail yard in the U.S., with 1 million containers and over 40,000 locomotives a year; 60% or all containers are international.
Southern California International Gateway (SCIG)	BNSF	Proposed new intermodal near-dock yard to be located on Port of LA property adjacent to the Alameda Corridor, approximately 4 miles north of the San Pedro Bay Ports, with access from Terminal Island Freeway	Would increase use of the Alameda Corridor, reducing the need for trucks to haul containers on the I-710 to the Hobart Yard.
San Bernardino Yard	BNSF	San Bernardino, CA	Inland Empire intermodal facility.
Commerce Yard	UP	North of BNSF's Hobart Yard, in Commerce, CA	Primarily used for cargo handling. Processes over 350,000 containers per year.
City of Industry Yard	UP	Intermodal facility in the City of Industry, CA.	Intermodal cargo handling.
Intermodal Container Transfer Facility (ICTF)	UP	Near-dock facility adjacent to the Alameda Corridor approximately 5 miles north of the San Pedro Bay Ports, with access from SR 47/103	Intermodal facility moving containers from the ports onto the Alameda Corridor to reduce truck trips to the Commerce and Industry yards.
Dolores Yard	UP	Adjacent to the ICTF	Switching and locomotive servicing facility.

[13] Los Angeles Harbor Department. Draft Environmental Impact Report (EIR) for the Southern California International Gateway (SCIG) Project; 2011.

[14] Information about the project is available at: http://www.theaceproject.org/sangabrieltrench.htm.

Warehouse and Distribution Centers

The region had about 837 million square feet of warehousing space in 2008; an additional 185 million square feet of area was estimated to be available on developable land.[15] An estimated 15 percent of the occupied warehouse space served port-related uses, while the remaining 85 percent supported domestic shippers. Many of these warehouses are clustered along key goods movement corridors, such as SR-60, I-10, SR-91, and I-210.[16] Generally, a substantial amount of port-related warehousing is concentrated in the Gateway Cities subregion, while national and regional distribution facilities tend to be located further away in the Inland Empire.

Freight Movement

Freight transportation systems in the Southern California Region connect to the north with the Central Coast Region and the San Joaquin Valley/Sierra Region, and they connect to the south with the San Diego/Border Region. Important connections beyond the region include I-5 (and 495) to the Central Valley Region / SR-99 agricultural freight corridor; I-5 and other major highways also serve many major distribution centers In neighboring counties. Rail lines also provide important connections, such as the Railex refrigerated unit trains servicing the Delano distribution center in Kern County. Further, in some cases, these connections extend across California and beyond state borders to other parts of the nation. These corridors and connections are illustrated in Figure 1 (*To Be Developed*).

Major Freight Corridors

At some level, goods movement happens nearly everywhere in the Southern California Region. As is true elsewhere in the state, the primary mode of freight movement is by commercial vehicles, and nearly all major highways in the region experience high truck traffic; however, substantial volumes of freight in the region also move by container ship, freight rail, and air cargo aircraft.

For planning purposes, multimodal corridors can be identified with high volumes of freight moving on highways and rail lines, and where there are close connections to airports and other locations and facilities that generate freight traffic, such as warehouse areas, distribution centers, rail yards, and intermodal facilities. These multimodal corridors are useful for highlighting certain corridors in the region and beyond where surface movement of freight is substantial, infrastructure is in heavy use, and needs are likely to be greatest. Also within these corridors are opportunities for multimodal connections and shifts between modes to help facilitate freight mobility. These higher volume routes are also typically connected to gateways – i.e., seaports, land ports of entry, and airports.

Alameda Freight Corridor. This corridor runs north-south between the San Pedro Bay Ports and central Los Angeles. Specifically, the "Alameda Corridor" refers to the 20-mile dedicated freight rail facility that connects the ports with the nation-wide rail network. This rail cargo expressway is owned by the Alameda Corridor Transportation Authority (ACTA) and shared by the BNSF Railway and Union Pacific Railroad. The mid-corridor trench portion of the project is a 10-mile below-ground, triple-tracked segment. The near-dock ICTF and the Dolores Yard are located toward the southern end of the Alameda Corridor.

In a broader sense, this north-south corridor also includes facilities in the State Highway System, particularly the major Interstates 110 and 710, which are located west and east of the rail line, respectively, and carry heavy truck traffic serving the ports and warehouses in the Gateway Cities area.

East-West Freight Corridors. Several highways and major rail lines connect the Los Angeles Metropolitan Area with the Inland Empire in the vicinity of I-210, I-10, and SR 60. On the north is I-210, which extends east-west between I-5 and I-15.

[15] Data developed by SCAG under the *Comprehensive Regional Goods Movement Plan and Implementation Strategy*, cited in the 2012 SCAG RTP/SCS.

[16] Based on work by Cambridge Systematics for the 2012 SCAG RTP/SCS.

Two other, major east-west routes, I-10 and SR-60, are further south, extending east from central Los Angeles. In the general vicinity of I-10 and SR-60 are the Union Pacific Railroad's Los Angeles Subdivision and Alhambra Subdivision, which run east to West Colton and the Yuma Subdivision (to El Paso, Texas). A major air cargo hub, the Ontario International Airport, is also located along this corridor. Further south, is another major east-west truck route, SR-91, which connects with I-110 and I-710. This part of the east-west corridor includes BNSF's San Bernardino Subdivision.

This corridor area is also under study by SCAG for a dedicated East-West Freight Corridor.[17] A number of alternative alignments are under consideration, with the goal to optimize the benefits in terms of truck mobility, warehousing access, rights-of-way, and impacts to communities.

This sub-regional area is also the location for the Alameda Corridor East Project, a series of grade separation projects along Union Pacific Railroad's Alhambra Subdivision and the Los Angeles Subdivision. Included as part of the Alameda Corridor East project is San Gabriel Trench in the City of San Gabriel. This project is being funded in part through the Trade Corridor Improvement Fund (TCIF) bond program, with additional funds from the Los Angeles County Metropolitan Transportation Authority

North and west of Los Angeles is another multimodal east-west Corridor, which connects inland areas to the Port of Hueneme. U.S. Highway 101 connects the Oxnard area with the Los Angeles area, and the UP Pacific line connects near the port with the Ventura County Railroad.

International Connections. Corridors can also be identified that lead from the Southern California Region to the Border Region. Both I-5 and I-15 are important freight movement routes to and from the international border area. The corridor includes the BNSF along the Los Angeles/San Diego rail corridor (LOSSAN) running north/south from the BNSF line through Orange County, in the vicinity and direction of I-5.

The Interstate 5 Corridor extends from the California-Mexico border to Canada for a total length of more than 1,350 miles, with approximately 550 miles traversing through urban areas. Approximately 797 miles of I-5 are located in California. Average daily truck traffic on I-5 is near 10,000, with a maximum over 35,000. Along the urban segments, over 65 percent of the route operates under heavy congestion. The projected daily traffic in year 2035 is over 150,000, which includes over 22,000 trucks. The Southern California Region is particularly congested, with 2007 annual average daily traffic (AADT) volumes more than 200,000 across the entire area. By 2035, over 95 percent of the urban segments will operate under congestion, and congestion for non-urban segments will increase from the current 31 percent to over 85 percent.

The Interstate 10 Corridor stretches through eight states from California to Florida, with a total length of more than 2,400 miles. For approximately 700 miles of the total length, the route traverses through urban areas. Average daily truck traffic is over 8,000, with a maximum over 55,000. Along the urban segments, over 53 percent of the corridor operates under heavy congestion. The projected daily traffic in year is over 85,000, which includes over 20,000 trucks. By 2035, 96 percent of the urban segments will operate under heavy congestion, and congestion for non-urban segments will increase from the current 4 percent to over 45 percent.

A coalition of transportation agencies in the eight states conducted a joint planning study (over several years between 2002 and 2008) for this corridor called the I-10 National Freight Corridor Study.[18] The study, which focused on reducing bottlenecks and improving mobility, provided recommendations for intelligent transportation system (ITS) operational improvements and infrastructure improvements to create efficient long-distance freight movement. The study included possible dedicated truck lane separation in the Los Angeles area, as well as in other major metropolitan areas. The study found that, with over 60,000 trucks a day, the I-710/I-10/SR 60 corridor linking the San Pedro Bay Ports and the Inland Empire is one of the highest use trade corridors in the nation.

[17] 2012 SCAG RTP/SCS
[18] Information available online at http://www.i10freightstudy.org/.

The Interstate 15 Corridor passes through the states of California, Arizona, Nevada, and Utah for a total length of over 840 miles, with approximately 220 miles traversing through urban areas. Average daily truck traffic is over 9,000 with a maximum over 60,000. Along the urban segments, over 60 percent operates under heavy congestion. The projected 2035 average daily traffic is over 150,000, which includes over 27,000 trucks. By 2035, 98 percent of the urban segments will operate under heavy congestion, and congestion for non-urban segments will increase from 21 percent to over 85 percent.

MODAL AND SYSTEM PERFORMANCE

System performance can be assessed by mode or in terms of the overall multimodal transportation network. A number of factors affect performance, as may be indicated by key trends.

Goods Movement Trends and Drivers

A number of key trends are anticipated to have major impacts on the goods movement system.[19] These trends, which are likely to also be true in other regions of the state, include the following.

Population and General Economic Growth

Despite the economic downturn, population and employment in the Southern California region are expected to grow by approximately 24 percent and 22 percent by 2035, respectively.[20] This growth will create increased consumer demand for products with an associated increase in demand for goods movement systems. The increased demand will drive growth in freight traffic on highway and rail facilities. Truck traffic on I-710 and I-110 from the Ports of San Pedro Bay is expected to increase.[21] Truck traffic on key east-west corridors is anticipated to grow by 70 to 100 percent. Without an increase in capacity, truck and auto delay will increase substantially, truck-involved accidents will be more frequent, and the levels of harmful emissions will rise. Growing demand for commuter rail services on rail lines owned by the freight railroads will create needs for expanded capacity on these facilities.

Recovery and Expansion of International Trade

Regional transportation plans generally anticipate that international trade will recover, with renewed demand for both import and export capabilities. Despite increasing competition with other North American ports and the expansion of the Panama Canal, the San Pedro Bay Ports anticipate cargo volumes will grow to 43 million containers annually by 2035 – more than tripling from today's levels.[22] This growth will create the need to expand marine terminal facilities, improve highway connections (particularly those connecting to the San Pedro Bay Ports, like I-110, I-710, and SR-47), and address on-dock and off-dock intermodal terminal capacities. If port-related rail traffic and commuter demand are to be satisfied, additional mainline capacity improvements will be required. Mitigating the impacts of increased diesel-powered freight traffic on local communities will continue be a considerable challenge.

Continued Expansion of Warehouse and Logistics Activity

Regional transportation plans also predict that the Southern California Region will likely see continuation of expanded distribution and logistics activity. Demand for port-related warehouse space is projected to grow at a faster pace than demand for domestic warehousing. E-commerce is also a significant driver of warehouse development and expansion. As space near the San Pedro Bay Ports reaches capacity, port warehousing will push out to the Inland Empire. Expansion in national and regional distribution facilities is also likely to occur in the Inland Empire, resulting in substantial congestion problems due to the increased truck volumes on regional highways. By 2035, the region may experience a shortfall of more than 228 million square feet in warehouse space relative to demand.[23]

---

[19] Derived in major part from SCAG RTP/SCS.
[20] Ibid.
[21] For information on the I-710 Corridor Project see Metro: http://www.metro.net/projects/i-710-corridor-project/
[22] Ibid.
[23] Ibid.

Air Quality Issues

Air quality is closely tied to transportation planning and funding, and the region will need to continue to make substantial efforts to reduce emissions. Much of the SCAG region does not meet federal ozone and fine particulate (PM2.5) air quality standards. Goods movement is a major source of emissions that contribute to these regional air pollution problems (NOX and PM2.5). While emissions from goods movement are being reduced through efforts such as the San Pedro Bay Ports Clean Air Action Plan, these reductions are unlikely to be sufficient to meet regional air quality goals. Efforts to date have successfully reduced emissions; however, further reductions are becoming more difficult to attain. In coming years, assuming that the predicted growth occurs, meeting air quality standards will become increasingly difficult without changes in technology and consumer behavior.

FREIGHT INFRASTRUCTURE NEEDS

Based on these general performance goals and indicators, there are major planning issues and challenges in the Southern California Region. Many regional plans and studies are quick to point to the region's (and the State's) aging infrastructure. The transportation systems are approaching capacity. Funding shortfalls have resulted in a need for an infusion of funds to preserve the State Highway System. In addition, as shown in the discussion of the major freight corridors, there is a need to facilitate the mobility of goods movement within and through the state. As freight infrastructure improvements are made, they will have implications in terms of land use, community effects, and the environment. These needs are generally characterized under the following headings.

Dedicated Freight Transportation Systems

Regional transportation plans and studies suggest a growing need for separate, dedicated freight transportation facilities, such as grade separations for highway-rail crossings (e.g., the ACE Project) and rail-to-rail crossings (i.e., Colton Crossing). Dedicated freight highway lanes also are increasing. Over the past decade, Caltrans and regional transportation agencies and authorities have increasingly considered dedicated rail and truck infrastructure in freight planning, such as the following examples:

- The I-710 Corridor Project, where alternatives under current consideration for the proposed 10-lane facility include designated zero-emission lanes.
- The proposed East-West Freight Corridor, one of a number of goods movement strategies in the 2012 SCAG RTP; the dedicated freight corridor would generally follow a yet-to-be-determined alignment in the vicinity of the I-10, the UP Railroad, and SR-60 or as far south as SR-91.
- The Alameda Corridor-East Project, a dedicated rail corridor involving a series of rail-roadway grade separation projects, extending of the Alameda Corridor rail cargo expressway.

Correcting Multimodal System Deficiencies and Gaps

In addition to the above, there is an ongoing need to correct multimodal system deficiencies and gaps, with the goal to optimize performance. Through the state and regional transportation planning processes, projects are routinely identified, prioritized, and programmed under regional, state, and federal Transportation Improvement Programs.

These processes are routinely used for projects to address deficiencies, relieve bottlenecks, eliminate gaps, improve safety, and otherwise deliver projects that maintain and preserve the multimodal system. In addition to regional, statewide, and national planning perspectives, continuous, cooperative, and comprehensive transportation planning requires participation from private sector stakeholders, including the Class I railroads. For example, types of projects may include:

- Projects that develop more capacity for on-dock and off-dock transloading of container freight.
- Designing and construction a transportation solution for the existing gap in I-710 between currently under study

- Developing transportation solutions that address the truck delay due to congestion occurring on all the major highways, including Interstates 605, 710, 5, and 10 and State Routes 60, 57, and 91. Major highway intersections can be bottlenecks, such as intersections at I-110/I-105, I-105/I-110, I-10/I-15, I-15/SR-91.

TRADE CORRIDORS IMPROVEMENT FUND (TCIF)

The Highway Safety, Traffic Reduction, Air Quality and Port Security Bond of 2006, approved by the voters of California as Proposition 1B in 2006, made $2 billion available for infrastructure improvements along federally designated "Trade Corridors of National Significance" in California or along other corridors within California that have a high volume of freight movement. The funds were made available to the California Transportation Commission upon appropriation in the annual budget bill by legislature and subject to such conditions and criteria as the Legislature provided by statue. (For more up-to-date information about the program, go to http://www.catc.ca.gov/programs/tcif.htm)

RESOURCES AND ADDITIONAL INFORMATION

The following selected Internet websites provide additional information pertaining to the Southern California Region, including regional transportation planning agencies, Caltrans offices, seaports, and other organizations that deal with freight-related matters.

Regional Transportation Planning Goods Movement Sites

Southern California Association of Governments (SCAG): http://www.scag.ca.gov/goodsmove/

Ventura County Transportation Commission (VCTC): http://www.goventura.org/

Los Angeles County Metropolitan Transportation Authority (LA Metro): http://www.metro.net/

I-710 Project: http://www.metro.net/projects/i-710-corridor-project/

San Bernardino Associated Governments (SANBAG): http://sanbag.ca.gov/

Orange County Transportation Authority (OCTA): http://www.octa.net/goods_movement.aspx

Riverside County Transportation Commission (RCTC): http://rctc.org/

State Government Sites

Caltrans Office of Truck Services: http://www.dot.ca.gov/hq/traffops/trucks/

Caltrans Office of System, Freight and Rail Planning: http://www.dot.ca.gov/hq/tpp/offices/ogm/index.html

California Corridor Mobility (System Planning documents): http://www.dot.ca.gov/hq/tpp/corridor-mobility/

Caltrans District 7: http://www.dot.ca.gov/dist07/

Caltrans District 8: http://www.dot.ca.gov/dist8/

Caltrans District 11: http://www.dot.ca.gov/dist11/

Caltrans District 12: http://www.dot.ca.gov/dist12/

Seaports

Port of Long Beach: http://www.polb.com/

Port of Los Angeles: http://www.portoflosangeles.org/

Port of Hueneme: http://www.portofhueneme.org/home.php

Other Organizations

Alameda Corridor Transportation Authority: http://www.acta.org/

Alameda Corridor East Construction Authority: http://www.theaceproject.org/

I-10 National Freight Corridor: http://www.i10freightstudy.org/

East Yard Communities for Environmental Justice: http://eycej.org/about

This page is intentionally blank.

APPENDIX B-6-7:
SAN DIEGO AND IMPERIAL COUNTIES

INTRODUCTION

The San Diego and Imperial Counties Region Summary covers an area as far south as the United States-Mexico International Border, and from coastal, urban San Diego east across the rural Imperial Valley to the State's border with Arizona. Bordered on the north by Riverside and Orange Counties, it is located immediately south of the Southern California Region. For Caltrans purposes, this is the District 11 region.

The region covers approximately 8,383 square miles and has a total estimated population (2013)[1i] of 3.35 million with an employment base of approximately 1.33[2]million jobs. With about 5.4 percent of the total California land area, the International Border Region is home to approximately 8.8 percent of the State's total population. The population is ethnically diverse and growing. San Diego County has 18 incorporated cities, among which is the City of San Diego, the second largest city in the State. Imperial County has seven cities and is a highly productive agricultural area. As shown in Table 1, the population density is much heavier in San Diego County; with the urban areas predominantly on the western side of the county within 50 miles of the Pacific coast.

Table 1. Border Region Population Distribution by County (2010)[3]

County	Population		Land Area		Persons per sq. mi.
	Number	% of region	Sq. mi.	% of region	
San Diego	3,177,063	94.7	4,206.63	50.2	735.8
Imperial	176,528	5.3	4,176.60	49.8	41.8
Region Total	3,353,591		8,383.23		390

San Diego and Imperial Counties interact with five Baja California municipalities – Tijuana, Playas de Rosarito, Ensenada, Tecate, and Mexicali) – along their shared, 150-mile border, which has six international land ports of entry (described in more detail below). In addition to the highway system and POEs, the region has Class I railroads, one deepwater seaport - the Port of San Diego, pipelines, and a major international airport - San Diego International Airport. The region's seaport and proximity to the U.S.–Mexico Border contribute greatly to the region's role as a link in international trade and global supply chains

Goods movement corridors, including highways, pipelines, and rail lines, facilitate the circulation of goods between producers and consumers located on both sides of the border. The integration of production and distribution processes across the California-Mexico Border contributes to strong economic interdependencies. Goods movement in the border region contributes to a highly blended economy. Additionally, the growth in international trade not only benefits the regional economy, but the national economy as well.

[1] U.S. Census Bureau: 2013 Census.
[2] U.S. Bureau of Labor Statistics: (2012).
[3] U.S. Census Bureau: 2010 Census.

Based on the 2012-2013 California Agricultural Statistics Review (California Department of Food and Agriculture), Imperial County's agriculture production ranks ninth in the State for value at $1.9 billion, moving up from the ranking eleventh in 2011. Top commodities include cattle, heifer and steers; leaf lettuce, alfalfa hay, head lettuce and broccoli. Alfalfa hay and Sudan grass are exported from this region to Asia via the Ports of Los Angeles and Long Beach (Border Valley Trading,) The Imperial County Farm Bureau estimates that the counties' agriculture production in 2011 generated an estimated $1.175 billion in personal income for California families, with an estimated $5.3 billion in total economic impact. Furthermore, in 2012, Imperial County farmers produced 1,736,000 tons of hay, including alfalfa, Bermuda grass, Sudan grass and Klein grass hays, making the region a vital producer of food for the state's vast dairy and cattle industry.

REGIONAL TRANSPORTATION PLANNING

San Diego County and its incorporated cities are represented by the San Diego Association of Governments (SANDAG). Imperial County is one of the six counties in the Southern California Association of Governments (SCAG) region, the nation's largest metropolitan planning organization; it is also represented by the Imperial County Transportation Commission (ICTC).

The International Border Region is located in the San Diego Air Basin, which includes San Diego County, Imperial County, and a portion of Riverside County to the north. In San Diego County, SANDAG is the regional planning agency responsible for ensuring transportation conformity with the federal air quality requirements. Imperial County and portions of Riverside County are in the Salton Sea Air Basin.

San Diego County is classified as maintenance for the 1997 8-hour ozone standard of 0.08 parts per million (ppm). San Diego County submitted a Redesignation Request and Maintenance Plan for the 1997 Nation Ozone Standard in December 2012. Effective April 4, 2013, U.S. EPA found that the motor vehicle emissions budgets for ozone for the years 2020 and 2025 are adequate for transportation conformity purposes.

U.S. EPA has promulgated the 2008 ozone standard of 0.075 ppm. On May 21, 2012 the U.S. EPA classified San Diego County as marginal nonattainment. For this nonattainment designation, tribal areas that were previously excluded are now included as part of the San Diego region nonattainment designation. However, one small portion (approximately 119 acres) of the Pechanga Band of Luiseno Indians purchased within the north portion of San Diego County piece of tribal land was excluded from the San Diego region 2008 Eight-Hour ozone nonattainment designation. All other tribal lands within San Diego County were included in the designation. As of July 20, 2013 the 1997 ozone standard was revoked and replaced with the 2008 ozone standard.

Imperial County attained the 1997 8-hour ozone standard of 0.08 ppm in 2008. However the U.S. EPA has promulgated the 2008 ozone standard of 0.075 ppm. On May 21, 2012 the U.S. EPA classified Imperial County as Marginal Nonattainment with an attainment year of 2015. As of July 20, 2013 the 1997 ozone standard was revoked and replaced with the 2008 ozone standard.
Imperial County is classified as nonattainment/Serious for PM^{10} as of August 3, 2004. The two reasons for PM^{10} exceedances are transport from Mexicali, Mexico (especially In the Calexico area) and occasional high wind activity.

Imperial County is classified as attainment for the Annual and 2006 $PM^{2.5}$ except in a small area of the county including Calexico which is classified as nonattainment for $PM^{2.5}$. On July 8, 2010 U.S. EPA published a limited approval and a limited disapproval of proposed controls of Fine Particulate Matter ($PM^{2.5}$). Highway sanctions, based on this limited disapproval began on August 9, 2012. Imperial County

Air Pollution Control District (ICAPCD) adopted revisions to the disapproved Rules No. 800, 804, 805, and 806, to correct deficiencies identified in our limited disapproval action. The State (California Air Resources Board) submitted these revisions to U.S. EPA on November 7, 2012. The Interim Final determination to stay the sanctions was published in the Federal Register on January 7, 2013, and the Final determination was published on March 26, 2013.

For the purposes of this summary, a number of regional transportation planning documents and other studies were selected for review. The source documents are identified at the end of this document.

GOODS MOVEMENT GATEWAYS, CORRIDORS, HUBS, AND FLOWS

Major System Components

Summarized below are the major components of the International Border Region freight transportation systems.

Key Gateways and Corridors

Land Ports of Entry

There are currently six Land Ports of Entry (POE) within the International Border Region. A new POE is under development and several are undergoing expansion and improvement. The Otay Mesa and Calexico East POEs currently handle 97 percent (by value) of all border commercial shipments. Currently, 78 percent of all cross-border trade is destined for locations outside of the International Border Region. Approximately 57 percent of truck trips have origins or destinations in other counties within California, while more than 21 percent have origins or destinations in other states within the United States (U.S.) or international locations (GMAP Phase I, 2005; p. V-3 through p. V-17).

San Ysidro/Puerta Mexico POE. The GSA describes the San Ysidro POE as "the world's busiest Land Port of Entry" or the "busiest land border crossing in the Western Hemisphere." By any description, it is a busy land POE, serving pedestrians, passenger vehicles, buses, and freight rail. Located between San Diego and Tijuana, the San Ysidro POE has 24 northbound vehicle lanes into the United States and six southbound lanes into Mexico. In 2012, San Ysidro POE handled 68,194 buses, 11,484,951 personal vehicle passengers, and 8,134,479 pedestrians. This POE does not process commercial vehicles. The main vehicle access routes are Interstate 5 (I-5) and Interstate 805 (I-805).

The San Ysidro POE is undergoing improvements and expansion in phases, as managed by the GSA. The projects will increase the number of northbound inspection booths to 63. A new northbound inspection facility will be constructed, as well as primary vehicle inspection booths, a secondary inspection area, administration space, and a pedestrian processing facility. A new southbound inspection facility will also be developed, and Interstate 5 will be shifted to the west to align with Mexico's planned use of a reconstructed entry facility at the vacant Virginia Avenue/El Chaparral commercial facility. A new pedestrian bridge was opened in April 2011. The 806-foot bridge, which replaced an existing bridge, spans I-5 and connects east and west San Ysidro.

Otay Mesa / Mesa de Otay POE. The Otay Mesa POE in San Diego County is one of the ten busiest land ports in the United States. It is the busiest commercial port on the California/Baja California border, handling the second highest volume of trucks and the highest dollar volume of trade among all U.S. land ports (GSA website). In 2012, Otay Mesa POE handled 769,886 trucks, 42,145 buses, 6,235,300 personal vehicle passengers, and 3,289,778 pedestrians. The POE has 13 commercial vehicle inspection stations, and processes approximately 70 percent of the trade between the U.S and Mexico. Major commodities

include electrical machinery and equipment, mechanical appliances, and apparel and clothing accessories. The main vehicle access route for the Otay Mesa POE is State Route 905 (SR-905).

The U.S. General Services Administration (GSA) is proposing a reconfiguration and modernization of the existing inbound passenger and cargo inspection areas to improve operational efficiency and meet current facility standards. However, further design and development is on hold pending Congressional funding approval.

Proposed Otay Mesa East POE and State Route 11. The cost for construction of the Otay Mesa East POE and State Route 11 (SR-11) is estimated to be $700 to $750 million. The facility, scheduled to open in 2015, will add border crossing capacity, 2.1 miles of a new, four-lane, tolled highway (SR-11), and a Commercial Vehicle Enforcement Facility. Otay Mesa East will help reduce traffic congestion at the San Ysidro, Otay Mesa, and Tecate POEs by providing a new border crossing alternative.

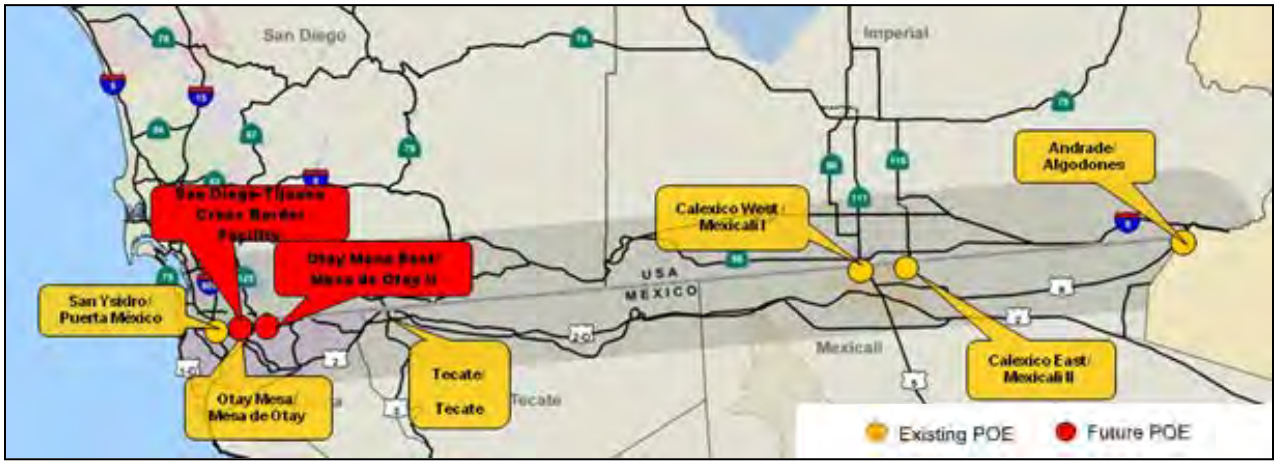
This project is a collaboration of Caltrans, the Federal Highway Administration (FHWA), the General Services Administration (GSA), U.S. Customs and Border Protection (CBP), and SANDAG. The planning process involved bi-national coordination, numerous studies, enabling legislation (Senate Bill 1486, 2008), an Environmental Impact Report/Environmental Impact Statement, and a Presidential Permit (issued by the Deputy Secretary of State in November 2008, authorizing the GSA to construct, operate, and maintain the POE facility).

Calexico West / Mexicali I POE. The Calexico West POE in Imperial County is a multimodal inspection facility that provides service for pedestrians, passenger vehicles, and freight rail. Located in downtown Calexico, it is the most important non-commercial POE in Imperial County. In 2012, Calexico West POE handled 4,070,090 personal vehicle passengers, and 4,885,868 pedestrians, resulting in substantial congestion at the POE and along State Route 111 (SR-111). The GSA and the U.S. Customs and Border Protection plan to reconfigure and expand this POE into the site of the former commercial inspection facility, which moved to the Calexico East POE in 1996.

The project will be implemented in two phases. The first phase will include the construction of a headhouse, ten of the project's 16 northbound POV inspection lanes, five southbound privately operated vehicle (POV) inspection lanes with temporary asphalt paving, and a bridge across the New River for southbound POV traffic. The second phase will include construction of the balance of the project, including the remaining six northbound POV lanes, southbound POV inspection islands, booths, canopies, concrete paving, an administration building, an employee parking structure, and a pedestrian processing building with 12 northbound pedestrian inspection stations.

Calexico East / Mexicali II POE. Connecting the Cities of Calexico, California and Mexicali, Baja California, the Calexico East POE is a multimodal facility that serves nearly all of the international truck traffic crossings in Imperial County. It has a full range of cargo-processing functions, including inspections, entry, collections, and verification. In 2012, the Calexico East POE handled 322,424 trucks, 2,564 buses, 3,016,974 personal vehicle passengers, and 318,599 pedestrians. The GSA and Caltrans are working together to identify low cost, high impact, expedited implementation of vehicular (passenger and commercial) capacity enhancing projects. Current project proposals include adding three new northbound truck lanes to double the capacity to a total of six new truck inspection lanes. The project also proposes to add six new northbound auto lanes for a total of 14 auto inspection lanes. All new lanes will be built with required security inspection technology. Canopies, concrete paving and related security/administration building improvements will also be added. The project concept also proposes to widen the bridge over the All American Canal to reduce delays caused by the current bottleneck. The POE is served by SR-7 and SR-98, connecting to I-8.

Figure 1. International Border Region Ports of Entry.



Tecate/Tecate (State Route 188) POE. Located in rural San Diego County about 40 miles east of downtown San Diego, the Tecate POE provides services for pedestrians, passenger vehicles, and commercial vehicles. A freight rail line crosses at Campo, east of Tecate POE. In 2012, Tecate POE handled 43,245 trucks, 110 buses, 773,647 personal vehicle passengers, and 702,742 pedestrians. The POE is served by SR-188, a two-lane facility extending 1.9 miles between the border and SR-94. Segments of SR-94 are not built for large trucks and lack passing lanes.

Andrade/Algodones. Located in Imperial County near I-8 and Yuma, Arizona, Andrade is a rural POE with minimal freight traffic. Andrade provides services for pedestrians, passenger vehicles, and commercial vehicles. This POE is mainly frequented by pedestrians from the U.S. visiting pharmacies or medical facilities in Algodones, Baja California.

Highways and Other Roads

In 1993, California identified a NAFTA Network (NAFTA-Net) of critical transportation corridors serving trade and traffic through the land ports of entry between California and Mexico (D-11 Border Book, 2006). These NAFTA-Net corridors, together with the main access routes north to Los Angeles, make up the predominant elements of the highway transportation network serving the region. This includes north-south routes I-5, I-15, I-805, SR-905, SR-111, SR-7, and SR-186. I-5 is the predominant interregional truck route, although I-15 has seen considerable increases in truck volumes in recent years (GMAP Phase I, 2005; p. V-3 through p. V-17).

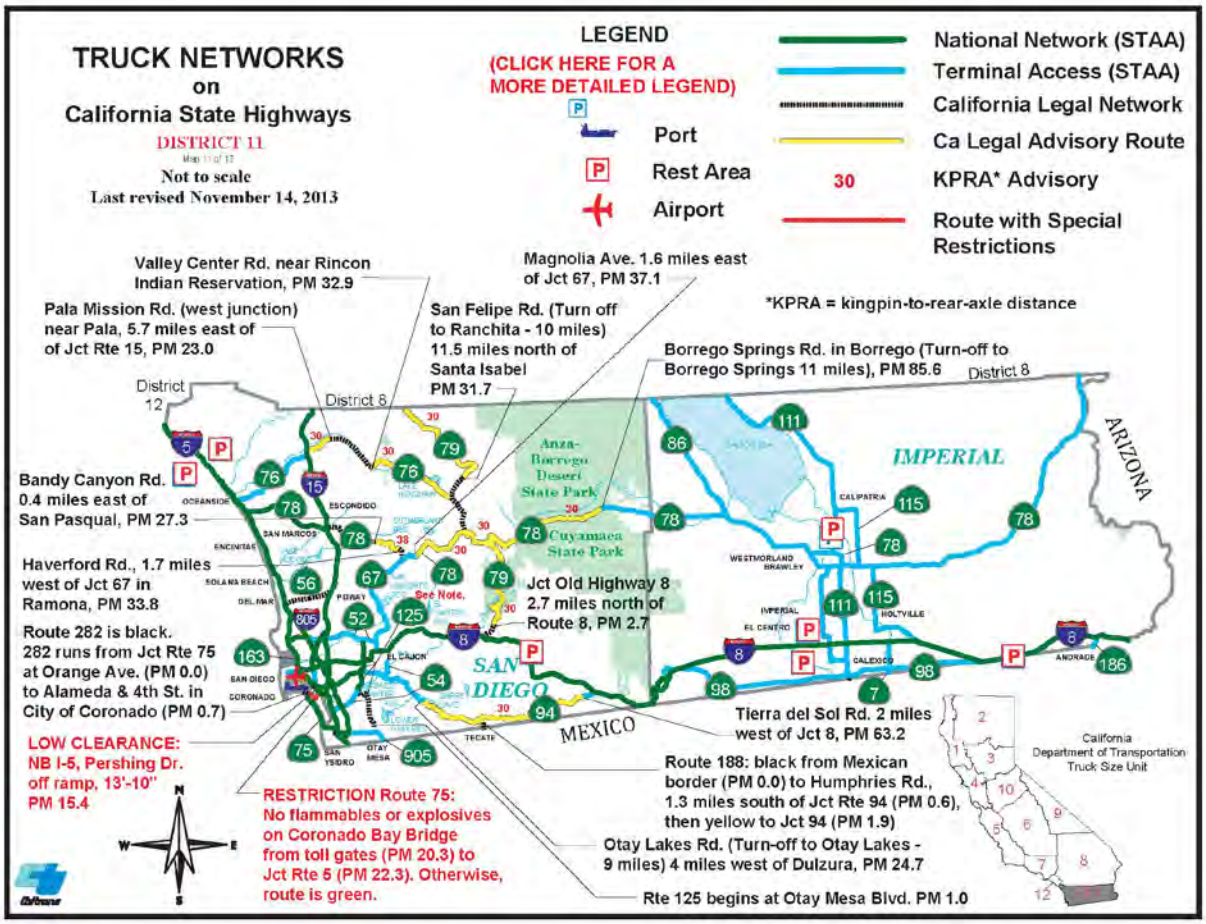
The Interstate highways in San Diego County are I-5, I-8, I-15, and I-805. State Routes included in the truck network, generally Surface Transportation Assistance Act (STAA) routes, include SR-52, SR-54, SR-56, SR-67, SR-78, SR-94, SR-125, SR-163, SR-188, and SR-905. With the exception of the I-8 corridor, goods movement flows are generally more north-south than east-west.

Primary goods movement routes connecting to the international crossings in Imperial County are SR-7, SR-111, and SR-186. Imperial County is also served by I-8, which extends from San Diego County to the Arizona state border. State Routes in Imperial County included in the truck network, generally STAA routes, include SR-7, SR-78, SR-86, SR-98, SR-111, SR-115, and SR-186. The Calexico-Coachella Cargo Corridor (C-4) is a major goods movement corridor providing movement for interregional, intra-regional, and international trips. The C-4 links the movement of goods from Mexico to Southern California and

the rest of the State. The C-4 corridor starts with SR-7 at the Calexico Port of Entry, continues on Interstate 8 near El Centro, turns north onto SR- 111, heads west on SR-78, continues on the SR-86 and connects with Interstate 10 in the Coachella Valley.

In 2012, over 1.1 million trucks crossed the California/Mexico border. Northbound truck crossings at the California-Baja California POEs are expected to reach more than 1.5 million in 2030. The overall increase in truck crossings between 2005 and 2030 represents an estimated growth of 36.4 percent (California-Baja California Border Master Plan, Caltrans 2008).

Figure 2. Major Truck Routes in San Diego and Imperial Counties



Source: Imperial County Long Range Transportation Plan, 2013 Update

Seaports: Port of San Diego

The Port of San Diego (Port), the only seaport in the region, is situated approximately 96 nautical miles southeast of the Port of Los Angeles and approximately 10 miles from the U.S.-Mexico border. The Port of San Diego is the first port in the U.S. for vessels coming from the west coasts of Mexico, Central America, and South America. It is the fourth largest of the 11 public ports in California. The port is governed by a seven-member Board of Port Commissioners, appointed by the City Councils of its five member cities, Chula Vista, Coronado, Imperial Beach, National City, and San Diego.

Two marine terminals are operated by the Port of San Diego, the Tenth Avenue Marine Terminal and the National City Marine Terminal at 24th Street. Combined, the terminals handle approximately 2.5 million

tons of cargo annually. The Tenth Avenue Marine Terminal processes fruit (Dole Fresh Fruit Company is a tenant) and other perishables. Steel used for shipbuilding, project cargo including alternative energy components, and bulk commodities such as sand, cement, fuel, and fertilizer are also processed at the terminal. The National City Marine Terminal imports automobiles and lumber. According to the Port of San Diego website, one in every ten imported cars on U.S. roadways enters the country through the National City Marine Terminal. The Port of San Diego generates more than $3 billion in economic benefits for California (District 11 presentation). Freight shippers in San Diego County and Imperial County also make use of the San Pedro Bay Ports (Port of Los Angeles and Port of Long Beach) in the Southern California Region (Border Crossing Study, SCAG 2012) (Gateway Study, SANDAG 2010).

The Port of San Diego is also home to one-third of the U.S. Navy Pacific Fleet. It is designated by the Department of Defense as a strategic port, which may be called upon to support military activities, including the transport of military equipment. About 40 percent of the port's 6,000 acres of land and water is under the jurisdiction of the federal government, in the form of U.S. Navy and U.S. Coast Guard facilities. The Navy and other military operations support a large share of the region's economy.

In 2008, the Port developed a Green Port Program (to "achieve long-term environmental, societal and economic benefits through resource conversation, waste reduction and pollution prevention." (Green Port Program, http://www.portofsandiego.org/environment/green-port.html.) The Port has environmental sustainability goals in six areas – water, energy, air, waste management, sustainable development and sustainable business practices.

Air Cargo

Air cargo within this region is handled by one major airport, San Diego International (SAN), and three smaller airfields, Brown Field Municipal, Tijuana International (both in the Otay Mesa area), and Calexico. SAN is the primary site for air cargo in the region. SAN is situated adjacent to the San Diego Bay, near downtown San Diego, west of I-5, and about 20 miles from Tijuana, Mexico. It is the busiest single-runway airport in the United States. SAN is ranked 37th nationally, and moves approximately 115,378 metric tons of cargo per year. It is served by four all-cargo airlines which fly nonstop to eight cargo destinations in the United States, with most flights going to Memphis, Tennessee (FedEx) and Columbus, Ohio (United Parcel Service/UPS).

Modest cargo growth is anticipated at SAN. The number of cargo operations is anticipated to grow more slowly due to a number of factors, including the trend toward increasing the size of aircrafts and the ability to carry more cargo per departure. To support larger aircraft and additional operations, cargo infrastructure will require upgrades and redevelopment in the next 10 years. Also, airfield capacity (e.g., constraints of the single runway) will begin to limit growth beyond 2030.

With land-use encroachment in all directions, expansion at SAN is limited, and relocation efforts have been unsuccessful to date. Terrain and obstacles around the airport limit aircraft payloads for some long haul international routes, but not domestic routes. SAN is open for arrivals 24 hours a day, seven days a week; however, a curfew exists for all departure flights between 11:30 p.m. and 6:30 a.m. This prohibition on nighttime takeoffs limits SAN's cargo expansion potential (see Caltrans Air Cargo Fact Sheet for SAN).

Freight Rail

Rail carries a much smaller percentage of the freight than trucks in the International Border Region. In 2007, the value of freight transported by rail in the region amounted to less than 2 percent of overall

freight flows (Gateway Study, SANDAG 2010). However, mainline infrastructure, rail yards, and short line connections are still important and strategic to freight mobility in the region.

Two Class I railroads, BNSF Railway (BNSF) and Union Pacific Railroad (UPRR), operate within the region, as well as several short line railroads. Some of the freight system operates on lines owned by transit agencies. BNSF operates in San Diego County, and UP operates in Imperial County. Short line service connecting to the BNSF and UPRR (in California and Baja California) has seen a number of operator changes over the past decade.

In San Diego County, along the I-5 corridor, BNSF operates via a freight easement on 62 miles of coastal line owned by the North County Transit District (NCTD) and the Metropolitan Transit System (MTS. This line connects to the National City Marine Terminal on a segment owned by BNSF (Gateway Study, SANDAG 2010). BNSF carries imported automobiles (off-loaded at the Port of San Diego), lumber, and soda ash for export.

In the southern part of San Diego County, the San Diego and Imperial Valley Railroad (SDIY), a subsidiary of Genesee and Wyoming Inc. (formerly Rail America Inc.), operates two short lines owned by the Metropolitan Transit System (MTS). One line connects the Santa Fe Depot in downtown San Diego with the San Ysidro border crossing and freight yard. The other line runs east from the Santa Fe Station to the City of El Cajon (Gateway Study, SANDAG 2010).

In December 2012, the Metropolitan Transit System granted a 99-year lease to run the Desert Line, a freight line, to the Pacific Imperial Railroad Company. Currently, the line that runs from the border near Campo to Plaster City in Imperial County with a smart portion in Mexico is not operating Reconstruction of line has been estimated to run from $50 million to $140 million

Figure 3. Rail Lines in San Diego County and Baja California (Gateway Study, SANDAG 2010)

Until fairly recently, the Carrizo Gorge Railway (CZRY) operated 114 miles of freight lines in California and Mexico. The railway owned the rights to operate limited service between the Mexican border at San Ysidro/Tijuana through Mexico to Division (near the Mexican border at Tecate) and then on to

Plaster City in the western part of Imperial County. The section between Tijuana and Tecate is owned by the Mexican government, while the section between Tecate and Plaster City is owned by MTS. Effective January 2012, Baja California Railroad (BJRR), by agreement with the CZRY, has operated the Tijuana-Tecate Line in Mexico; the right-of-way is owned by the State of Baja (Hoegemeier, pers. comm. Jan. 2013; 77 Fed. Reg. 160:49863, Aug. 17, 2012). Major commodities transported by BJRR include petroleum gases, propane, lumber, wood pulp, paper, corn syrup, lard, and yellow corn (BJRR website). The line between Division and Plaster City (Desert Line) is currently leased by the Pacific Imperial Railroad (PIR); however, this line is currently out of service due to bridge repairs (Hoegemeier, pers. comm. Jan. 2013; and Gateway Study, SANDAG 2010). The Desert Line is owned by the San Diego and Arizona Eastern Railway (Fed. Reg. 160:49863, Aug. 17, 2012).

Imperial County is served by rail connections to and from Riverside County, Baja California, and Arizona. Commodity flow volumes by rail account for about 3 percent of the total commodity flow volumes in the county. UPRR owns and operates the rail line coming south from Riverside County (Sunset Line route), as well as the line running north from the Calexico border crossing, extending north to El Centro, and connecting with the UPRR Sunset Line at Niland. UPRR also owns and operates the east-west line between Plaster City and El Centro (Border Crossing Study, SCAG 2012). A spur serves the mining operations north of Plaster City.

The San Diego and Imperial Valley Railroad (SDIY) provides connections with BNSF, UPRR, and (in Mexico) BJRR. SDIY operates freight service from El Cajon to a San Diego connection with BNSF, as well as to a San Ysidro connection with BJRR. SDIY meets UP in Plaster City via the PIR. Major commodities transported include propane, petroleum gas, corn syrup, malt, and wood pulp.

The Pacific Sun Railroad (PSRR) operates 62 miles of track in San Diego County. This short line railroad interfaces with BNSF at Stuart Mesa, serving customers near Escondido, Miramar, and San Onofre. PSRR transports corn, soy, lumber, plastic pellets, beer, paint, and recyclables.

Freight Movement

Freight Movement Within and Through the Region

Freight movement in the International Border Region is dominated by cross-border international trade (Border Crossing Study, SCAG 2012). Freight transportation systems in the region also connect the International Border Region with the Southern California Region. As is true elsewhere in the State, the primary mode of freight movement is commercial vehicles, and nearly all major highways in the region experience high truck traffic.

Major Freight Corridors

For planning purposes, multimodal corridors can be identified on a regional or statewide level. These corridors generally have high volumes of freight moving on highways and rail lines. Additionally, there may be close connections to airports and facilities that generate freight traffic, such as warehouse areas, distribution centers, rail yards, and intermodal facilities. These multimodal corridors are useful for highlighting facilities where surface movement of freight is substantial, infrastructure is in heavy use, and needs are likely to be greatest. Also within these corridors are opportunities for multimodal connections and shifts between modes to help facilitate freight mobility. These higher volume routes are also typically connected to gateways – i.e., land ports of entry, seaports, and airports.

In this region, freight corridors accessing the international border crossings are especially important. I-15, I-805, SR-7, the new SR-11, SR-186, and SR-188 are among the important freight movement routes to and from the international border area. The corridor includes the BNSF service along the Los Angeles-

San Diego-San Luis Obispo (LOSSAN) rail corridor running north/south from the BNSF line through Orange County, in the vicinity and direction of I-5. Trucks also move freight from San Diego County and Imperial County north and out of the region to the Ports of San Pedro Bay (Los Angeles and Long Beach). For example, agricultural products such as alfalfa and Bermuda grass produced in Imperial County may be exported out of these ports. Routes important for this movement include I-5, I-8, SR-86, and others.

Modal and System Performance

This section discusses major goods movement issues and trends, including factors potentially affecting transportation performance, major connections between goods movement and land use, including warehouse districts and effects on communities, gaps in systems and freight bottlenecks, and forecasts of freight demand and modal trends.

Goods Movement Trends and Drivers

A number of key trends are anticipated to have significant impacts on the goods movement systems in the International Border Region. These factors, which may also affect other planning regions, include the following:

- Expansion of international trade, especially increasing trade with Mexico.
- Cross-border goods movement in the form of relatively short-distance, cross-border drayage.
- Continued dominance of truck transport of goods in the region.
- Regional and out-of-region transport of agricultural products.
- Population growth and increased regional demands for goods.
- General economic growth of the country, State, and region.
- Air quality issues, including the need to continue to make substantial efforts throughout the region (and adjacent regions) to reduce freight-related emissions, up to and including actions aimed at meeting zero-emission goals.

Freight Infrastructure Needs

Below are possible strategies for future regional freight transportation improvement:

Efficient Cross-Border Movement

In this region, cross-border international trade dominates freight operations. Truck traffic to and from Mexico is a significant economic driver. The Otay Mesa POE in San Diego County, for example, handles the second highest volume of trucks and the highest dollar volume of trade among southern U.S. land ports of entry. Maintaining and improving California-Mexico cross-border freight movement is an issue of national importance.

Studies over the past decade have recognized the need to maintain and improve POE facilities and access, as exemplified by the development of the new Otay Mesa East POE. Regional planning efforts have been directed toward highway projects that improve access to the POEs and improve the routes serving the cross-border traffic. Also part of international freight planning is the need to maintain and enhance productive international coordination with Mexican transportation agencies and stakeholders in order to identify and develop needed improvements.

Dedicated Freight Transportation Systems

Regional transportation plans and studies suggest an existing and growing need for dedicated freight transportation facilities, such as managed truck lanes. Investments in managed truck lanes may provide public benefits in terms of safety and efficiency. Recently, SANDAG was awarded a Caltrans Partnership Planning Grant to conduct a study that analyzes different strategies for accommodating and managing trucks on the region's freeways. The overall study objectives are to conduct a broad feasibility analysis of different freeway operational strategies for trucks, including the use of Managed Lanes by trucks. Additionally, summarize truck data in the region, including general characteristics of regional truck travel, data gaps, and provide recommendations for additional truck data collection.

Sustainable Expansion and Improved Use of Rail, Seaport, and Air Cargo Facilities

Expansion of rail yards, logistic centers, seaport terminals, and air cargo facilities may be needed to accommodate forecasted growth in freight demand. Current gateways tend to be bottlenecks of freight movement. Freight mobility in this region is nearing its limits, as the Interstate and State Highway System, POEs, rail, seaport, and airport systems approach capacity. Long-range plans by SANDAG and other agencies consider possible improvements in these areas. However, while expansion may be desirable for freight mobility, the highways, POEs, rail, seaport, and airport facilities are constrained by geography and existing land use patterns. Expansion of freight facilities in densely populated areas also tends to have negative effects on communities. To accommodate growth, new strategies and technologies may be needed. Facilities may need to be located outside the urban area. Air cargo operators, for example, may need to consider smaller cargo planes and multiple airfields.

Challenges, Constraints, and Opportunities

The challenges, constraints, and opportunities for the International Border Region include the following:

- **Fostering international partnerships**. Port of entry projects and other bi-national planning initiatives provide evidence of successful cross-border planning between the U.S. and Mexico. Additional opportunities may exist for mutually beneficial initiatives and investments on both sides of the border.
- **Overcoming geographical and land use constraints.** Major facilities, such as San Ysidro POE, San Diego International Airport and the Port of San Diego, are constrained by geography and land use encroachments, making expansion difficult. Capacity may exist in other locations, which will not be without other constraints.
- **Meeting goals for air quality improvement and greenhouse gas reduction.** Alternatives to truck transport and diesel-powered engines are needed. Moving forward, opportunities may exist in terms of new technologies and innovative solutions via zero and near zero technology advancements. Intelligent Transportation Systems. The demand for technological solutions to reduce air pollution can be expected to become more aggressive, with interest in zero-emission and near-zero-emission engines.
- **Focusing on technological solutions.** There is a need to identify advanced technology opportunities to maximize operational efficiencies and minimize emissions.
- **Avoiding or minimizing environmental and community impacts.** Environmental considerations will continue to be part of the project planning and delivery process for this region. Existing and potential environmental constraints and community issues, such as, public health and safety, need to be considered in all planning strategies. Improving freight mobility, throughput, and volume will continue to affect some populations disproportionately. Freight infrastructure improvement projects are closely tied to air quality.

Selected International Border Region Freight-Related Plans and Studies, 2006 – 2014

Name of Plan	Sponsor(s)	Date Issued	Internet URL
Goods Movement Border Crossing Study and Analysis	SCAG (prepared by HDR Decision Economics)	June 2012	(paper copy)
Our Region. Our Future. 2050 San Diego Regional Transportation Plan (RTP), including 2050 Goods Movement Strategy	SANDAG	October 2011	http://www.sandag.org/index.asp?projectid=349&fuseaction=projects.detail
San Diego RTP Technical Appendix 11: San Diego and Imperial Valley Comprehensive Freight Gateway Study	SANDAG (prepared by HDR Decision Economics, IHS Global Insight, Cambridge Systematics, SD Freight Consulting & Crossborder Group)	March 2010	http://www.sandag.org/index.asp?classid=19&fuseaction=home.classhome
Imperial County 2007 Transportation Plan Highway Element	Imperial Valley Association of Governments (prepared by KOA Corporation)	May 2008	http://www.imperialcounty.net/ivag/ProjectBriefs/2007-20ImperialCountyTransPlan/ImperialCounty2007TransportationPlanFinalMay2008.pdf
Multi-County Goods Movement Action Plan (MCGMAP), including the San Diego County Action Plan	Metro (lead), with OCTA, RCTC, SANBAG, SANDAG, VCTC, SCAG, and Caltrans. Wilbur Smith Associates	April 2008	http://www.metro.net/projects/mcgmap/
California – Baja California Border Infrastructure Update	Caltrans District 11	April 2008	http://www.dot.ca.gov/dist11/departments/planning/pdfs/systplan/FlagReport_2008.pdf
Economic Impacts of Wait Times at the San Diego – Baja California Border	SANDAG and Caltrans District 11 (prepared by HDR/HLB Decision Economics, Inc. and others	January 2006; updated 2007 and 2010	http://www.sandag.org/index.asp?projectid=253&fuseaction=projects.detail http://www.dot.ca.gov/dist11/departments/planning/pdfs/systplan/ImpactsOfBorderDelayFinalReport_January2010.pdf
California – Baja California Border Report	Caltrans District 11	March 2006	http://www.dot.ca.gov/dist11/departments/planning/index.htm#goodsmovement
San Diego Freight Rail: Options for Sustained Growth	John J. Hoegemeier	2005	http://sdfreightrail.com.p8.hostingprod.com/Other_Studies.htm
"Bottleneck Study" – Transportation Infrastructure and Traffic Management Analysis of Cross Border Bottlenecks	Caltrans District 11	November 2004	http://www.borderplanning.fhwa.dot.gov/bottleneckStudy/bottleRpt.pdf
Global Gateways Development Program	Business, Transportation and Housing Agency; Caltrans Office of Goods Movement	January 2002	http://www.dot.ca.gov/hq/tpp/offices/ogm/products_files/GGDP_Final_Report.pdf

RESOURCES AND ADDITIONAL INFORMATION

U.S. General Services Administration (Land Ports of Entry). http://www.gsa.gov/portal/category/21521
Caltrans Office of Freight Planning: http://www.dot.ca.gov/hq/tpp/offices/ogm/index.html

Caltrans District 11: http://www.dot.ca.gov/dist11/

Caltrans Office of Truck Services: http://www.dot.ca.gov/hq/traffops/trucks/

San Diego Association of Governments (SANDAG): http://www.sandag.org/

SANDAG RTP: http://www.sandag.org/index.asp?projectid=349&fuseaction=projects.detail

Imperial County Transportation Commission: http://www.imperialctc.org/

Otay Mesa East POE (Otay Mesa Chamber of Commerce): http://www.otaymesa.org/featured-banner/sr-11otay-mesa-east-port-of-entry-project-update

BNSF Railway: http://www.bnsf.com/
UP Railroad: http://www.up.com/
San Diego and Imperial Valley Railroad: http://www.railamerica.com/railservices/sdiy.aspx
Baja California Railroad: http://www.bcrailroad.com/home
Port of San Diego: http://www.portofsandiego.org/

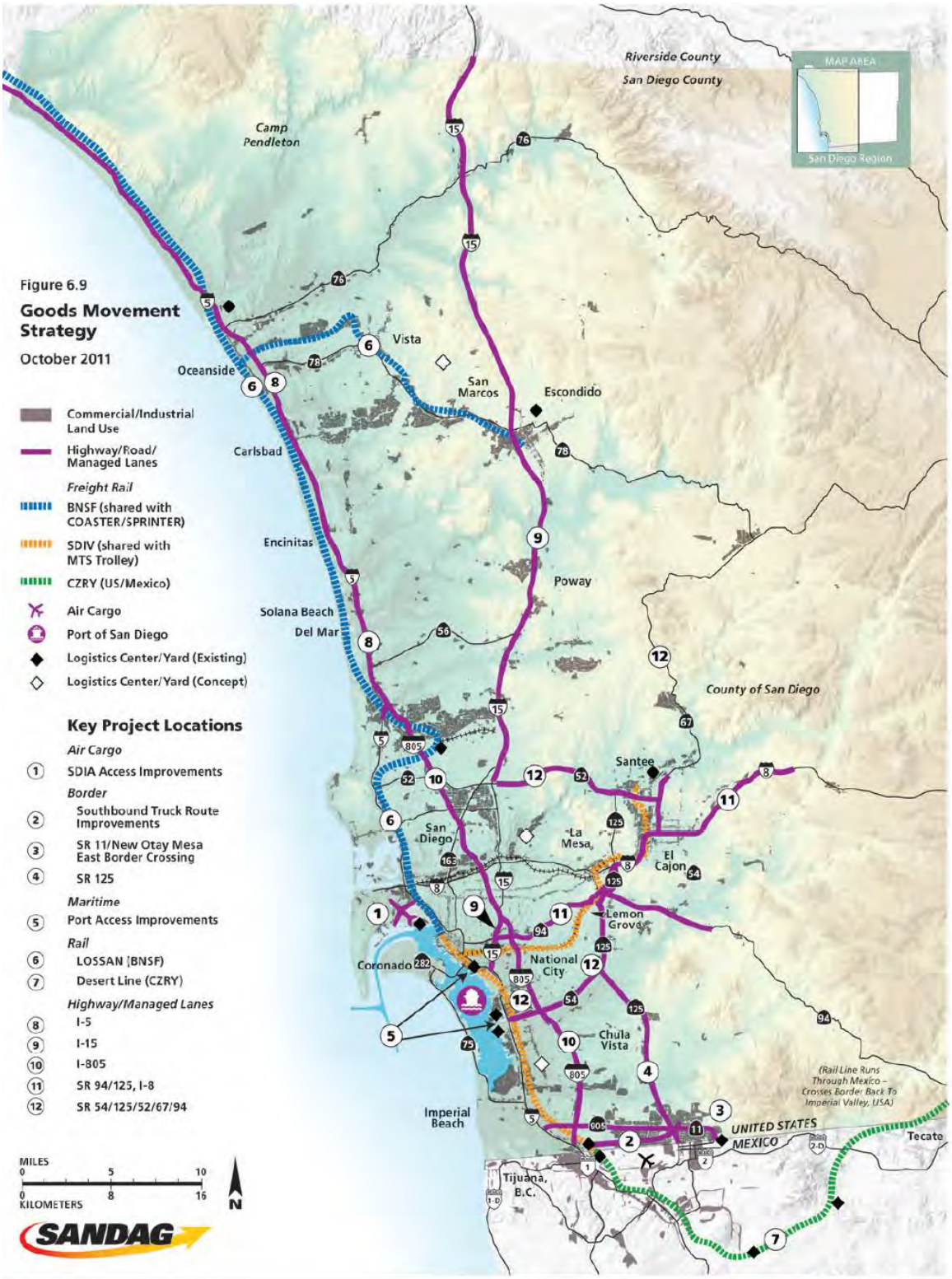


Figure 6.9
Goods Movement Strategy
October 2011
Commercial/Industrial Land Use
Highway/Road/ Managed Lanes
Freight Rail
BNSF (shared with COASTER/SPRINTER)
SDIV (shared with MTS Trolley)
CZRY (US/Mexico)
Air Cargo
Port of San Diego
Logistics Center/Yard (Existing)
Logistics Center/Yard (Concept)
Key Project Locations
Air Cargo
1 SDIA Access Improvements
Border
2 Southbound Truck Route Improvements
3 SR 11/New Otay Mesa East Border Crossing
4 SR 125
Maritime
5 Port Access Improvements
Rail
6 LOSSAN (BNSF)
7 Desert Line (CZRY)
Highway/Managed Lanes
8 I-5
9 I-15
10 I-805
11 SR 94/125, I-8
12 SR 54/125/52/67/94
MILES
KILOMETERS
N
SANDAG
Riverside County
San Diego County
MAP AREA
San Diego Region
Camp Pendleton
Oceanside
Vista
San Marcos
Escondido
Carlsbad
Encinitas
Solana Beach
Del Mar
Poway
County of San Diego
Santee
La Mesa
El Cajon
San Diego
Lemon Grove
National City
Coronado
Chula Vista
Imperial Beach
Tijuana, B.C.
(Rail Line Runs Through Mexico – Crosses Border Back To Imperial Valley, USA)
UNITED STATES
MEXICO
Tecate

APPENDIX B-7: CALTRANS DISTRICTS

B-7-1: District 1 - Eureka

B-7-2: District 2 - Redding

B-7-3: District 3 - Marysville

B-7-4: District 4 - Oakland

B-7-5: District 5 - San Luis Obispo

B-7-6: District 6 - Fresno

B-7-7: District 7 - Los Angeles

B-7-8: District 8 - San Bernardino

B-7-9: District 9 - Bishop

B-7-10: District 10 - Stockton

B-7-11: District 11 - San Diego

B-7-12: District 12 - Orange County

This page is intentionally blank.

APPENDIX B-7-1: DISTRICT 1 - EUREKA

District Address	1656 Union Street, Eureka, CA 95501 P. O. Box 3700, Eureka, CA 95502
Goods Movement Contacts	District 1: David Carstensen, Dave_Carstensen@dot.ca.gov, 707-445-6409 HQ: Debbie Nozuka, Debbie_Nozuka@dot.ca.gov, 916-651-6012

Covering California's north coast, District 1 extends from the Oregon border south to the Mendocino-Sonoma County line and east to Clear Lake, covering the four counties of Del Norte, Humboldt, Mendocino, and Lake. Transportation planning is conducted by rural Regional Transportation Planning Agencies within each county.

TRUCKING

Primary Truck Routes

- United States (US) 101 (considered the "lifeline of the North Coast")
- State Route (SR) 20, SR 29, SR 53, SR 197, US 199, and SR 299 are all part of the "High Emphasis"[1] and "Focus Route"[2] network

Trucking Issues

- The Caltrans Richardson Grove Realignment project proposes to adjust the alignment and slightly expand the roadway width on State Route (SR) 101 through Richardson Grove State Park to allow access for State Transportation Assistance Act (STAA) trucks. Lawsuits against Caltrans citing redwood tree harm and inadequate environmental review have been heard and ruling requirements fulfilled. The start date for construction has yet to be determined.
- The SR 197/US 199 corridor is an important goods movement route for Del Norte County. A series of four safety improvement projects are underway which will bring these routes up to STAA standards.
- SR 299 to the east is also important for Humboldt County. The Buckhorn Summit project underway in District 2 will improve truck movements and safety by adding a truck climbing lane and straightening curves.
- Limited roadway capacity, narrow lanes and shoulders, and lack of passing opportunities on many rural two-lane highways create advisories and truck restrictions based on length and weight.
- Several rural communities within the District have highways that also serve as local Main Streets, which may create more potential for auto and freight conflicts and congestion.
- Hazardous materials and waste restrictions exist on the SR 20 north shore near Clear Lake, but the rest of SR 20 is STAA-accessible.

RAIL LINES

North Coast Railroad Authority (NCRA) owns the Northwestern Pacific (NWP) Railroad line from Korbel to Healdsburg and has an operating easement from Healdsburg to Lombard. In 1988, the Federal Rail Administration (FRA) ordered freight operations on the NWP line to cease because tracks and highway crossing signals had deteriorated to below minimum requirements.

Restoration of service on the NWP line requires rehabilitation to FRA Class I[3] track standards and lifting of the executive order by the FRA. Since 2006, NCRA has concentrated on rehabilitating the segment of track from Healdsburg to Lombard. In May 2011, FRA permitted freight trains to run on the 62-mile segment between Lombard (Napa County) and Windsor (Sonoma County) in District 4.

Rail Issues

Restoration of freight rail north of Willits is problematic due to environmental constraints within the Eel River Canyon in Mendocino County. Since 1996, the line has been washed out at several points in the Eel River Canyon.

Air Cargo Airports

The Arcata/Eureka Airport transports over 200 metric tons of cargo each year as passenger carrier belly cargo and in dedicated freighters.

Federal Express serves both Jack McNamara Field/Del Norte County Airport and Ukiah Airport. Cargo tonnage at Murray Field in Eureka exceeds 800 metric tons annually.

Seaports

The Port of Humboldt Bay is the only deep-water shipping port between San Francisco (225 nautical miles south) and Coos Bay, Oregon (156 nautical miles north), as well as California's northernmost deep-water port. The Humboldt Bay Harbor, Recreation, and Conservation District (HBHRCD) manages the port.

This northern port has the ability to accommodate large Panama Canal-class (Panamax) vessels. Forest products dominate both exports and imports; but petroleum products are also imported. Potential future trade includes coastal shipping (including barge), bulk cargo, and marine-dependent industrial opportunities.

The Maritime Administration (MARAD) awarded two Marine Highway Initiative grants to the Port. The West Coast Hub-Feeder initiative is for short-sea shipping market analysis for the M-5 Marine Highway Corridor along the coasts of Washington, Oregon, and California, including Humboldt Bay. The Golden State Marine Highway initiative is to explore proposed services along the California Coast – calling on the thirteen ports between Crescent City and San Diego.

Crescent City owns and maintains a harbor with a commercial fishing fleet and public-access docks.

Port Issues

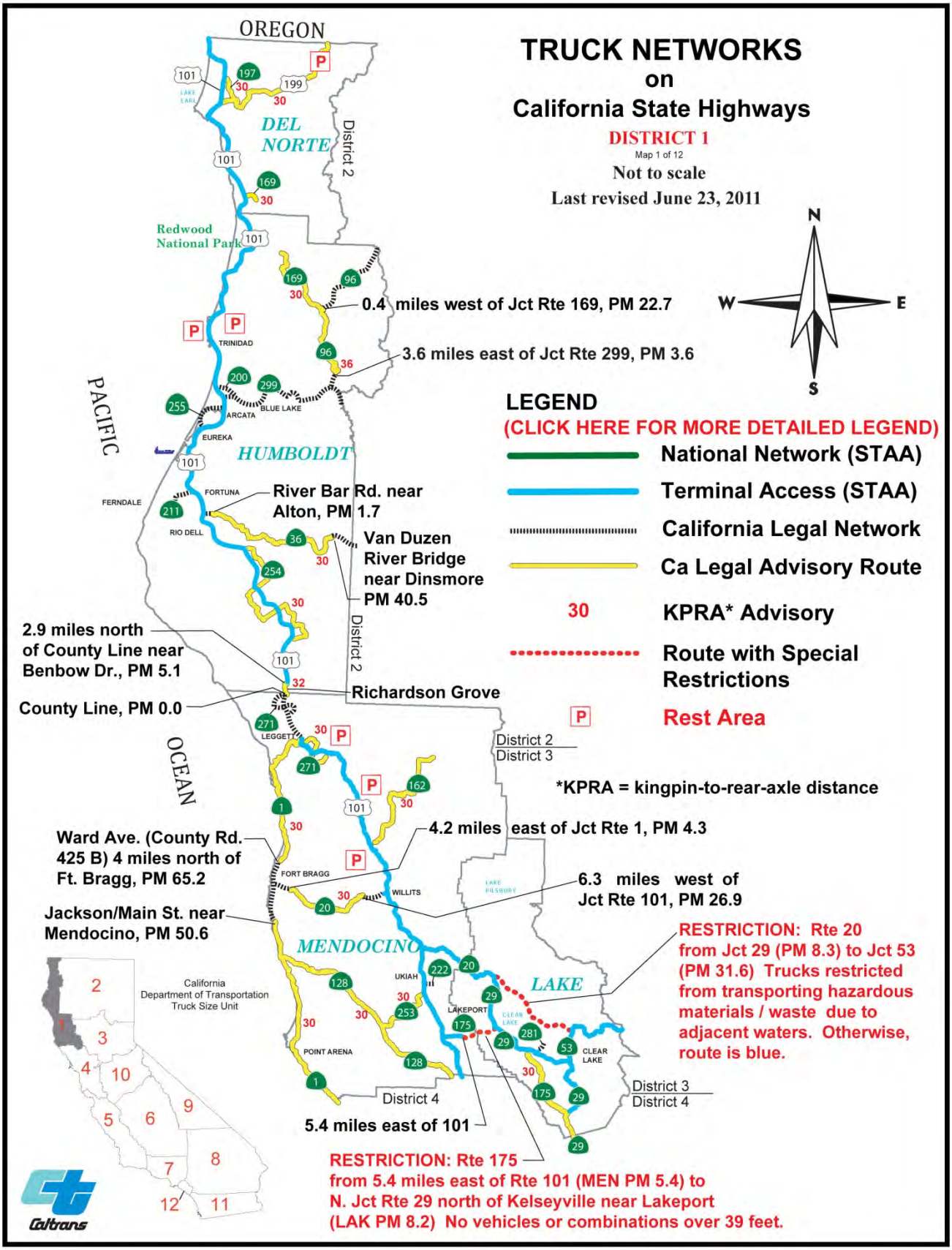
- Humboldt County's small population and economic base generates little inbound freight for consumption (small market size).
- Shoaling, sedimentation, and deferred dredging are substantial constraints to deepwater shipping.
- Cargo handling facilities are in disrepair.
- Remote area with rugged terrain and limited truck and rail connectivity.

Sources and Additional Information

Goods Movement Action Plan (2007), California Air Resource Board and Business, Transportation and Housing: http://www.arb.ca.gov/gmp/docs/gmap-1-11-07.pdf
Caltrans Office of Truck Services: http://www.dot.ca.gov/hq/traffops/signtech/trucks/truck-length-routes.htm
Del Norte Local Transportation Commission: http://www.dnltc.org/mission.html
Humboldt County Association of Governments, including 2014 Regional Transportation Plan: http://www.hcaog.net/documents/regional-transportation-plan-rtp-201314-update-vroom
Mendocino Council of Governments (MCOG) Regional Transportation Plan: http://www.mendocinocog.org/reports_projects-RTP.shtml
North Coast Railroad Authority: http://www.northcoastrailroad.org/index.html
Port of Humboldt Bay website, including the Humboldt Bay Management Plan (2007): http://www.humboldtbay.org/
Lake County/City Area Planning Council, including the Draft 2010 Lake County Regional Transportation Plan: http://lakeapc.org/index.asp

Notes

1. **High Emphasis:** "High Emphasis" routes are highways having the State's highest priority for programming to meet freeway/expressway standards or otherwise designated for their critical importance to interregional travel. These routes were first recognized in the 1990 Interregional Road System Plan.
2. **Focus Route:** Identified in the Interregional Transportation Strategic Plan (ITSP), this subset of the *High Emphasis Routes* highlights the State's highest priority routes that, when complete, will connect all urban areas and geographic goods movement gateways, as well as link rural and small urban areas to the trunk system.
3. **Class I:** A large freight rail carrier having annual operating revenues of $250 million or more as annually adjusted for inflation by the Surface Transportation Board. This group includes the nation's major railroads.


TRUCK NETWORKS
on
California State Highways
DISTRICT 1
Map 1 of 12
Not to scale
Last revised June 23, 2011
N
W
E
S
OREGON
DEL NORTE
District 2
Redwood National Park
TRINIDAD
PACIFIC
OCEAN
ARCATA
BLUE LAKE
EUREKA
HUMBOLDT
FERNDALE
FORTUNA
RIO DELL
LEGGETT
FORT BRAGG
WILLITS
POINT ARENA
UKIAH
LAKEPORT
CLEAR LAKE
LAKE
MENDOCINO
District 3
District 4
0.4 miles west of Jct Rte 169, PM 22.7
3.6 miles east of Jct Rte 299, PM 3.6
River Bar Rd. near Alton, PM 1.7
Van Duzen River Bridge near Dinsmore PM 40.5
2.9 miles north of County Line near Benbow Dr., PM 5.1
County Line, PM 0.0
Richardson Grove
Ward Ave. (County Rd. 425 B) 4 miles north of Ft. Bragg, PM 65.2
Jackson/Main St. near Mendocino, PM 50.6
4.2 miles east of Jct Rte 1, PM 4.3
6.3 miles west of Jct Rte 101, PM 26.9
5.4 miles east of 101
LEGEND
(CLICK HERE FOR MORE DETAILED LEGEND)
National Network (STAA)
Terminal Access (STAA)
California Legal Network
Ca Legal Advisory Route
30 KPRA* Advisory
Route with Special Restrictions
P Rest Area
*KPRA = kingpin-to-rear-axle distance
RESTRICTION: Rte 20 from Jct 29 (PM 8.3) to Jct 53 (PM 31.6) Trucks restricted from transporting hazardous materials / waste due to adjacent waters. Otherwise, route is blue.
RESTRICTION: Rte 175 from 5.4 miles east of Rte 101 (MEN PM 5.4) to N. Jct Rte 29 north of Kelseyville near Lakeport (LAK PM 8.2) No vehicles or combinations over 39 feet.
California Department of Transportation Truck Size Unit
Caltrans

This page is intentionally blank.

APPENDIX B-7-2: DISTRICT 2 - REDDING

District Address

1657 Riverside Drive
Redding, CA 96001

Goods Movement Contacts

District 2: Laura Rose, Laura_Rose@dot.ca.gov, 530-225-3139
Scott White, Scott_White@dot.ca.gov, 530-229-0518
HQ: Debbie Nozuka, Debbie_Nozuka@dot.ca.gov, 916-651-6012

Located in the northeast corner of the state bordering Oregon to the north and Nevada to the east, at 27,307 square miles, District 2 is one of Caltrans' largest districts. Encompassing the counties of Lassen, Modoc, Plumas, Shasta, Siskiyou, Tehama, and Trinity, the district is almost entirely rural, with a diverse terrain of valleys, foothills, and mountain ranges. Transportation planning is conducted by one Metropolitan Planning Organization in Shasta County and Regional Transportation Planning Agencies in each of the counties within the district.

TRUCKING

Almost all freight in District 2 is transported along the district's nearly 4,000 total lane-miles of highway.

Primary North-South Routes

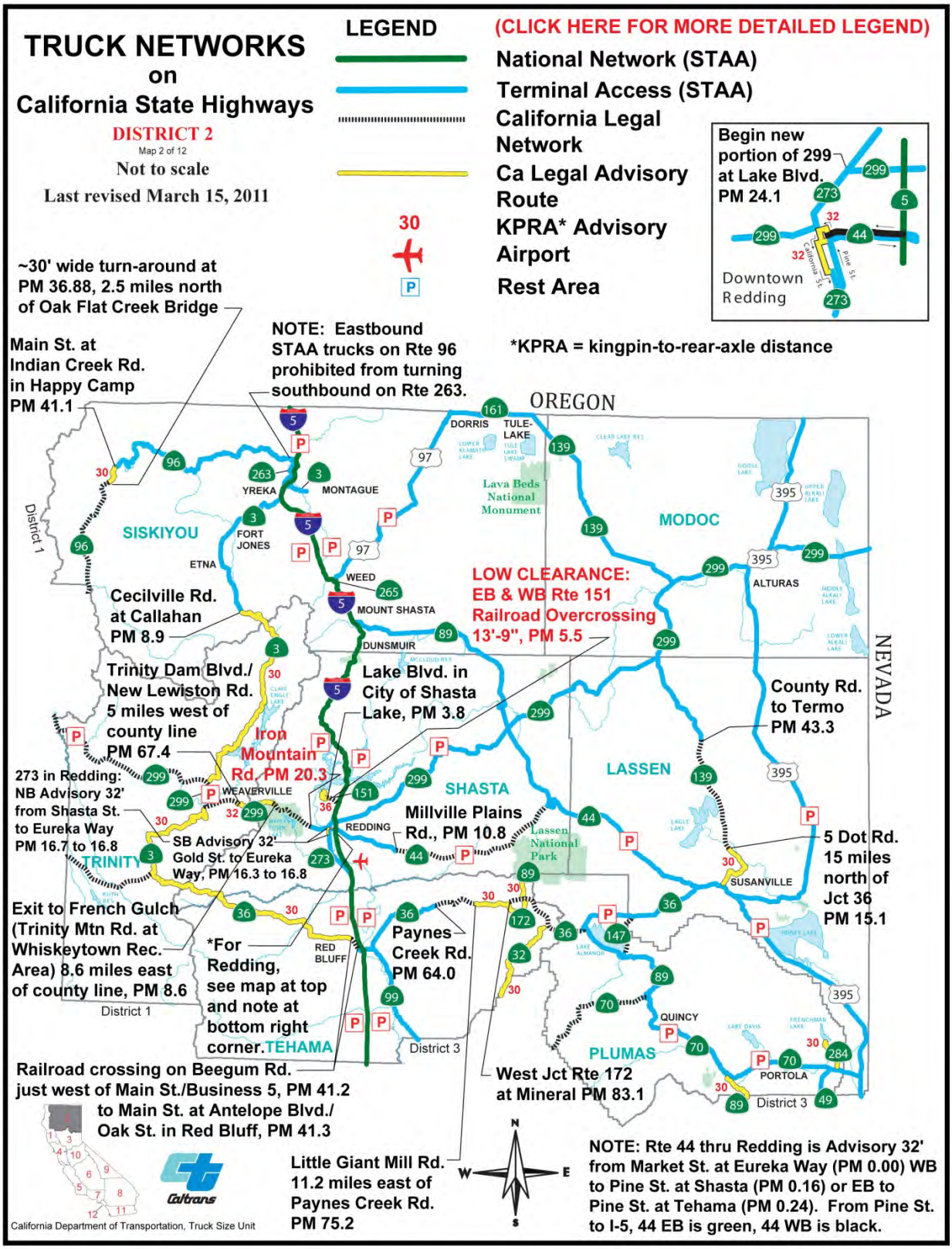
- Interstate (I) 5 , ("Corridor of the Future"[1])
- United States (US) 395 ("High Emphasis"[2] and "Focus Route"[3])
- State Route (SR) 99
- US 97

Primary East-West Routes

- SR 299/44/36 ("High Emphasis" and "Focus Route")

Trucking Issues

- Truck and recreational traffic causes congestion problems on many two-lane highways due to limited roadway capacity, narrow lanes and shoulders, lack of passing opportunities, and vertical and horizontal road alignments. Several routes have truck size restrictions and advisories.
- Bridges on I-5: More than three dozen bridges do not meet minimum vertical clearance of 16 feet over roadway, and over two dozen bridges lack weight capacity for full permit loads.
- In District 2, there are no continuous alternatives to I-5, the primary north-south truck route on the West Coast extending from Mexico to Canada. Two partial detours are: SR 299/SR 89 around the Siskiyou Mountains and Sacramento River Canyon (used if this part of I-5 is closed due to incidents or weather), and US 97 from the City of Weed north into Oregon.
- The SR 299/44/36/395 Focus Route corridor is an important goods movement route which provides the only continuous east/west transportation facility in the north state for goods movement between US 101 and US 395.
- SR 299 currently has barriers hindering Surface Transportation Assistance Act (STAA) trucks between I-5 and US 101. Several projects are programmed in the 2010 State Highway Operation and Protection Program (SHOPP) to eliminate the barriers on the "Buckhorn Grade" section by 2020.
- SR 44 currently has barriers hindering STAA trucks between I-5 and SR 89. STAA trucks must use SR 299 to SR 89 to SR 44 to travel east to connect with SR 36 near Susanville.
- SR 70 has the lowest elevation of any trans-Sierra crossing, making it an important alternate highway freight corridor during snow conditions.
- Roadway damage from heavy truck traffic inclement weather, and limited maintenance funding has adversely impacted roads.
- Demand for truck parking exceeds available truck accommodations on a number of routes.


TRUCK NETWORKS
on
California State Highways
DISTRICT 2
Map 2 of 12
Not to scale
Last revised March 15, 2011
LEGEND
(CLICK HERE FOR MORE DETAILED LEGEND)
National Network (STAA)
Terminal Access (STAA)
California Legal Network
Ca Legal Advisory Route
KPRA* Advisory
Airport
Rest Area
30
P
Begin new portion of 299 at Lake Blvd. PM 24.1
Downtown Redding
~30' wide turn-around at PM 36.88, 2.5 miles north of Oak Flat Creek Bridge
Main St. at Indian Creek Rd. in Happy Camp PM 41.1
NOTE: Eastbound STAA trucks on Rte 96 prohibited from turning southbound on Rte 263.
*KPRA = kingpin-to-rear-axle distance
OREGON
NEVADA
DORRIS
TULE-LAKE
YREKA
MONTAGUE
FORT JONES
ETNA
WEED
MOUNT SHASTA
DUNSMUIR
SISKIYOU
MODOC
LASSEN
SHASTA
TRINITY
ALTURAS
SUSANVILLE
QUINCY
PLUMAS
PORTOLA
REDDING
WEAVERVILLE
RED BLUFF
Lava Beds National Monument
Lassen National Park
District 1
District 3
LOW CLEARANCE: EB & WB Rte 151 Railroad Overcrossing 13'-9", PM 5.5
Cecilville Rd. at Callahan PM 8.9
Trinity Dam Blvd./ New Lewiston Rd. 5 miles west of county line PM 67.4
Iron Mountain Rd. PM 20.3
Lake Blvd. in City of Shasta Lake, PM 3.8
County Rd. to Termo PM 43.3
273 in Redding: NB Advisory 32' from Shasta St. to Eureka Way PM 16.7 to 16.8
SB Advisory 32' Gold St. to Eureka Way, PM 16.3 to 16.8
Millville Plains Rd., PM 10.8
5 Dot Rd. 15 miles north of Jct 36 PM 15.1
Exit to French Gulch (Trinity Mtn Rd. at Whiskeytown Rec. Area) 8.6 miles east of county line, PM 8.6
*For Redding, see map at top and note at bottom right corner.
Paynes Creek Rd. PM 64.0
Railroad crossing on Beegum Rd. just west of Main St./Business 5, PM 41.2 to Main St. at Antelope Blvd./ Oak St. in Red Bluff, PM 41.3
West Jct Rte 172 at Mineral PM 83.1
Little Giant Mill Rd. 11.2 miles east of Paynes Creek Rd. PM 75.2
N
W
E
S
NOTE: Rte 44 thru Redding is Advisory 32' from Market St. at Eureka Way (PM 0.00) WB to Pine St. at Shasta (PM 0.16) or EB to Pine St. at Tehama (PM 0.24). From Pine St. to I-5, 44 EB is green, 44 WB is black.
Caltrans
California Department of Transportation, Truck Size Unit

Air Cargo Airports

Redding Municipal Airport, the only commercial airport in Shasta County, handles most of the regional cargo. Federal Express (FedEx), United Parcel Service (UPS), and United States Postal Service (USPS) serve this airport using heavy and light trucks, airfreight, and charter air services.

Rail Lines

Two Class I[4] railroads, Union Pacific (UP) and BNSF Railway (BNSF) provide freight service. The main route runs north and south through District 2, parallels the I-5 corridor, and connects service with main east-west corridors at Seattle, Portland, Oakland, and Los Angeles.

Short Line Freight Railroads

Although the Central Oregon and Pacific Railroad (CORP) operates over 325 track miles between northern California and Eugene, Oregon, the 60-mile California portion generates less revenue than a Class II[5] railroad revenue threshold. Lumber and related products are the primary carload business of the CORP. The railroad interfaces with the UP at Black Butte and Montague in California.

Rail Issues

- Through a series of tunnel improvements (notching, lowering the floor, etc.) made by UP, double-stacked, intermodal trains are now able to travel the tunnels through the Donner route to the south. It has replaced the Feather River Canyon route moving cargo through a
- shorter, faster, more efficient route from the Port of Oakland. The route through District 2 now serves manifest cargo with fewer trains per week.
- BNSF occasionally uses the Feather River Canyon route to reposition containers between the Pacific Northwest and California seaports. BNSF has a route in District 2 that primarily serves unit and manifest freight along with trackage rights on UP routes.
- In Tehama County, many locations would benefit from railroad crossing improvements.

Seaports

The Port of Humboldt Bay (in District 1), is the only northern California deep-water port. Harbor deepening has better equipped the port for international shipping. According to the Harbor District, the port's primary limitation to expanded use is the constrained access of goods movement on SR 299 due to existing STAA trucking barriers, which hinder connections to I-5. A series of projects are under development to address these barriers.

Sources and Additional Information

Goods Movement Action Plan (2007), California Air Resource Board and Business, Transportation and Housing: http://www.arb.ca.gov/gmp/docs/gmap-1-11-07.pdf

Caltrans Office of Truck Services: http://www.dot.ca.gov/hq/traffops/signtech/trucks/truck-length-routes.htm

Caltrans District 2: http://www.dot.ca.gov/dist2/

299/44/36/395 Focus Route Corridor Management Plans and Interstate 5 Transportation Concept Report : http://www.dot.ca.gov/dist2/planning/conceptrpts.htm

Union Pacific Railroad, California Profile: http://www.up.com/cs/groups/public/documents/up_pdf_nativedocs/pdf_california__usguide.pdf

BNSF Network Map: http://bnsf.com/customers/where-can-i-ship/

Shasta Regional Transportation Agency (SRTA): http://www.srta.ca.gov/

Lassen County RTP: http://www.envisionlassencounty.com/wp-content/uploads/2013/03/RTP-2012-Update.pdf

Tehama County RTP: http://www.tehamacountypublicworks.ca.gov/Transportation/documents/RTP/RTP_all.pdf

Trinity County RTP: http://www.trinitytransportation.org/pg/Transportation-Planning-Documents.php

Notes

1. **Corridor of the Future:** One of six interstate routes identified by the U.S. Department of Transportation to participate in a federal initiative to develop multi-state corridors to help reduce congestion (Interstates 5, 10, 15, 69, 70, and 95).
2. **High Emphasis:** "High Emphasis" routes are highways having the State's highest priority for programming to meet freeway/expressway standards or otherwise designated for their critical importance to interregional travel.
3. **Focus Route(s):** Identified in the Interregional Transportation Strategic Plan (ITSP), this subset of the *High Emphasis Routes* highlights the State's highest priority routes that, when complete, will connect all urban areas and geographic goods movement gateways, as well as link rural and small urban areas to the trunk system.
4. **Class I:** A large freight rail carrier having annual operating revenues of $250 million or more as annually adjusted for inflation by the Surface Transportation Board. This group includes the nation's major railroads.
5. **Class II:** A mid-sized freight rail carrier having operating revenues of less than $250 million but more than $20 million, as annually adjusted by for inflation by the Surface Transportation Board.

APPENDIX B-7-3: DISTRICT 3 - MARYSVILLE

District Address

703 B Street, Marysville, CA 95901
P.O. Box 911, Marysville, CA 95901

Goods Movement Contacts

District 3: Florigna Feliciano, Florigna_Feliciano@dot.ca.gov
530-741-5455
HQ: Debbie Nozuka, Debbie_Nozuka@dot.ca.gov, 916-651-6012

District 3 covers a geographically diverse, 11-county area in the northern Central Valley, with the Sacramento Metropolitan area to the south, the interior coastal range to the west, flat agricultural land across the valley, and foothills, river canyons, the Sierra Nevada mountains, and the Lake Tahoe Basin to the east. The District includes the counties of Sacramento*, El Dorado*, Placer*, Yuba*, Sutter*, Yolo*, Glenn, Colusa, Butte, Sierra, and Nevada. [Asterisk (*) denotes counties represented by the Sacramento Area Council of Governments (SACOG).] Placer and El Dorado counties retain RTPA status up to the crest of the Sierra Nevada. The Tahoe Regional Planning Agency (TRPA) operates in the Tahoe Basin.

TRUCKING

Primary North-South Routes

- Interstate (I)-5 , (a "Corridor of the Future"[1])
- State Route (SR) 99/70/149 ("Focus Routes"[2] and "Farm-to-Market"[3] corridor)

Primary East-West Routes

- Interstate 80 (part of a national freight corridor targeted for multi-state operations coordination efforts, including the I-80 Winter Operations Coalition)
- United States (US) 50 (traverses the nation from West Sacramento, California to Ocean City, Maryland)
- SR 20 (a "Focus Route")

Trucking Issues

- Corridors with elevated freight volumes, such as I-5 and I-80, experience significant pavement damage due to the high amount of heavy duty truck traffic.
- Oversized loads will be aided by reconstruction work over the Sierra and raising the height of overpasses.
- Operational and high occupancy vehicle (HOV) improvements will help address anticipated increased congestion through Sacramento and Roseville.
- To improve Surface Transportation Assistance Act (STAA) truck access in rural areas, Caltrans has approved "terminal access" for parts of SR 49 and SR 89 in Sierra County.
- Low Levels of Service (LOS) exist due to limited passing opportunities or physical restrictions such as sharp curves.
- Because a truck parking shortage exists, Caltrans works to accommodate parking through ramp and intersection design and advocacy with local partners.
- Region-wide problems exist with heavy trucks using non-STAA routes and causing damage to local roadway pavements.

RAIL LINES

Union Pacific Railroad (UP) is the primary Class I[4] railroad in the area, with BNSF Railway having some trackage rights. Two active short line railroads, Sierra Northern Railway and California Northern Railroad also serve the area. The largest rail facility on the US West Coast, J. R. Davis Rail Yard in Roseville, moves over 1,100 cars per day.

A Trade Corridor Improvement Fund (TCIF) project to move the existing UP mainline northward in the vicinity of the Sacramento Amtrak Depot (Sacramento Intermodal Facility Track Relocation) has some major components completed. UP has completed the tunnels portion of the Donner ("Central Corridor") Double Track, Tunnels Modification project identified in the 2007 State Rail Plan; the double track portion is yet to be completed.

Rail Issues

- Air quality and environmental issues exist in areas near the J. R. Davis Rail Yard.
- As with other areas nationwide, more mainline track miles are needed to keep up with anticipated demand, but rail infrastructure is expensive to build and maintain.

AIR CARGO AIRPORTS

- Sacramento International Airport (SMF) has room to expand. US 50 is to create a major western regional air cargo center. It already has onsite warehousing and a long runway.
- McClellan Airport near I-80 has room to expand.

Airport Issues

- At Mather Airport, noise problems and encroaching residential development have been issues.
- The economic downturn has stalled a business park planned east of the SMF to support air cargo businesses.

SEAPORTS

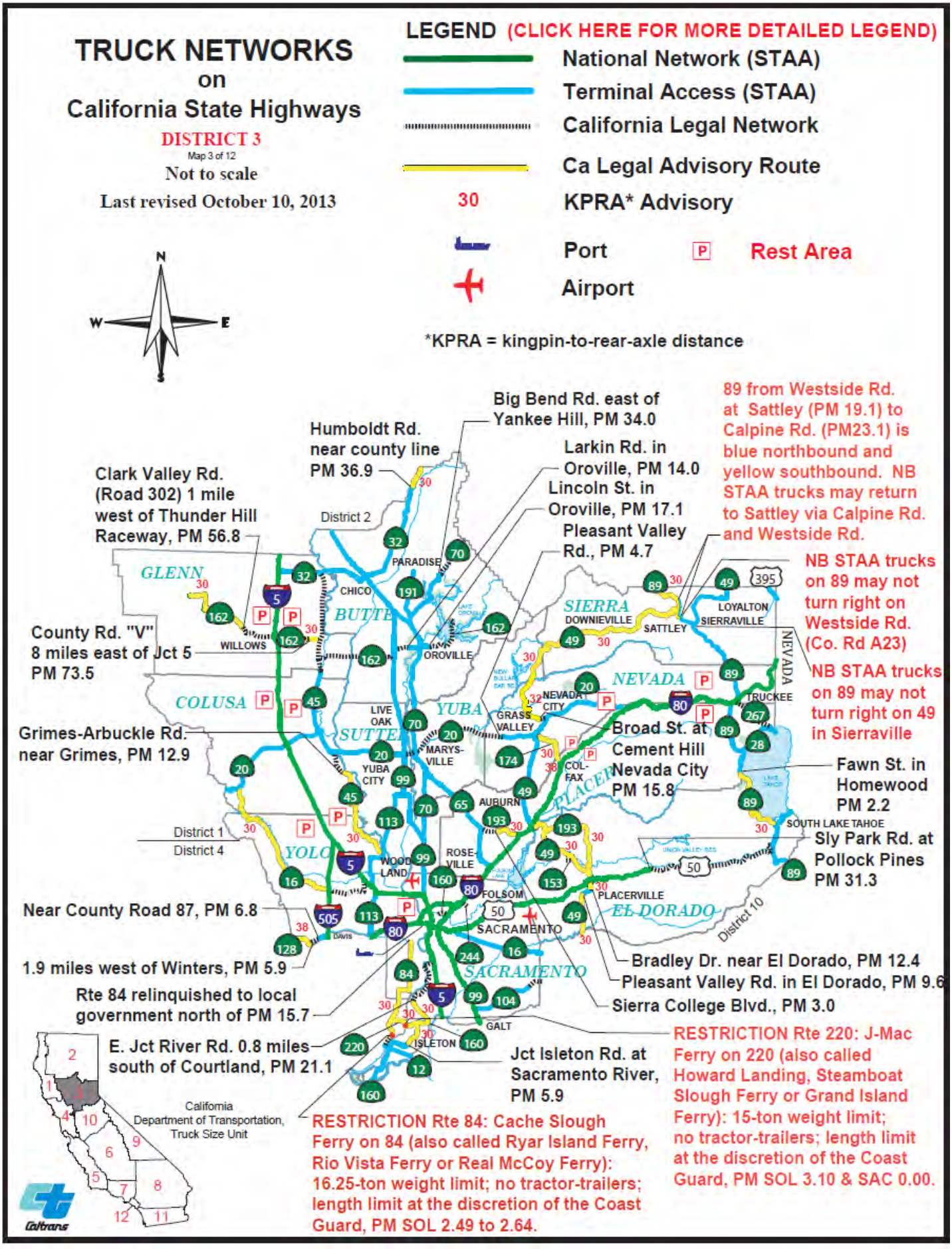
The Port of West Sacramento specializes in bulk, break-bulk, agriculture, and construction cargo. In 2010, exports totaled $145.2 million by value and imports, $3.7 million. Rice handling brings in about $2 million annually. In July 2013, the Port terminated direct port terminal operations and became a landlord port leasing its maritime facilities to SSA Pacific, Inc. to a cargo handler, and exchanging the uncertainity of cargo revenue for the stability of leasing.

The following two projects would allow barge services and fully loaded ships to use the Port:

- The Sacramento River Deep Water Channel Trade Corridors Improvement Fund (TCIF) project would increase the channel depth from 30 to 35 feet.
- A $30 million federal grant was awarded to the ports of West Sacramento, Stockton, and Oakland to initiate a new “Marine Highway” barge container service. “As needed” barge service is underway between the Port of Stockton and the Port of Oakland. The West Sacramento portion of the project is not yet providing service.

Port Issues

- Encroaching residential development.
- Relatively small local market for heavy bulk goods.
- Major infrastructure improvements are needed to become more competitive.


TRUCK NETWORKS
on
California State Highways
DISTRICT 3
Map 3 of 12
Not to scale
Last revised October 10, 2013
LEGEND (CLICK HERE FOR MORE DETAILED LEGEND)
National Network (STAA)
Terminal Access (STAA)
California Legal Network
Ca Legal Advisory Route
30
KPRA* Advisory
Port
P
Rest Area
Airport
*KPRA = kingpin-to-rear-axle distance
N
W
E
S
Big Bend Rd. east of Yankee Hill, PM 34.0
Humboldt Rd. near county line PM 36.9
Larkin Rd. in Oroville, PM 14.0
Lincoln St. in Oroville, PM 17.1
Pleasant Valley Rd., PM 4.7
Clark Valley Rd. (Road 302) 1 mile west of Thunder Hill Raceway, PM 56.8
89 from Westside Rd. at Sattley (PM 19.1) to Calpine Rd. (PM23.1) is blue northbound and yellow southbound. NB STAA trucks may return to Sattley via Calpine Rd. and Westside Rd.
NB STAA trucks on 89 may not turn right on Westside Rd. (Co. Rd A23)
NB STAA trucks on 89 may not turn right on 49 in Sierraville
County Rd. "V" 8 miles east of Jct 5 PM 73.5
Grimes-Arbuckle Rd. near Grimes, PM 12.9
Broad St. at Cement Hill Nevada City PM 15.8
Fawn St. in Homewood PM 2.2
Sly Park Rd. at Pollock Pines PM 31.3
Near County Road 87, PM 6.8
1.9 miles west of Winters, PM 5.9
Bradley Dr. near El Dorado, PM 12.4
Pleasant Valley Rd. in El Dorado, PM 9.6
Sierra College Blvd., PM 3.0
Rte 84 relinquished to local government north of PM 15.7
E. Jct River Rd. 0.8 miles south of Courtland, PM 21.1
Jct Isleton Rd. at Sacramento River, PM 5.9
RESTRICTION Rte 220: J-Mac Ferry on 220 (also called Howard Landing, Steamboat Slough Ferry or Grand Island Ferry): 15-ton weight limit; no tractor-trailers; length limit at the discretion of the Coast Guard, PM SOL 3.10 & SAC 0.00.
RESTRICTION Rte 84: Cache Slough Ferry on 84 (also called Ryar Island Ferry, Rio Vista Ferry or Real McCoy Ferry): 16.25-ton weight limit; no tractor-trailers; length limit at the discretion of the Coast Guard, PM SOL 2.49 to 2.64.
GLENN
BUTTE
COLUSA
SUTTER
YUBA
YOLO
PLACER
NEVADA
EL DORADO
SIERRA
District 1
District 2
District 4
District 10
CHICO
PARADISE
OROVILLE
WILLOWS
LIVE OAK
YUBA CITY
MARYSVILLE
GRASS VALLEY
NEVADA CITY
COL-FAX
AUBURN
ROSEVILLE
WOODLAND
DAVIS
FOLSOM
SACRAMENTO
PLACERVILLE
DOWNIEVILLE
SATTLEY
LOYALTON
SIERRAVILLE
TRUCKEE
SOUTH LAKE TAHOE
GALT
ISLETON
California Department of Transportation, Truck Size Unit
Caltrans

Sources and Additional Information

SACOG Regional Goods Movement Study, Phases I and II: http://www.sacog.org/goodsmovement/study/

Goods Movement Action Plan, California Air Resource Board and Business, Transportation and Housing (2007): http://www.arb.ca.gov/gmp/docs/gmap-1-11-07.pdf

Caltrans Office of Truck Services: http://www.dot.ca.gov/hq/traffops/engineering/trucks/

District 3 District System Management Plan (DSMP) and Transportation Concept Report/Transportation System Development Plan Source: http://www.dot.ca.gov/dist3/departments/planning/systemplanning.html

Regional/Metropolitan Transportation Plans for SACOG http://www.sacog.org/mtp/2035/final-mtp, and counties of Butte http://www.bcag.org/Planning/MTP--SCS/index.html, Colusa, Sierra, Nevada http://www.nctc.ca.gov/Reports/Regional-Transportation-Plan/index.html, and Glenn http://www.gcppwa.net/resources.aspx#Planning

Trade Corridors Improvement Fund (TCIF): http://www.catc.ca.gov/programs/tcif.htm

California State Rail Plan: http://californiastaterailplan.dot.ca.gov/docs/Final_Copy_2013_CSRP.pdf

Port of West Sacramento website: http://www.cityofwestsacramento.org/city/depts/cmo/port_of_west_sacramento/

Notes

1. **Corridor of the Future:** One of the first six interstate routes identified by the U.S. Department of Transportation in 2007 to participate in a federal initiative to develop multi-state corridors to help reduce congestion (Interstates 5, 10, 15, 69, 70, and 95).
2. **Focus Route(s):** Identified in the Interregional Transportation Strategic Plan (ITSP), this subset of the *High Emphasis Routes* highlights the State's highest priority routes that, when complete, will connect all urban areas and geographic goods movement gateways, as well as link rural and small urban areas to the trunk system.
3. **Farm to Market:** The U.S. Department of Transportation has defined the California Farm to Market Corridor, SR 99 from south of Bakersfield to Sacramento, as a High Priority Corridor on the National Highway System.
4. **Class I:** A large freight rail carrier having annual operating revenues of $250 million or more as annually adjusted for inflation by the Surface Transportation Board. This group includes the nation's major railroads.

APPENDIX B-7-4: DISTRICT 4 - OAKLAND

District Address	111 Grand Avenue, Oakland, CA 94612 P. O. Box 23660, Oakland, CA 94623-0660
Goods Movement Contacts	District 4: Joseph Aguilar, Joseph_Aguilar@dot.ca.gov, 510-286-5591 Stephen Yokoi, Stephen_Yokoi@dot.ca.gov, 510-286-5621 HQ: Debbie Nozuka, Debbie_Nozuka@dot.ca.gov, 916-651-6012

District 4 covers nine counties in the greater San Francisco Bay Area: Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, and Sonoma.

TRUCKING

Primary North-South Routes
Interstate (I) 880, US 101, I-680, State Route (SR)-29

Primary East-West Routes
I-80, (western leg of a national freight corridor; route subject to multi-state coordination efforts), I-580, SR-12, SR-152, SR-4

Trucking Issues

- Federal Highway Administration (FHWA) identified I-80 at I-580/I-880 (Bay Bridge approach), as among the worst freight bottlenecks in California's supply chain.
- Dray trucking in and around the Port of Oakland extending into the San Joaquin Valley contributes to roadway congestion, safety, environmental, and pavement issues for the surrounding communities.
- Major freight corridors experience significant pavement damage in lanes used by trucks.
- Lack of truck parking facilities.

RAIL LINES

Class I Railroads

The two Class I railroads operating in District 4, **Union Pacific (UP) Railroad** and **BNSF Railway**, primarily provide double stack intermodal

Class III Railroads (Short Lines, Switching, and Terminal)

- **Oakland Terminal Railway (OTR)** is jointly owned by UP and BNSF Railway and operates 10 miles of switching track in Oakland.
- **Richmond Pacific (RPRC)** is a privately held company that operates 2.5 miles of track in the Port of Richmond and interchanges with UP and BNSF Railway.
- **California Northern (CFNR)** operates 261 miles of track and interchanges with Northwestern Pacific Railroad Company. Most of the major commodities carried are food related, including tomato products, olives, rice, cheese, frozen foods, beer, wine and wheat.
- **Northwestern Pacific Railroad Company (NWP)** is an independently-owned short line company that operates freight service from the CFNR to Windsor, California over 61 miles of main line track.

Rail Projects

Trade Corridors Improvement Fund (TCIF)

- The ***Richmond Rail Connector*** project is an at-grade rail connection between the BNSF Stockton Subdivision and UP's Martinez Subdivision near San Pablo, just north of Richmond. The project is needed to accommodate and better serve both current and future freight traffic on the corridor while reducing the impacts to the local community. (TCIF Project #2 is under construction)
- The Outer Harbor Intermodal Terminal (OHIT) project is critical to the transformation of the Oakland Army Base (OAB) Gateway Development Area into a world-class intermodal trade and logistics center. The construction of a new intermodal rail terminal capable of handling increased container cargo-based transfers is a key component of OHIT. (TCIF Project #3, divided into six sub-projects, is under construction)
- The Marina Bay Parkway Grade Separation project will resolve major traffic, health, and safety issues in the City of Richmond by constructing a roadway under crossing in place of an existing at-grade railroad crossing at Marina Bay Parkway between Regatta Boulevard and Meeker Avenue in Richmond. (TCIF Project #82 is under construction)

Air Cargo Airports

- **Oakland International (OAK)**—home to a FedEx Express Super Hub (averaging 200 flights per month and sorting 280,000 packages per day) handling most markets in the Western United States, Canada, Hawaii, and Alaska. OAK handles 52% of regional air cargo. United Parcel Service (UPS) also operates out of OAK.
- **San Francisco International (SFO)**—around 66% of total cargo is international with over half transported the bellies of passenger planes. SFO handles over 40% of regional air cargo shipments.
- **Mineta San Jose International (SJC)**—the State's sixth largest air cargo airport handles just 6% of Bay Area air cargo, due to limited space and facility constraints.

Airport Issues

- Airports, such as SJC, may exchange cargo space for corporate executive traffic.
- SFO is expected to reach capacity before 2035.
- Cargo tons are forecasted to grow the fastest at SFO, due to forecast growth in international cargo demand.
- Bay Area air cargo (by tons) is expected to increase 92% by 2035 (SFO 127%, OAK 65%, SJC 65%).
- All-cargo flights are expected to increase 40% by 2035.
- SFO, like other major cargo gateways, is experiencing a decline in their market share.

Seaports

Port of Oakland

- Bay Area's principal international, water-trade gateway. A great majority of trade is with Asia.
- Handles 99% of the containerized goods moving through Northern California.
- Occupies 20 miles of waterfront on the eastern shore of San Francisco Bay; 1,210 acres for maritime activities.
- Seven container terminals, 18 deepwater berths, 36 container cranes with 30 able to handle Post-Panamax size.
- Intermodal rail service by UP and BNSF adjacent to marine terminal area.
- Primarily containerized cargo. One of only a few West Coast ports where exports exceed imports.

Port of San Francisco

- Specializes in non-containerized cargoes (dry/liquid bulk, break-bulk, and project).
- Offers six berths and on-dock rail.
- Processed over 1.2 million tons of cargo in 2012.

Ports of Richmond, Redwood City, and Benicia

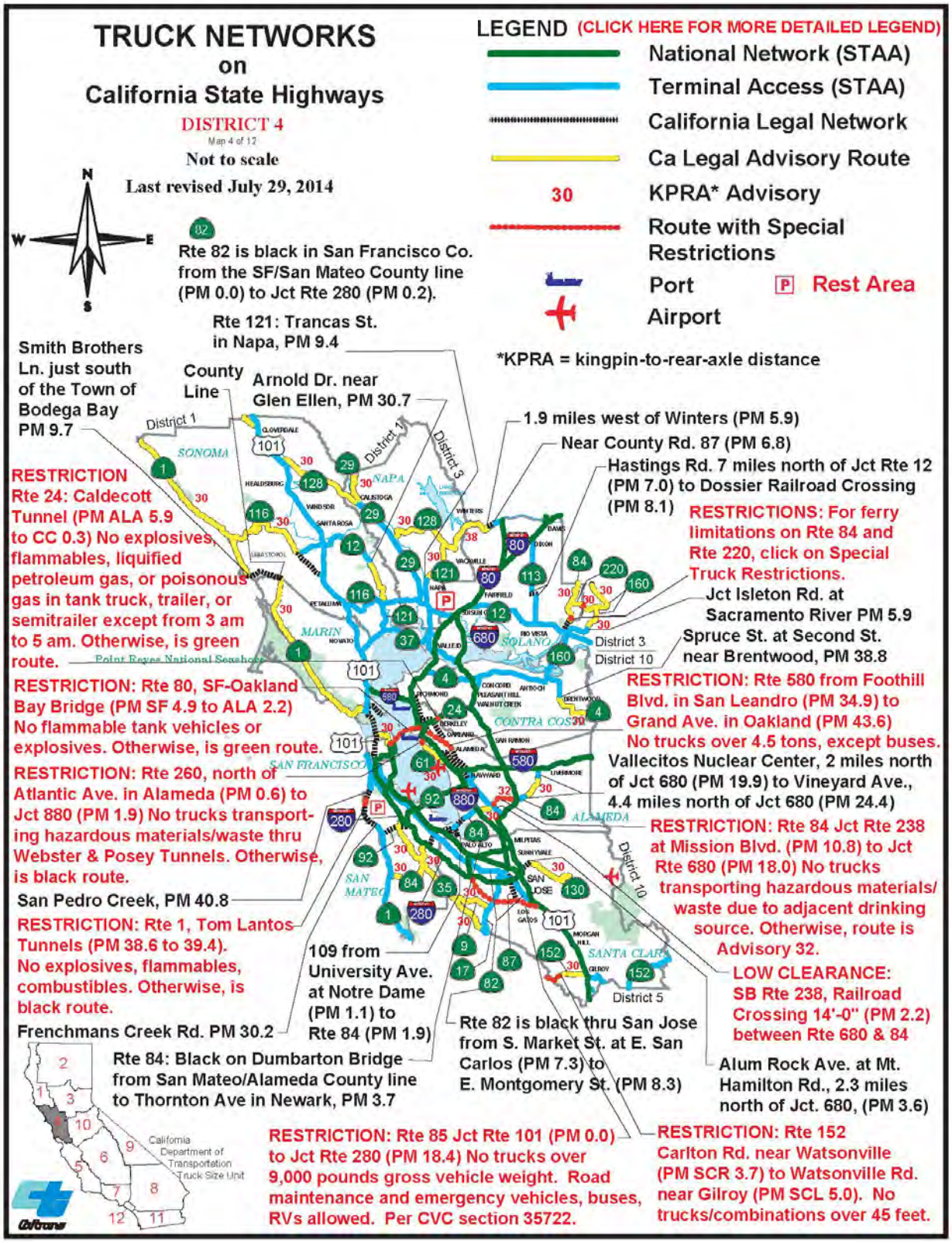
- The Port of Richmond handles bulk liquids, dry bulk materials, metals, vehicles, and break-bulk cargoes.
- The Port of Redwood City on South San Francisco Bay handles dry bulk, neo-bulk, and liquid bulk cargoes.
- The Port of Benicia is owned and operated by AMPORTS, an automobile processor; UP provides rail service.

Private Terminals

- Privately owned terminals who trade in petroleum products, raw sugar, bay sand, and other products.

Port Issues

- Growth in Port of Oakland's containerized cargo is expected to generate substantial truck and rail traffic. North-south rail capacity at the port is beginning to become bottlenecked. Better port access routes are needed.
- The Port of Oakland tries to create a balance with the multitude of recreation, conservation, commercial fishing, and environmental protection requirements.
- Diesel engine emissions from marine vessels and harbor craft, trucks, locomotives, cargo-handling equipment, transport refrigeration units, off-road diesel equipment, and drayage trucks contribute to air pollution and quality-of-life issues for neighboring communities.
- Increased incompatible land uses adjacent to the Port could restrict operations and expansion.


TRUCK NETWORKS
on
California State Highways
DISTRICT 4
Map 4 of 12
Not to scale
Last revised July 29, 2014
LEGEND (CLICK HERE FOR MORE DETAILED LEGEND)
National Network (STAA)
Terminal Access (STAA)
California Legal Network
Ca Legal Advisory Route
30 KPRA* Advisory
Route with Special Restrictions
Port
P Rest Area
Airport
*KPRA = kingpin-to-rear-axle distance
82 Rte 82 is black in San Francisco Co. from the SF/San Mateo County line (PM 0.0) to Jct Rte 280 (PM 0.2).
Rte 121: Trancas St. in Napa, PM 9.4
Smith Brothers Ln. just south of the Town of Bodega Bay PM 9.7
County Line
Arnold Dr. near Glen Ellen, PM 30.7
1.9 miles west of Winters (PM 5.9)
Near County Rd. 87 (PM 6.8)
Hastings Rd. 7 miles north of Jct Rte 12 (PM 7.0) to Dossier Railroad Crossing (PM 8.1)
RESTRICTIONS: For ferry limitations on Rte 84 and Rte 220, click on Special Truck Restrictions.
Jct Isleton Rd. at Sacramento River PM 5.9
Spruce St. at Second St. near Brentwood, PM 38.8
RESTRICTION Rte 24: Caldecott Tunnel (PM ALA 5.9 to CC 0.3) No explosives, flammables, liquified petroleum gas, or poisonous gas in tank truck, trailer, or semitrailer except from 3 am to 5 am. Otherwise, is green route.
Point Reyes National Seashore
RESTRICTION: Rte 80, SF-Oakland Bay Bridge (PM SF 4.9 to ALA 2.2) No flammable tank vehicles or explosives. Otherwise, is green route.
RESTRICTION: Rte 260, north of Atlantic Ave. in Alameda (PM 0.6) to Jct 880 (PM 1.9) No trucks transporting hazardous materials/waste thru Webster & Posey Tunnels. Otherwise, is black route.
San Pedro Creek, PM 40.8
RESTRICTION: Rte 1, Tom Lantos Tunnels (PM 38.6 to 39.4). No explosives, flammables, combustibles. Otherwise, is black route.
Frenchmans Creek Rd. PM 30.2
109 from University Ave. at Notre Dame (PM 1.1) to Rte 84 (PM 1.9)
Rte 84: Black on Dumbarton Bridge from San Mateo/Alameda County line to Thornton Ave in Newark, PM 3.7
Rte 82 is black thru San Jose from S. Market St. at E. San Carlos (PM 7.3) to E. Montgomery St. (PM 8.3)
RESTRICTION: Rte 85 Jct Rte 101 (PM 0.0) to Jct Rte 280 (PM 18.4) No trucks over 9,000 pounds gross vehicle weight. Road maintenance and emergency vehicles, buses, RVs allowed. Per CVC section 35722.
Vallecitos Nuclear Center, 2 miles north of Jct 680 (PM 19.9) to Vineyard Ave., 4.4 miles north of Jct 680 (PM 24.4)
RESTRICTION: Rte 580 from Foothill Blvd. in San Leandro (PM 34.9) to Grand Ave. in Oakland (PM 43.6) No trucks over 4.5 tons, except buses.
RESTRICTION: Rte 84 Jct Rte 238 at Mission Blvd. (PM 10.8) to Jct Rte 680 (PM 18.0) No trucks transporting hazardous materials/waste due to adjacent drinking source. Otherwise, route is Advisory 32.
LOW CLEARANCE: SB Rte 238, Railroad Crossing 14'-0" (PM 2.2) between Rte 680 & 84
Alum Rock Ave. at Mt. Hamilton Rd., 2.3 miles north of Jct. 680, (PM 3.6)
RESTRICTION: Rte 152 Carlton Rd. near Watsonville (PM SCR 3.7) to Watsonville Rd. near Gilroy (PM SCL 5.0). No trucks/combinations over 45 feet.
District 1
District 3
District 10
District 5
SONOMA
NAPA
MARIN
SOLANO
CONTRA COSTA
SAN FRANCISCO
ALAMEDA
SAN MATEO
SANTA CLARA
California Department of Transportation Truck Size Unit

SOURCES AND ADDITIONAL INFORMATION

California Air Cargo Groundside Needs Study, Caltrans, July 2013.
http://onramp.dot.ca.gov/hq/tpp/offices/ogm/aircargo.html

Air Resources Board and Business, Transportation and Housing (Goods Movement Action Plan): http://www.arb.ca.gov/gmp/docs/gmap-1-11-07.pdf

Caltrans Office of Traffic Engineering: http://www.dot.ca.gov/hq/traffops/signtech/trucks/truck-length-routes.htm#step-2

2004 Regional Goods Movement Study for the San Francisco Bay Area, Metropolitan Transportation Commission: http://www.mtc.ca.gov/planning/rgm/

Association of Bay Area Governments: http://www.abag.ca.gov/

Bay Area Air Quality Management District (BAAQMD): http://www.baaqmd.gov/

Port websites: Oakland, http://portofoakland.com/; Richmond, http://www.ci.richmond.ca.us/; Redwood

City, http://www.redwoodcityport.com/, Benicia, http://www.amports.us/

Air Cargo Mode Choice and Demand Study, Caltrans, 2002: http://www.dot.ca.gov/hq/tpp/offices/ogm/key_reports_files/Air_Cargo_Mode_Choice_&_Demand_Study_080210.pdf

APPENDIX B-7-5: DISTRICT 5 – SAN LUIS OBISPO

District Address	50 Higuera Street San Luis Obispo, CA 93401-5415
Goods Movement Contacts	District 5: Kelly McClendon, Kelly_Mcclendon@dot.ca.gov, (805) 549 3510 HQ: Todd LaCasse, Todd_Lacasse@ca.dot.gov, (916) 654-7809

District 5 covers five counties along California's Central Coast: Monterey, San Benito, San Luis Obispo, Santa Barbara, and Santa Cruz. Santa Barbara and Monterey Counties are the largest economic engines in the Central Coast region. The regions key freight-dependent industries are agriculture, manufacturing, and truck transportation and warehousing. There are no seaports in this district.

TRUCKING

Primary North-South Routes
US 101, SR-1, SR-154, SR-227, SR-135, SR-33, SR-25, SR-152, SR-9, SR-35, SR-236, SR-217, SR-225, SR-192

Primary East-West Routes
SR-166, SR-58, SR-46, SR-41, SR-68, SR-246, SR-144, SR-198, SR-129

The primary artery running north-south through the region is US 101, which provides direct connectivity to major markets and intermodal facilities in the Los Angeles and San Francisco Bay Area regions. The majority of goods in this region, in terms of tonnage, are moved by trucks.

State Routes 1 and 68 (the Monterey-Salinas Highway) provide primary ground access to the Monterey Peninsula Airport for both people and freight. In addition, a variety of east-west highways connect the region with Interstate 5 in the Central Valley, which is a key highway in the national freight network. The bulk of the Central Coast region's freight is either coming from or heading to other parts of California.

Key Warehousing and Distribution Centers

Santa Maria, Santa Barbara County: Industrial commercial areas of Blosser and Betteravia Roads; products arrive from farms or is manufactured and uses either SR 166 or Betteravia Road to access US 101.

Salinas, Monterey County: Distribution comes from farms, greenhouses and various manufacturing. *Watsonville, Santa Cruz County*: Distribution shares geography with manufacturing facilities and agricultural processing and dominates south Watsonville, largely concentrating along SR 129 and SR 1.

RAIL LINES

Class I Railroads: The Central Coast is served by one Class I railroad, the Union Pacific (UP). The UP railroad a line runs north and south along the coast through District 5 and connects with their mainline trackage in the Los Angeles Basin and points east. UP track is able to serve the Ports of Oakland and Los Angeles and Long Beach. Freight on this route is generally carload traffic rather than the intermodal variety. This rail route serves import and export traffic in California, Oregon, and Washington.

Several branch lines, including the Hollister Spur, Lompoc Spur, and Santa Cruz Branch Line, serve freight rail; speed limit is limited to 20 mph due to deteriorated rail track.

Short Line Freight Railroads

Santa Maria Valley Railroad is a 14-mile system of private line that connects to the UP Railroad in Guadalupe. The east-west spur connects to central

Santa Maria while two north-south spurs serve Betteravia and the Santa Maria Airport area respectively.

Air Cargo Airports

In 2010, three airports carried the most metric tons of cargo within the district:

- Santa Barbara (SBA) – 1,964 tons
- San Luis Obispo (SBP) – 1,211 tons
- Monterey Peninsula (MRY) – 511 tons

SOURCES AND ADDITIONAL INFORMATION

Caltrans Office of Truck Services, http://www.dot.ca.gov/hq/traffops/trucks/
Monterey Bay Area Mobility 2035, http://www.ambag.org/pdf/monterey_bay_area_mobility_2035.pdf
Caltrans District 5 Goods Movement Website, http://www.dot.ca.gov/dist05/planning/goods_movement.htm
Central Coast California Commercial Flows Study, http://www.ambag.org/sites/default/files/documents/Central%20Coast%20CA%20Commercial%20Flows%20Study_Final_Revised%206-12-12.pdf

This page is intentionally blank.

APPENDIX B-7-6: DISTRICT 6 - FRESNO

District Address

1352 West Olive Avenue
Fresno, CA 93778-2616

Goods Movement Contacts

District 6 - Hector Rangel, Hector_Rangel@dot.ca.gov, (559) 488-4151
HQ - Todd LaCasse, Todd_LaCasse@dot.ca.gov, 916-654-7809

Located in the southern San Joaquin portion of California's Central Valley, District 6 covers the five-county area of Madera, Fresno, Tulare, Kings, and Kern counties, from north of Fresno to south of Bakersfield. Totaling 22,454 square miles, this geographically diverse district stretches from the southernmost part of Yosemite National Park to the Mojave Desert.

TRUCKING

District 6 has 476 miles of freeway and 1,554 miles of rural and urban highway. The District has the largest portion of road miles to maintain in the state highway system with 2,030 miles.

Primary North-South Routes
Interstate (I)-5, State Route (SR) -99, SR-41

Other North-South Routes
SR-33, SR-65, SR-145, SR-168 (shared responsibility with District 9), SR-14, United States (US)-395

Primary East-West Routes
SR-152, SR-180, SR-198, SR-46, SR-58

Other East-West Routes
SR-137, SR-166, SR-190, SR-119, SR-155, SR-223, SR-178

WAREHOUSING AND DISTRIBUTION CENTERS

Industrial development is clustered near SR-99.

North Pointe Master Planned Business Park. Industrial and logistics facilities designed to serve the California Central Valley (CV) and the western United States. The park will have an Enterprise Zone, Empowerment Zone, and Foreign Trade Zone.
http://www.northpointebusinesspark.com/

International Trade and Transportation Center (ITTC). ITTC is a 700-acre rail-served logistics park located in Shafter, California (CA). ITTC has direct rail access with BNSF Railway's mainline and easy access to I-5 and SR-99. http://www.ittc.com/

Tejon Ranch Industrial (TRI) Complex. A master planned development (1,450 acres) located at the heart of CA's north-south connection, I- 5 and SR 99. TRI provides outbound capabilities to serve CA and 11 western states within 24 hours. http://www.tejonranch.com/tic/index.asp

RAIL LINES

Class I Railroads

Union Pacific (UP) and BNSF Railway (BNSF) both have lines that run north and south through District 6 and connect the Port of Oakland with points east and west towards Chicago, Kansas City, Memphis, and other U. S. cities. These rail routes serve import and export traffic, and Central Valley shippers.

Short Line Freight Railroads

Three short lines – San Joaquin Valley Railroad (SJVR), West Isle Line (WFS), and Tulare Valley Railroad (TVRR) – interface with the Class I railroads to move CV freight and agricultural goods throughout the State, U S, and to Far East markets.
http://www.gwrr.com/operations/railroads/north_america/san_joaquin_valley_railroad

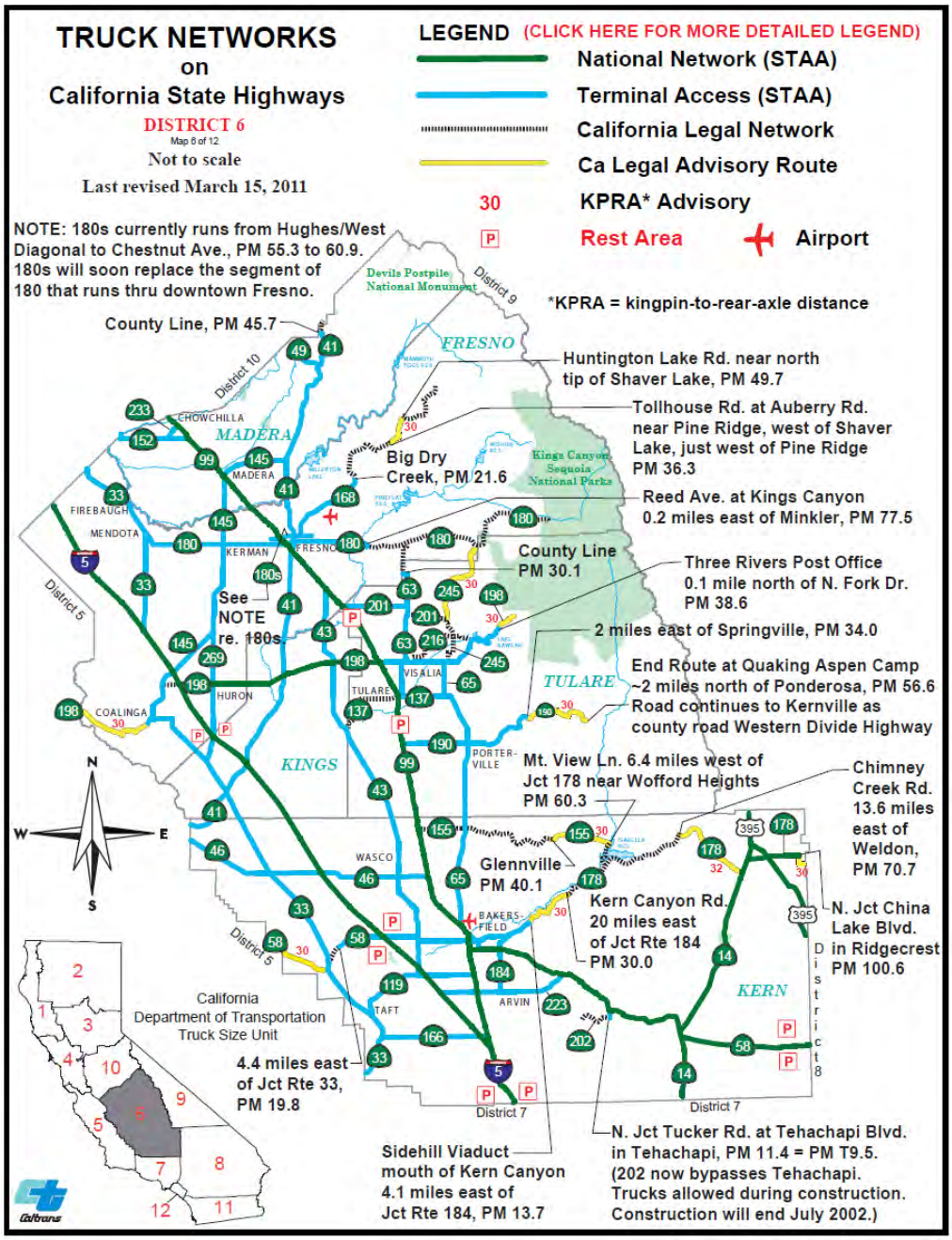
AIR CARGO AIRPORTS

Fresno Yosemite International Airport (FAT)

Cargo carriers include Airborne Express, FedEx, and United Parcel Service. The airport has limited passenger and air cargo services.http://www.fresno.gov/DiscoverFresno/Airports/AirlineServiceandAirCargoInformation.htm

TRADE CORRIDORS IMPROVEMENT FUND (TCIF)-SUPPORTED PROJECTS

Tehachapi Trade Corridor Rail Improvement Project



Additional Goods Movement References

BNSF Map: http://www.bnsf.com/customers/pdf/maps/div_ca.pdf;

California Inter-Regional Intermodal System (CIRIS) Implementation Plan Final Report (2006) http://www.sjvcogs.org/pdfs/2011/GMreport.pdf

Caltrans Office of Truck Services: http://www.dot.ca.gov/hq/traffops/signtech/trucks/

Fresno Council of Governments: http://www.fresnocog.org/.

Goods Movement Action Plan – Phase II (GMAP): http://www.arb.ca.gov/gmp/docs/gmap-1-11-07.pdf.

Kern Council of Governments: http://www.kerncog.org/cms/.

San Joaquin Council of Governments: http://www.sjcog.org/.

San Joaquin Valley Interregional Goods Movement Plan, (2013) http://www.sjvcogs.org/goods.html

Union Pacific http://www.uprr.com/aboutup/usguide/attachments/state_factsheets/ca.pdf

APPENDIX B-7-7: DISTRICT 7 – LOS ANGELES

District Address

100 S. Main Street
Los Angeles, CA 90012

Goods Movement Contacts

District 7: Daniel Kopulsky, dan_kopulsky@dot.ca.gov, (213) 897-0213
HQ: Julie Hutcheson, julie_a_hutcheson@dot.ca.gov, (916) 653-1965

Covering Los Angeles and Ventura counties in Southern California, District 7 is a diverse geographic area that includes 120 miles of coastline, large areas of coastal plain, canyons, hills, and mountains. Land use varies greatly, from forests and wilderness areas to the largest, most populated metropolitan area in the state. District 7 has the largest containerized port complex, busiest freight rail system and second busiest air cargo system in the U.S. Caltrans owns and operates 1,188 miles of state and interstate highways in the district. Los Angeles and Ventura are two of the six counties (10 million residents) represented by the Southern California Association of Governments (SCAG), the nation's largest metropolitan planning organization.

TRUCKING

District 7 is responsible for 42 freeways and highways. Los Angeles County has 915 freeway and highway miles, and Ventura County has 273 miles.

Major Goods Movement Routes
United States (US) 101, Interstate (I)-5, I-10, I-105, I-110, I-210, I-405, I-605, I-710, State Route (SR)-57, SR-60, SR-91, SR-47

Trucking Issues

- Southern California's aging transportation system is at capacity, serving a population in Los Angeles County alone of over ten million people.
- District 7 has five of the 10 worst truck bottlenecks in the United States.
- Truck vehicle miles traveled (VMT) is expected to double by 2030.
- Average annual daily heavy truck traffic exceeds 10,000 on I-5, I-10, SR-60, I-210, and I-710.

RAIL LINES

Two Class I Railroads operate in District 7, Union Pacific (UP) and BNS F Railway (BNSF).

- Alameda Corridor: A railroad express line – in a 20-mile trench – that connects the San Pedro Bay Ports to the transcontinental rail network east of downtown Los Angeles.
- Alameda Corridor East: Extends the benefits of the Alameda Corridor through construction of safety improvements and 20 grade separations across 70 additional miles of mainline railroad in the San Gabriel Valley.

BNSF Railway

- Hobart Yard, located in the City of Commerce near the junction of I-710 and SR-60: Largest intermodal rail yard in the United States, with 1 million containers and over 40,000 locomotives a year.
- Southern California International Gateway (SCIG): Proposed new intermodal yard adjacent to the Alameda Corridor near the San Pedro Bay Ports. Would increase use of the Alameda Corridor, reducing the need for trucks to haul containers on the I-710 to the Hobart Yard.

Union Pacific (UP) Railroad

- Commerce Yard: Just north of BNSF's Hobart Yard, this facility is primarily used for cargo handling. Processes over 350,000 containers per year.
- City of Industry Yard: Intermodal cargo handling.
- Intermodal Container Transfer Facility (ICTF) and Dolores Yard: Adjacent to the Alameda Corridor near the San Pedro Bay Ports. The ICTF is an intermodal facility moving containers from the ports onto the Alameda Corridor to reduce truck trips to the Commerce and Industry yards. The Dolores Yard is an adjacent servicing and switching facility.

SEAPORTS

Ports of Los Angeles and Long Beach

- San Pedro Bay is an inlet on the coast of Southern California and the site for the Port of Los Angeles (POLA) and the Port of Long Beach (POLB). POLA and POLB make up the San Pedro Bay Port Complex and is the principal international, water-trade gateway in California.
- Largest container complex in the U.S. and fifth largest in the world.
- Two ports combined handle 40 percent of all U.S. containerized waterborne imports.
- Sixty-percent of imports are shipped to destinations outside California.
- Volume of cargo is expected to triple, from 11.8 million TEU (twenty-foot equivalent units) in 2009 to 43.2 million TEU in 2035.
- Supports 4.7 million jobs across the U.S.
- The San Pedro Ports are investing over $6.0 billion in infrastructure projects over the next decade to compete in a 21st century global economy.

Port of Hueneme

- Provides a niche market for the import and export of automobiles and fresh produce.
- Positioned near the Santa Barbara Channel, the Port of Hueneme has become the primary support facility for the offshore oil industry.
- Fourth largest port in California.
- Supports 4,500 jobs in Ventura County.
- Over $7 billion in cargo value moved through the Port of Hueneme each year.
- One of the nation's busiest banana importing ports and included in the nation's top ten automobile importing ports.

AIR CARGO AIRPORTS

Air Cargo Facilities at regional airports handled over $78 billion in air cargo in 2010, much of it moving through the regional intermodal system upon arrival.

Major air cargo facilities include:

- Los Angeles International (LAX) – handles 1.6 million tons of air cargo annually and accounts for more than half of the state's air cargo tonnage.
- Between 2003 and 2011, cargo tonnage at Long Beach dropped by 50 percent. Most of the current cargo is carried by FedEx and UPS in smaller aircraft. The larger volumes designated for movement by air are trucked to Los Angeles or Ontario.
- Bob Hope/Burbank (BUR) Airport air cargo activity by the length of the runway to feeder and narrow body aircraft.

TRADE CORRIDORS IMPROVEMENT FUND (TCIF)-SUPPORTED PROJECTS

Improving intermodal connections to the San Pedro Bay Ports:

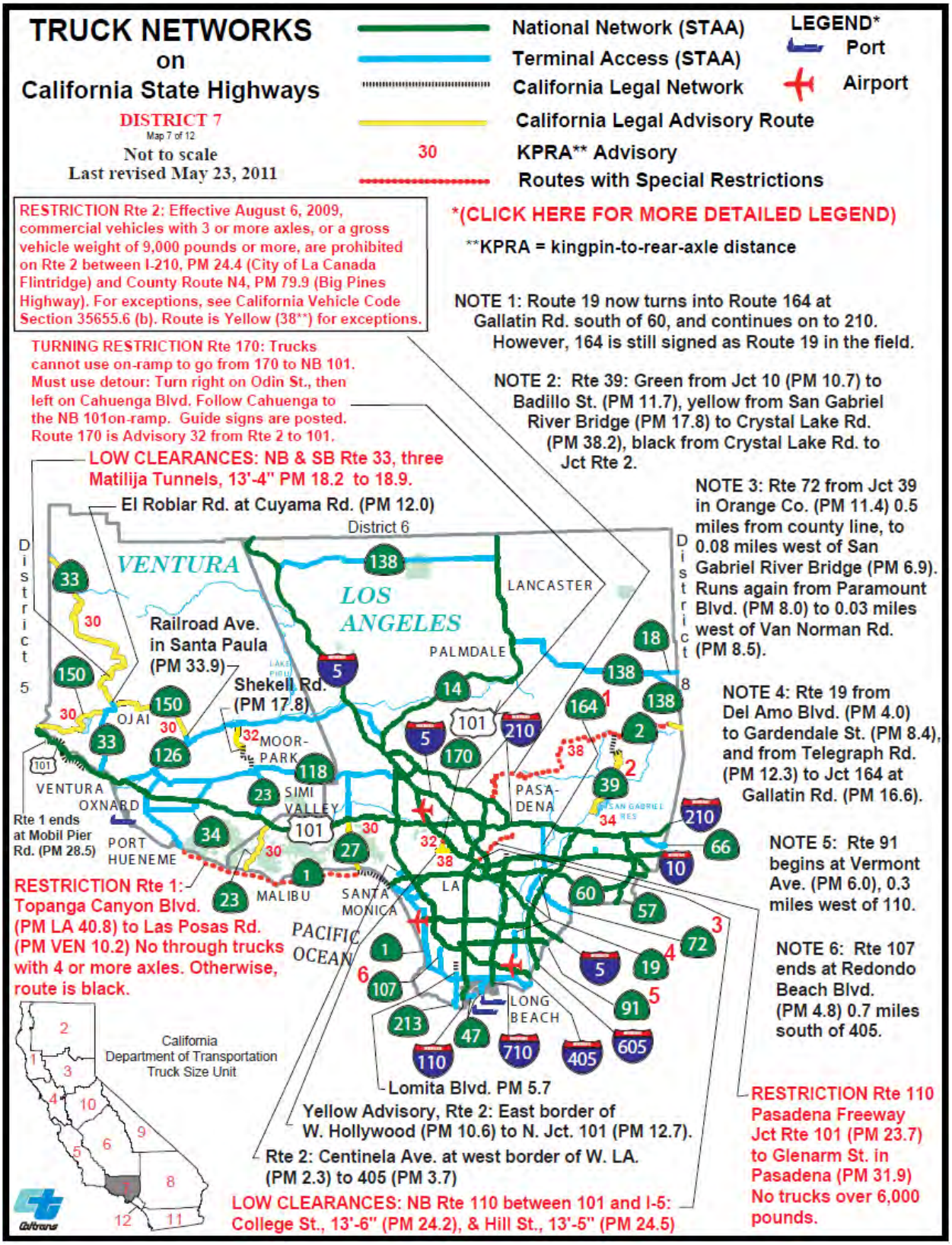
- Gerald Desmond Bridge Replacement
- SR47/I-110 Access Ramps Improvement
- C Street Access Ramps Improvement
- Washington Boulevard Widening and Reconstruction Project
- South Wilmington Grade Separation
- Alameda Corridor West Terminus Intermodal Railyard – West Basin Railyard Extension Project
- Cargo Transportation Improvement Emission Reduction (CTIER) Program – Phase I and Phase II (divided into two projects/phases)

Improving intermodal connections to Port Hueneme:

- US 101 Rice Avenue Interchange, City of Oxnard

Improving the freight rail system:

- Alameda Corridor East: San Gabriel Valley Grade Separation Program; Baldwin Avenue Grade Separation Project
- New Siding on Antelope Valley Line for Freight Trains


TRUCK NETWORKS
on
California State Highways
DISTRICT 7
Map 7 of 12
Not to scale
Last revised May 23, 2011
National Network (STAA)
Terminal Access (STAA)
California Legal Network
California Legal Advisory Route
30
KPRA** Advisory
Routes with Special Restrictions
LEGEND*
Port
Airport
*(CLICK HERE FOR MORE DETAILED LEGEND)
**KPRA = kingpin-to-rear-axle distance
RESTRICTION Rte 2: Effective August 6, 2009, commercial vehicles with 3 or more axles, or a gross vehicle weight of 9,000 pounds or more, are prohibited on Rte 2 between I-210, PM 24.4 (City of La Canada Flintridge) and County Route N4, PM 79.9 (Big Pines Highway). For exceptions, see California Vehicle Code Section 35655.6 (b). Route is Yellow (38**) for exceptions.
NOTE 1: Route 19 now turns into Route 164 at Gallatin Rd. south of 60, and continues on to 210. However, 164 is still signed as Route 19 in the field.
TURNING RESTRICTION Rte 170: Trucks cannot use on-ramp to go from 170 to NB 101. Must use detour: Turn right on Odin St., then left on Cahuenga Blvd. Follow Cahuenga to the NB 101on-ramp. Guide signs are posted. Route 170 is Advisory 32 from Rte 2 to 101.
NOTE 2: Rte 39: Green from Jct 10 (PM 10.7) to Badillo St. (PM 11.7), yellow from San Gabriel River Bridge (PM 17.8) to Crystal Lake Rd. (PM 38.2), black from Crystal Lake Rd. to Jct Rte 2.
LOW CLEARANCES: NB & SB Rte 33, three Matilija Tunnels, 13'-4" PM 18.2 to 18.9.
El Roblar Rd. at Cuyama Rd. (PM 12.0)
NOTE 3: Rte 72 from Jct 39 in Orange Co. (PM 11.4) 0.5 miles from county line, to 0.08 miles west of San Gabriel River Bridge (PM 6.9). Runs again from Paramount Blvd. (PM 8.0) to 0.03 miles west of Van Norman Rd. (PM 8.5).
District 6
District 5
District 8
VENTURA
LOS ANGELES
LANCASTER
PALMDALE
Railroad Ave. in Santa Paula (PM 33.9)
Shekell Rd. (PM 17.8)
OJAI
MOOR-PARK
VENTURA
OXNARD
SIMI VALLEY
PASA-DENA
SAN GABRIEL RES
Rte 1 ends at Mobil Pier Rd. (PM 28.5)
PORT HUENEME
NOTE 4: Rte 19 from Del Amo Blvd. (PM 4.0) to Gardendale St. (PM 8.4), and from Telegraph Rd. (PM 12.3) to Jct 164 at Gallatin Rd. (PM 16.6).
NOTE 5: Rte 91 begins at Vermont Ave. (PM 6.0), 0.3 miles west of 110.
RESTRICTION Rte 1: Topanga Canyon Blvd. (PM LA 40.8) to Las Posas Rd. (PM VEN 10.2) No through trucks with 4 or more axles. Otherwise, route is black.
MALIBU
SANTA MONICA
LA
PACIFIC OCEAN
LONG BEACH
NOTE 6: Rte 107 ends at Redondo Beach Blvd. (PM 4.8) 0.7 miles south of 405.
California Department of Transportation Truck Size Unit
Lomita Blvd. PM 5.7
Yellow Advisory, Rte 2: East border of W. Hollywood (PM 10.6) to N. Jct. 101 (PM 12.7).
Rte 2: Centinela Ave. at west border of W. LA. (PM 2.3) to 405 (PM 3.7)
RESTRICTION Rte 110 Pasadena Freeway Jct Rte 101 (PM 23.7) to Glenarm St. in Pasadena (PM 31.9) No trucks over 6,000 pounds.
LOW CLEARANCES: NB Rte 110 between 101 and I-5: College St., 13'-6" (PM 24.2), & Hill St., 13'-5" (PM 24.5)

SOURCES AND ADDITIONAL INFORMATION

Alameda Corridor-East Construction Authority: http://www.theaceproject.org/

Alameda Corridor Transportation Authority: http://www.acta.org/.

California Air Resource Board and Business, Transportation and Housing; 2007: Goods Movement Action Plan, http://www.arb.ca.gov/gmp/docs/gmap-1-11-07.pdf.

Caltrans Office of Freight and System Planning: Air Cargo Mode Choice and Demand Study (2010): http://www.dot.ca.gov/hq/tpp/offices/ogm/air_cargo.html.

Caltrans Office of Truck Services: http://www.dot.ca.gov/hq/traffops/trucks/

California Transportation Commission, Trade Corridor Improvement Fund: http://www.catc.ca.gov/programs/tcif.htm.

Future Ports: http://www.futureports.org/

Los Angeles County Metropolitan Transportation Authority (Metro); 2008: Multi-County Goods Movement Action Plan: http://www.metro.net/projects/mcgmap/.

Port of Los Angeles: http://www.portoflosangeles.org/.

Port of Long Beach: http://www.polb.com/.

Port of Hueneme: Oxnard Harbor District, http://www.portofhueneme.org/home.php.

Southern California Association of Governments (SCAG): http://www.scag.ca.gov/goodsmove/.

APPENDIX B-7-8: DISTRICT 8 – SAN BERNARDINO

District Address

464 West 4th Street
San Bernardino, CA 92401

Goods Movement Contacts

District 8: Rich Dennis, Richard_Dennis@dot.ca.gov, 909-383-6327
HQ: Joanne McDermott, Joanne_McDermott@dot.ca.gov, 916-653-8747

Located in Southern California, District 8 covers San Bernardino County and Riverside County. One of Caltrans's two largest districts, District 8 stretches from the Los Angeles metropolitan area on the west to the state borders with Nevada and Arizona on the east. San Bernardino and Riverside (4.2 million residents) are two of the six counties represented by the Southern California Association of Governments (SCAG), the nation's largest metropolitan planning organization (representing 191 cities and 18 million residents). County-level representation agencies include San Bernardino Associated Governments (SANBAG) and Riverside County Transportation Commission (RCTC).

TRUCKING

District 8 has four Interstates, 29 State Routes, and two U.S. Highways totaling 7,200 lane miles.

Primary Goods Movement Routes

- Interstate (I)- 10,I- 15,I-40, I-215
- State Routes -(SR: 58, 60, 86, 91, 210
- U.S. Highways: 395

Trucking Issues

- District facilities are impacted by regional and through freight traffic associated with the Ports of Los Angeles and Long Beach to the west (District 7), as well as the border region to the south (District 11).
- All highways in the district are subject to truck size restrictions and advisories except where prohibited.
- Decentralized warehouses and industries, just-in-time logistics, and short- to medium-distance shipping make trucking more competitive than rail. Vehicle-miles traveled (VMT) for trucks have increased faster than for passenger cars over the past 20 years, and this trend is expected to continue.
- Throughout the SCAG region, warehousing, distribution, and intermodal facilities occupy more than 1.5 billion square feet of space. Of this total, 165 million square feet (11 percent) are in San Bernardino County and 105 million square feet (7 percent) are in Riverside County.

RAIL LINES

Class I Railroads

BNSF. The BNSF's Transcontinental (Transcon) Route – their primary intermodal and freight rail route in California – runs east from the Ports of San Pedro Bay (Los Angeles and Long Beach) through the Inland Empire to Chicago, Memphis and Kansas City.

Union Pacific (UP). The UP Sunset Route – their primary intermodal and freight rail route in California –also runs from the Ports of San Pedro Bay east through the Inland Empire to Chicago, Kansas City, New Orleans, and St. Louis.

Short Line Railroads

Arizona and California Railroad (ARZC). The ARZC operates from Cadiz (San Bernardino County) southeastward through Riverside County into Arizona. The line connects with the BNSF at Cadiz. Major commodities moved on the ARZC include petroleum gasses, steel, and lumber. Also located on this line are multiple petroleum facilities served by the railroads.

Rail Issues

Colton Crossing. A new elevated 1.4-mile-long overpass has now removed the chokepoint that existed where the BNSF mainline crossed UP tracks in Colton. With approximately 62 freight trains per day on each line, Colton Crossing was one of the busiest at-grade rail-to-rail crossings in the nation. Putting the UP tracks above the BNSF line allows

both railroads to use the tracks safely and eliminate waits as crossing trains pass. Exemplifying a successful public-private partnership, the project was a partnership between Caltrans, San Bernardino Associated Governments, the city of Colton, UP, and BNSF Railway and was completed in August 2013.

Positive Train Control (PTC). A major infrastructure safety mandate of the Federal Railroad Administration (FRA), PTC rail technology provides benefits in terms of train separation and collision avoidance, line speed enforcement, temporary speed restrictions, and rail worker wayside safety. Due to the cost and complexity of installing PTC, rail operators are asking for a delay beyond the 2015 deadline.

Trade Corridors Improvement Fund (TCIF)-Supported Projects

Twenty projects in District 8 received funding through the TCIF program, including Colton Crossing, 15 highway-rail at-grade projects, and four access improvement projects. Many of these projects are along the Alameda Corridor-East Trade Corridors.

Completed:

- Colton Crossing Rail-to-Rail Grade Separation Project
- City of Riverside: Columbia Avenue Grade Separation (BNSF)
- City of Riverside: Magnolia Avenue Grade Separation
- SANBAG: I-10 Riverside Avenue Interchange Reconstruction

Under Construction:

- City of Corona (Riverside County): Auto Center Drive Grade Separation
- City of Banning (Riverside County): Sunset Avenue Grade Separation
- City of Riverside: Streeter Avenue Grade Separation
- Riverside County: Avenue 56 Grade Separation
- Riverside County: Clay Street Grade Separation
- City of Riverside: Riverside Avenue Grade Separation
- City of Riverside: March Airport Access Improvement
- SANBAG: I-10 Corridor Logistics Access at Cherry Avenue
- SANBAG: Glen Helen Parkway Grade Separation
- SANBAG: South Milliken Avenue Grade Separation
- SANBAG: Palm Avenue Grade Separation
- SANBAG: Lenwood Road Grade Separation

Air Cargo Airports

Major Cargo Airports

Los Angeles/Ontario International Airport (ONT). San Bernardino County, 35 miles east of downtown Los Angeles, between I-10 and SR-60, west of I-15.

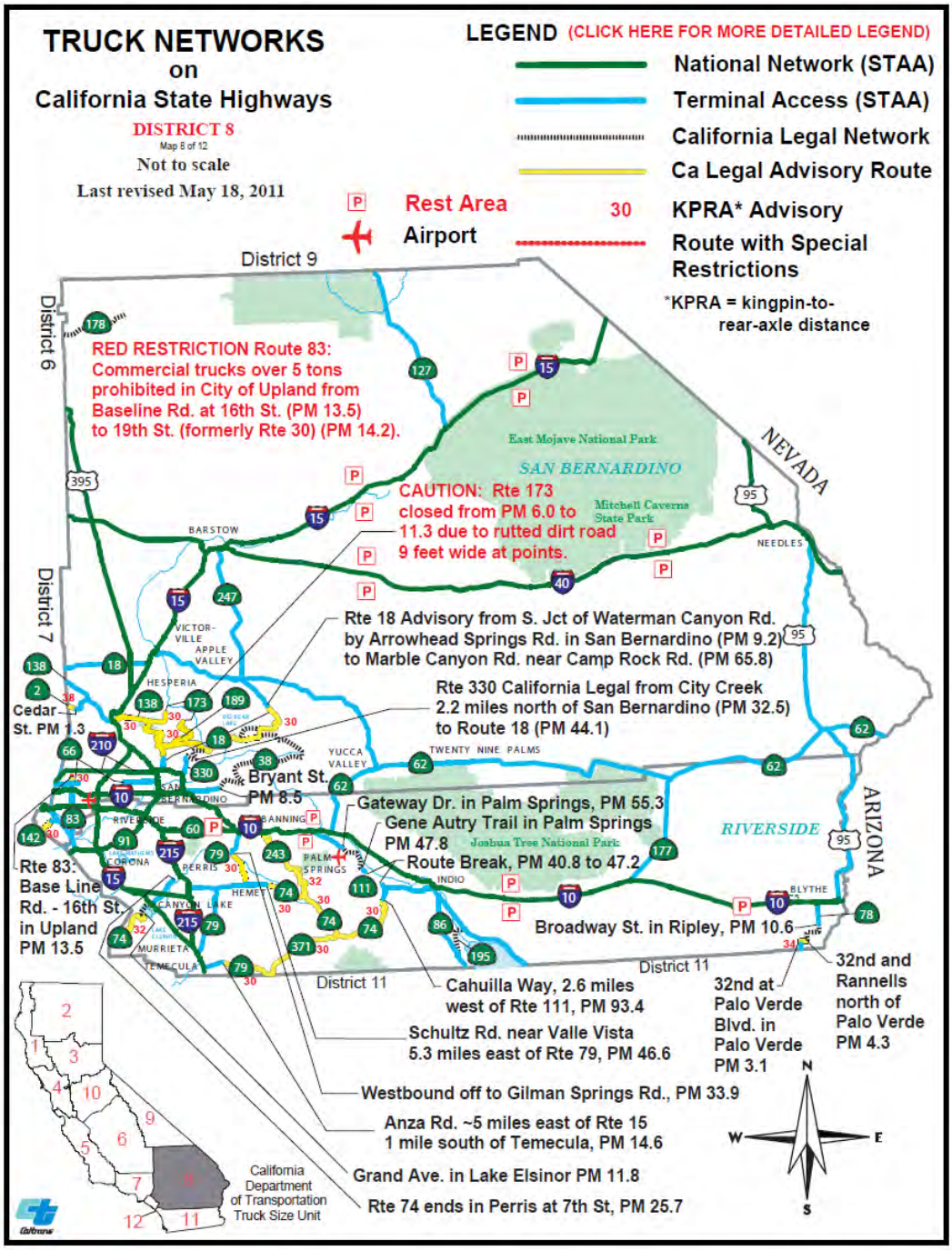
- Largest air cargo operation in State after Los Angeles International (LAX); nationally ranked 14th with 454,800 tons of cargo/year (2012).
- Owned and operated by Los Angeles World Airports, a department of the City of L.A.
- U.S. West Coast Regional air hub for United Parcel Service (UPS); also support operations by ten other cargo carriers.
- Pacific Gateway Cargo Center has obtained environmental, land use, and other regulatory approvals. The city of Ontario has approved site plans and the Los Angeles Board of Airport Commissioners approved a lease agreement with Aero Ontario to develop and manage Pacific Gateway Cargo Center.
- ONT currently has a conceptual plan in place that will easily accommodate twice the forecasted for tonnage for 2040.

Other Airports

- Palm Springs International Airport (PSP). Foreign Trade Zone. U.S. Customs available. 70 miles east of ONT.
- San Bernardino International Airport (SBD). North of I-10 between I-215 and SR-210 in the city of San Bernardino. Surrounded on all sides by freeways. 20 miles east of ONT.
- March Inland Port. East of I-215, adjacent to the city of Moreno Valley. A joint use aviation facility with the U.S. Air Force Reserves.
- Southern California Logistics Airport (Victorville Airport) (KVCV). East of US-395 and west of I-15, and BNSF rail in Victorville. Former U.S. Air Force base. The facility has U.S. Customs service and currently receives 63.10 tons (2013) of air cargo. Foreign Trade Zone.

Air Cargo Forwarders

- BAX Global (Irvine), CRST International (Mira Loma, Ontario), Griley Airfreight (Ontario), Landstar System (Riverside).



Sources and Additional Information

California Air Resource Board and Business, Transportation and Housing (Goods Movement Action Plan: http://www.arb.ca.gov/gmp/docs/gmap-1-11-07.pdf
Caltrans District 8 website: http://www.dot.ca.gov/dist8/index.htm
Caltrans Office of Truck Services: http://www.dot.ca.gov/hq/traffops/trucks/
Air Cargo Mode Choice and Demand Study: http://onramp.dot.ca.gov/hq/tpp/offices/ogm/ aircargo.html
Colton Crossing Rail-to-Rail Grade Separation Project: http://www.coltoncrossing.com/index.htm
City of Riverside (grade separations): http://www.riversideca.gov/gs/
Los Angeles World Airports (LAX and ONT): http://www.lawa.org/welcomeLAWA.html
March Inland Port Airport / March Global Port: http://www.marchjpa.com/airport.html,
Riverside County Transportation Commission (RCTC) website: http://www.rctc.org/index.asp
San Bernardino International Airport: http://www.sbdairport.com/

This page is intentionally blank.

APPENDIX B-7-9: DISTRICT 9 - BISHOP

District Address	500 South Main Street Bishop, CA 93514-3403
Goods Movement Contacts	District 9: Dennee Alcala, Dennee_Alcala@dot.ca.gov, (760) 872-1398 HQ: Todd LaCasse, Todd_LaCasse@dot.ca.gov, (916) 654-7809

District 9 covers Inyo County and Mono County (total population 32,748) on the eastern side of the Sierra Nevada County, bordering the State of Nevada. Topographical extremes, geological features, biological diversity, and cultural resources characterize the rural region. Seasonal weather conditions impact the District's highways, from the highest point on a state highway at Tioga Pass (on SR 120 at 9,945 feet elevation) to the lowest elevation in Death Valley National Park (on SR 190 at 242 feet below sea level). Regional transportation agencies include the Mono County Local Transportation Commission and the Inyo County Local Transportation Commission.

TRUCKING

District 9 is responsible for 19 U.S. and state highways, with maintenance and operations responsibilities extending into eastern Kern County and northern San Bernardino County. Goods movement, recreation, and tourism are the major traffic generators along the primary corridors in the district (US 395, SR 14, and US 6).

North-South Routes

US 395, SR 127, SR 266, US 6, SR 158, SR 182

East-West Routes

SR 89, SR 108, SR 167, SR 270, SR 120, SR 203, SR 168, SR 136, SR 190, SR 178

Trucking Issues

- Goods movement traffic through the district tends to be interregional and interstate, from southern California to western Nevada.
- Heavy truck traffic creates congestion and parking impacts.

Regional (Interstate) Distribution Center

Tahoe Reno Industrial Center (TRIC), the world's largest (110,000-acre) industrial park, is located in Storey County, Nevada, seven miles east of Sparks off I-80. It generates heavy truck traffic from Southern California and is served by both Union Pacific and Burlington Northern Santa Fe rail lines.

SOURCES AND ADDITIONAL INFORMATION

Goods Movement Action Plan (California Business, Transportation and Housing Agency and California Air Resource http://www.arb.ca.gov/gmp/docs/gmap-1-11-07.pdf

Caltrans Office of Truck Services, http://www.dot.ca.gov/hq/traffops/trucks/

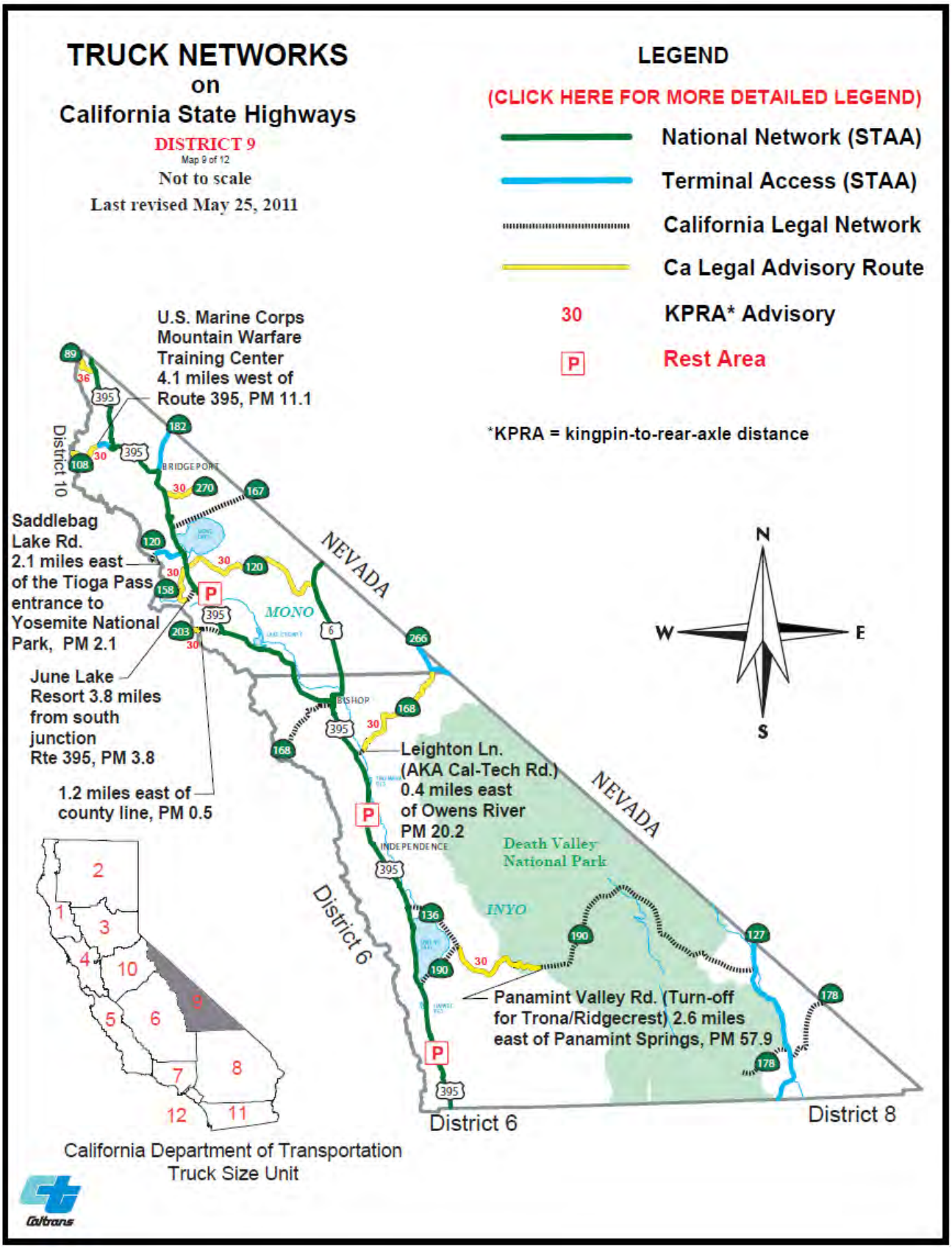
Bishop Area Access and Circulation Feasibility Study (BAACS), http://www.dot.ca.gov/dist9/planning/baacs/index.html

Goods Movement Study for US-395 Corridor, June 2006. http://www.dot.ca.gov/dist9/planning/index.html

Caltrans District 9 Planning website, http://www.dot.ca.gov/dist9/planning/index.html

Inyo County Local Transportation Commission, http://www.inyoltc.org/

Mono County Local Transportation Commission, http://www.monocounty.ca.gov/cdd%20site/LTC/ltc_home.html


TRUCK NETWORKS
on
California State Highways
DISTRICT 9
Map 9 of 12
Not to scale
Last revised May 25, 2011
LEGEND
(CLICK HERE FOR MORE DETAILED LEGEND)
National Network (STAA)
Terminal Access (STAA)
California Legal Network
Ca Legal Advisory Route
30 KPRA* Advisory
P Rest Area
*KPRA = kingpin-to-rear-axle distance
U.S. Marine Corps Mountain Warfare Training Center 4.1 miles west of Route 395, PM 11.1
Saddlebag Lake Rd. 2.1 miles east of the Tioga Pass entrance to Yosemite National Park, PM 2.1
June Lake Resort 3.8 miles from south junction Rte 395, PM 3.8
1.2 miles east of county line, PM 0.5
Leighton Ln. (AKA Cal-Tech Rd.) 0.4 miles east of Owens River PM 20.2
Panamint Valley Rd. (Turn-off for Trona/Ridgecrest) 2.6 miles east of Panamint Springs, PM 57.9
NEVADA
NEVADA
MONO
INYO
Death Valley National Park
BRIDGEPORT
BISHOP
INDEPENDENCE
District 10
District 6
District 6
District 8
N
W
E
S
California Department of Transportation
Truck Size Unit
Caltrans

APPENDIX B-7-10: DISTRICT 10 - STOCKTON

District Address	1976 East Charter Way / East Dr. Martin Luther King Jr. Blvd. Stockton, CA 95205
Goods Movement Contacts	District 10: Lynn O'Connor, Lynn_Oconnor@dot.ca.gov, (209) 948-3975; Michael Robinson, Michael_Robinson@dot.ca.gov, (209) 948-7575 HQ: Todd LaCasse, Todd_LaCasse@dot.ca.gov, (916) 654-7809

District 10 serves the eight-county region of Alpine, Amador, Calaveras, Mariposa, Merced, San Joaquin, Stanislaus, and Tuolumne counties. The counties that are represented by single-county metropolitan planning organizations (MPO) are San Joaquin, Stanislaus and Merced. The other counties are represented by non-MPO rural Regional Transportation Planning Agencies. Its geographical diversity ranges from the crest of the Sierra to Yosemite National Park, to the foothills of the Gold Country, and to the farmlands of Central California.

TRUCKING

District 10 (D 10) is responsible for 3,670 miles of State Routes. The key regional highways are the north-south corridors, I-5, and SR 99

Major East-West Routes
SR 4, SR 12, SR 16, SR 26, SR 88, SR 104, SR 108, SR 120, SR 132, SR 140, SR 152, I-205, SR 207, SR 219, I-580

Major North-South Routes
I-5 ("Corridor of the Future"), SR 33, SR 49, SR 59, SR 89, SR 99, SR 124, SR 165

Trucking Issues

- Non-Surface Transportation Assistance ACT (STAA) trucks commonly operate on primarily rural, non-designated routes.
- Some routes such as SR 88 may require snow removal for year-round access; other highways close from around Thanksgiving Day to Memorial Day.
- Arch Road at SR 99 and Roth Road at I-5 are key truck access routes to freight rail intermodal facilities.

RAIL LINES

Class I Railroads

Two Class I Railroads – Union Pacific (UP) and BNSF Railway operate in District 10. UP Lathrop and BNSF Mariposa are key intermodal freight rail facilities within the District.

Rail lines through the Central Valley connect with mainline trackage in the Los Angeles Basin to the south, through to the Bay, and further north.

Shortline Freight Railroads

Several shortline freight railroads interface with the Class I railroads and the Port of Stockton to move commodities, agricultural products, and other freight throughout the Central Valley, the State, and the U.S. Within D 10, there are the following short lines:

- California Northern Railroad
- Central California Traction Company
- Modesto and Empire Traction Company
- Stockton Terminal and Eastern Railroad
- Sierra Northern Railway

SEAPORTS

Port of Stockton

- Located on the San Joaquin River, approximately 75 miles east of San Francisco.
- Berthing space for about 17 vessels.
- Approximately 60 tenants on leased land construct and operate their own facilities. Tenant and Port operations handle liquid bulk, dry bulk, and warehouse/distribution activities.
- The Marine Highway Initiative, referred to as the M-580 project, established a "container on barge" service between the Ports of Oakland and Stockton creating a viable marine highway (short sea shipping) service between these regional ports to improve freight movement. Project benefits include decreased landside congestion on major roadways and reduction of truck associated emissions. Operations have been temporarily suspended.

Air Cargo Airports

Stockton Metropolitan Airport (SCK)

- Located between the two primary north-south routes in the region, I-5 and SR 99. It is currently underused.
- Promotes international air freight of agricultural products.
- In 2002, SCK invested $10 million in improvements to the airport including warehousing and cold storage facilities; however, air cargo remains limited.

Sources and Additional Information

California Air Resource Board and Business, Transportation and Housing (Goods Movement Action Plan: http://www.arb.ca.gov/gmp/docs/gmap-1-11-07.pdf.

Caltrans Office of Truck Services: http://www.dot.ca.gov/hq/traffops/trucks/

California Inter-Regional Intermodal System (CIRIS) Implementation Plan: http://www.sjvcogs.org/pdfs/2011/GMreport.pdf

Trade Corridors Improvement Fund (TCIF)-Supported Projects

TCIF projects in District 10 are improving highways, the port-related waterways, and the freight rail system:

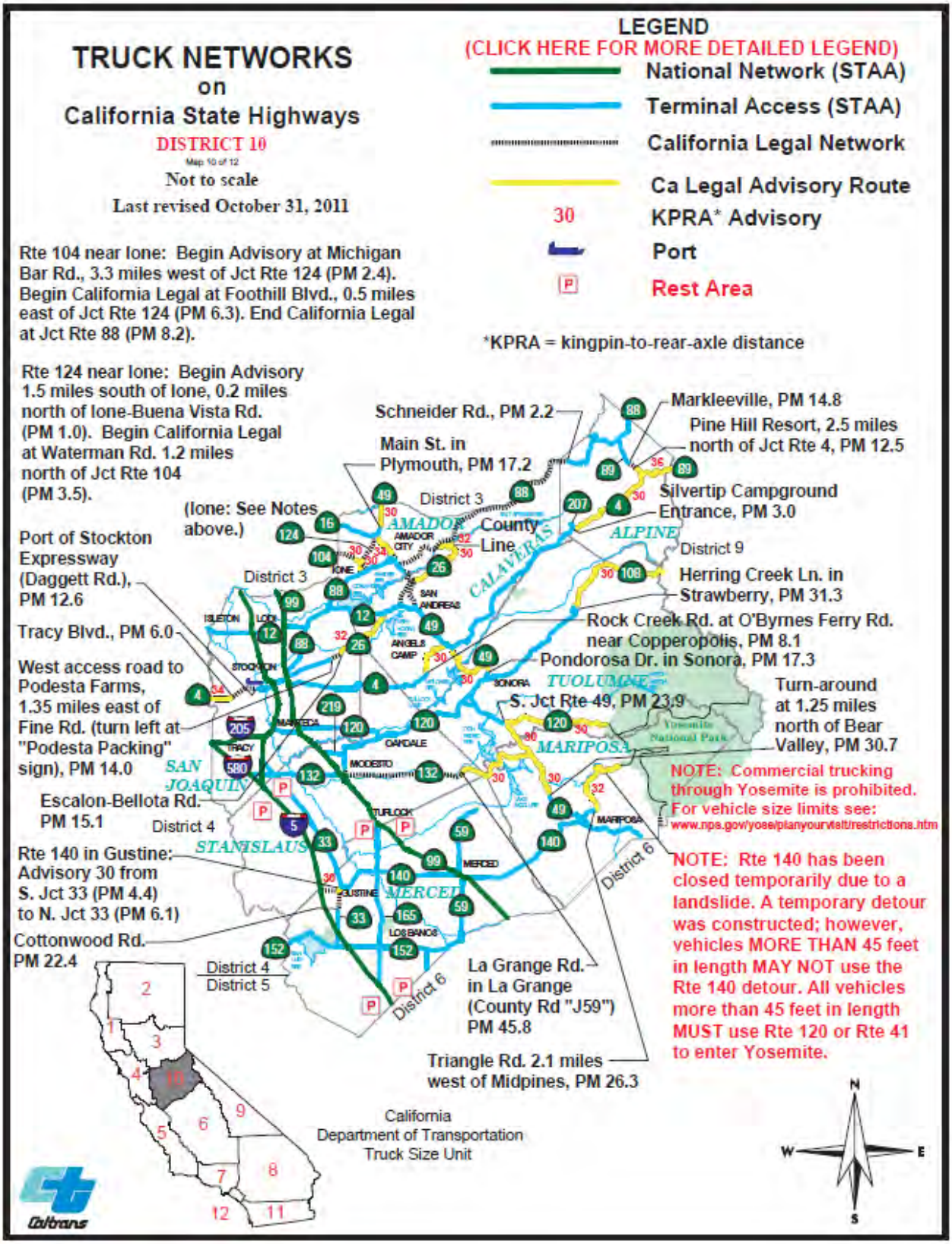
- SR 4 West Crosstown Freeway Extension
- San Francisco Bay to Stockton Channel Deepening
- San Joaquin Valley Short Haul Rail
- Sperry Road Extension

Caltrans District 10 website: http://www.dot.ca.gov/dist10/

UP Railroad California Fact Sheet: http://www.up.com/cs/groups/public/documents/up_pdf_nativedocs/pdf_california__usguide.pdf

BNSF Railway: http://www.bnsf.com/customers/pdf/maps/div_ca.pdf

Port of Stockton: http://www.portofstockton.com/


TRUCK NETWORKS
on
California State Highways
DISTRICT 10
Map 10 of 12
Not to scale
Last revised October 31, 2011
LEGEND
(CLICK HERE FOR MORE DETAILED LEGEND)
National Network (STAA)
Terminal Access (STAA)
California Legal Network
Ca Legal Advisory Route
30 KPRA* Advisory
Port
P Rest Area
*KPRA = kingpin-to-rear-axle distance
Rte 104 near Ione: Begin Advisory at Michigan Bar Rd., 3.3 miles west of Jct Rte 124 (PM 2.4). Begin California Legal at Foothill Blvd., 0.5 miles east of Jct Rte 124 (PM 6.3). End California Legal at Jct Rte 88 (PM 8.2).
Rte 124 near Ione: Begin Advisory 1.5 miles south of Ione, 0.2 miles north of Ione-Buena Vista Rd. (PM 1.0). Begin California Legal at Waterman Rd. 1.2 miles north of Jct Rte 104 (PM 3.5).
(Ione: See Notes above.)
Port of Stockton Expressway (Daggett Rd.), PM 12.6
Tracy Blvd., PM 6.0
West access road to Podesta Farms, 1.35 miles east of Fine Rd. (turn left at "Podesta Packing" sign), PM 14.0
Escalon-Bellota Rd. PM 15.1
Rte 140 in Gustine: Advisory 30 from S. Jct 33 (PM 4.4) to N. Jct 33 (PM 6.1)
Cottonwood Rd. PM 22.4
Schneider Rd., PM 2.2
Main St. in Plymouth, PM 17.2
Markleeville, PM 14.8
Pine Hill Resort, 2.5 miles north of Jct Rte 4, PM 12.5
Silvertip Campground Entrance, PM 3.0
Herring Creek Ln. in Strawberry, PM 31.3
Rock Creek Rd. at O'Byrnes Ferry Rd. near Copperopolis, PM 8.1
Pondorosa Dr. in Sonora, PM 17.3
S. Jct Rte 49, PM 23.9
Turn-around at 1.25 miles north of Bear Valley, PM 30.7
NOTE: Commercial trucking through Yosemite is prohibited. For vehicle size limits see: www.nps.gov/yose/planyourvisit/restrictions.htm
NOTE: Rte 140 has been closed temporarily due to a landslide. A temporary detour was constructed; however, vehicles MORE THAN 45 feet in length MAY NOT use the Rte 140 detour. All vehicles more than 45 feet in length MUST use Rte 120 or Rte 41 to enter Yosemite.
La Grange Rd. in La Grange (County Rd "J59") PM 45.8
Triangle Rd. 2.1 miles west of Midpines, PM 26.3
District 3
District 4
District 5
District 6
District 9
AMADOR
County Line
CALAVERAS
ALPINE
TUOLUMNE
MARIPOSA
SAN JOAQUIN
STANISLAUS
MERCED
Yosemite National Park
California Department of Transportation Truck Size Unit
Caltrans
N
W
E
S

This page is intentionally blank.

APPENDIX B-7-11: DISTRICT 11 – SAN DIEGO

District Address 4050 Taylor Street MS 240, San Diego, CA 92110

Goods Movement Contacts

District 11: Jose Marquez, Jose_Marquez@dot.ca.gov, (619) 688-3193

Headquarters: Joanne McDermott, Joanne_McDermott@dot.ca.gov (916) 653-8747

District 11 covers a two-county region along the United States (US) border with Mexico, from coastal urban San Diego County east across the Imperial Valley to the state's border with Arizona. San Diego County (population 3,177,063) is represented by the San Diego Association of Governments (SANDAG). Imperial County (population 176,948) is one of the six counties represented by the Southern California Association of Governments (SCAG), the nation's largest metropolitan planning organization, and the Imperial County Transportation Commission (ICTC).

TRUCKING

All major highways in District 11 are used for goods movement, connecting urban areas, warehousing, the Port of San Diego, and international land ports of entry (POE) with interstate routes north and east.

Major East-West Routes
Interstate (I) 8 (from coastal San Diego to the Arizona border), State Route (SR)-76, SR-78, SR-94, SR-98, and SR-905.

Major North-South Routes
I-5 (United States/Mexico Border north through San Diego County, up the entire West Coast to the Canadian Border), I-15 (a northeast route that continues to the Canadian Border with Montana), I-805, SR-86, SR-111, SR-125, and SR-163.

Routes Primarily Connecting Land Ports of Entry (POE)
I-5, I-805, SR-7, SR-11 *(under construction),* SR-111, SR-186, SR-188, and SR-905.

Trucking Issues

- POE facilities and routes are severely congested with predicted increases in truck traffic contributing to greater delay; wait times for trucks at Otay Mesa POE can exceed two hours.
- United States (U.S.)-Mexico Cross-Border Trucking Pilot – An agreement between the U.S. and Mexico (MX) was signed to facilitate long-haul, cross-border trucking between the two countries; trade with Mexico (our second largest trading partner). On October 14, 2014, the 3-year program ended, the Federal Motor Carrier Safety Administration (FMSCA) gave the participants (13) provisional or standard operating authority, allowing the participant carriers to continue to operate in the U.S. FMSCA will be reviewing reports and then determine the next step(s) for the program.

RAIL LINES

Two Class I railroads operate in District 11: BNSF Railway (BNSF)and Union Pacific (UP) Railroad.

- BNSF serves the Port of San Diego providing primarily automobile rail service north and south along the coast, interfacing in Los Angeles with a primary California freight rail corridor for BNSF – the Transcontinental (Transcon) Route – eastward to Chicago, Memphis, and Kansas City.
- UP serves the Imperial Valley region near Plaster City, moving commodity, bulk, and mixed cargo eastward to Salt Lake City, Dallas, and Chicago.

Short Line Railroads

Carrizo Gorge Railway, Inc. (CZRY) operates 114 miles of freight lines in California and Mexico. CZRY connects to UP and BNSF at Plaster City (Imperial County) and at San Ysidro and Tecate POE. Forty-four miles of this rail line are in MX between Tijuana and Tecate, Baja California, MX. Liquefied petroleum gas (LPG), construction products, and barley are the main commodities transported.

San Diego and Imperial Valley Railroad (SDIY) - SDIY provides connections with BNSF, UP, and the Baja California Railroad in Mexico. SDIY operates

two short lines owned by the Metropolitan Transit System (MTS). One line connects the Santa Fe Depot in downtown San Diego with the San Ysidro border crossing and freight yard; the other with the City of El Cajon to the east. Major commodities transported include propane, petroleum gas, corn syrup, malt, and wood pulp.

Pacific Imperial Railroad (PIR) **-** In December 2012, PIR executed a 99 year lease with the San Diego and Arizona Eastern Railway (SD&AE) and the San Diego Metropolitan Transit System (MTS), owners of the Desert Line right of way. The Desert Line extends from eastern San Diego County to Imperial County. PIR will rehabilitate, manage, operate, and maintain the entire Desert Line. PIR is targeting the maquiladora market by connecting with the Baja California Railroad, Inc. in Mexico and the UPRR in Plaster City. Significant work is required to upgrade the line.

SEAPORTS

Port of San Diego

- Location is approximately 96 miles southeast of Los Angeles and a few miles north of the U.S.-MX international border.
- The Port of San Diego ranks 123rd in the U.S. for total trade (imports & exports). It is one of the top 30 U.S. containership ports, bringing in nearly 3,300,000 metric tons of cargo per year, including automobiles and produce.
- Port of San Diego is the 4th largest of California's 11 public ports.
- The Port consists of one cruise terminal and two maritime cargo terminals – Tenth Avenue Marine Terminal and National City Marine Terminal (NCMT) – handle container, dry bulk, liquid bulk, refrigerated, vehicle, breakbulk, and construction project cargo.
- The Port handles containerized, roll-on/roll-off, bulk and break bulk imports and exports.
- NCMT has the highest vehicle throughput volume of auto processing facilities in California.
- Cruise lines and waterfront development are lucrative industries for the Port of San Diego.

Naval Base San Diego

- This West Coast naval "megaport" is home to one-third of the Pacific Fleet and is sometimes referred to as the 32nd Street Naval Station.
- The U.S. Navy and other military operations support a large share of the economy in District 11. The Port of San Diego serves as one of 17 "strategic ports" across the country, designated by the U.S. Defense Department to load and off load military equipment. It is the number one strategic Port on the west coast.

LAND PORTS OF ENTRY

- *Otay Mesa POE (SR 905)* is a multi-modal port of entry (commercial, non-commercial and pedestrian). The port is one of the ten busiest land ports in the country and is the busiest commercial port on the California andBaja California border, handling the second highest volume of trucks and the highest dollar volume of trade among all U.S. land ports. The POE handles approximately 1.4 million trucks and $20+ billion worth of goods in both directions annually.
- *Otay Mesa East POE and SR- 11*. A new POE project ($722.4 million) is under construction and is scheduled to open in 2015. The project will add border crossing capacity and includes 2.1 miles of a new, four-lane tolled highway (SR 11).
- *Tecate POE (SR-188)*. Near SR-94, the POE is located in rural San Diego County and has recently been updated to process truck, pedestrian, and passenger traffic.
- *Calexico West POE (SR-111).* The most important non-commercial POE in Imperial County with significant auto and pedestrian activity. U.S. Customs and Border Protection plan to expand this POE immediately east of its current location within downtown Calexico.
- *Calexico East POE (SR-7). S*erves nearly all the international truck traffic crossings in Imperial County. SR-7, the POE access highway, was constructed in two phases in 1996 and in 2005.
- *San Ysidro POE (I-5)*. Between San Diego and Tijuana, this POE is considered the busiest pedestrian gateway in the western hemisphere. The San Ysidro POE does not process commercial vehicles. This POE is undergoing a 3 phased entry expansion.
- *Andrade POE (SR-186).* Is located in Imperial County, *n*ear I-8 and Yuma, Arizona, this rural POE has minimal freight.

AIR CARGO AIRPORTS

San Diego International (SAN)

- Ranked 32th nationally for cargo (2012), carrying 115,378 metric tons of cargo per year and globally ranks 115.

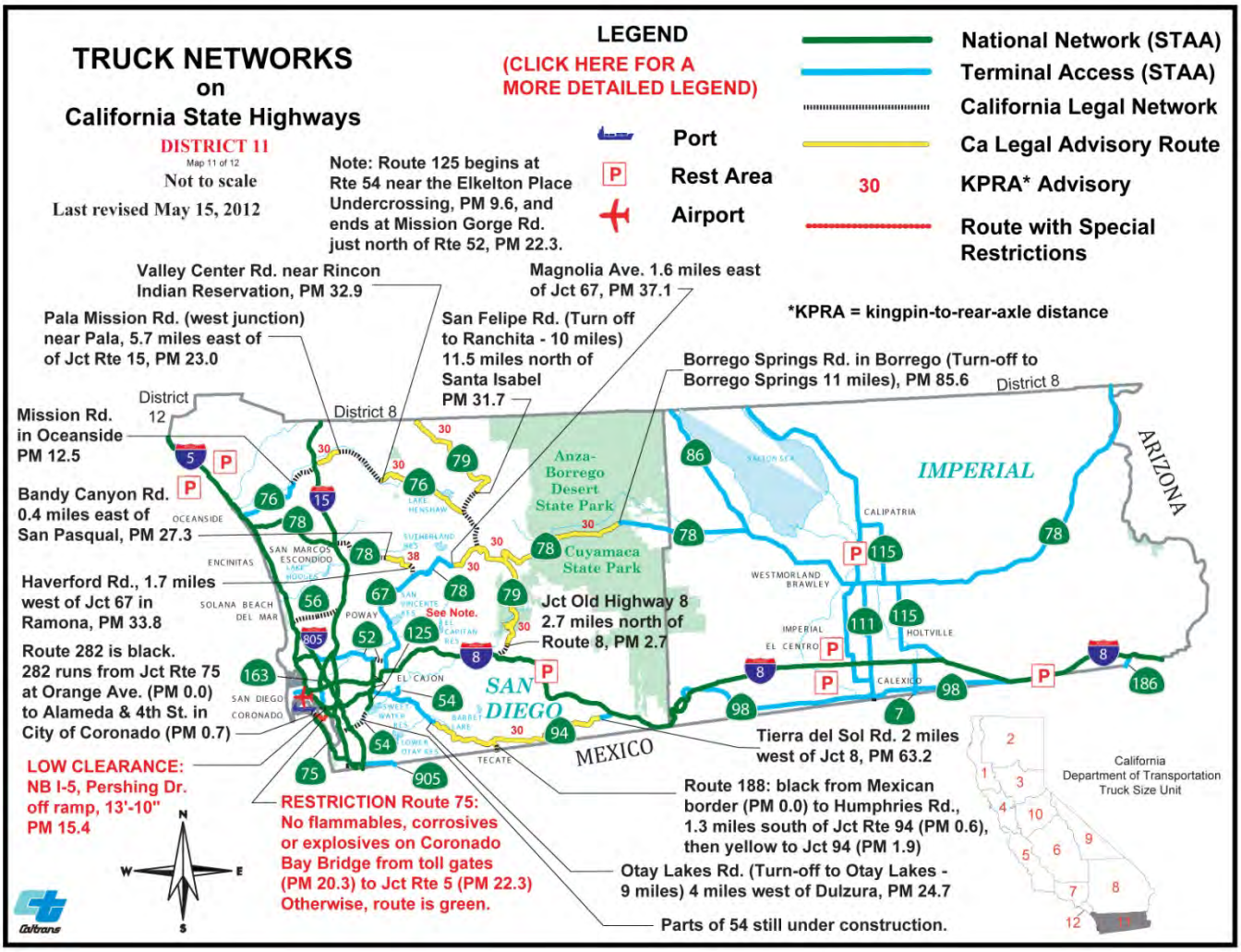
- SAN transported 162,353 tons of cargo and mail in 2013.
- A central location in the San Diego Harbor near downtown and adjacent residential areas severely limits expansion, and attempts at relocation have failed.
- Competition from nearby international airports (Los Angeles, Ontario, and San Bernardino) has hampered air cargo growth.

Other Airports

- Constrained by surrounding land uses, SAN is unable to expand its operations. The Regional Aviation Strategic Plan has championed two airports for air cargo growth in the Otay Mesa area: Brown Field Municipal and Tijuana International.
- Calexico, adjacent to SR-111 and SR-98, offers customs service near the UP Railroad and international border. Freeways are not congested. Although not a major cargo airport, Calexico has capacity to expand.

TRADE CORRIDORS IMPROVEMENT FUND (TCIF) SUPPORTED PROJECTS

- SR-905; 6-lane freeway to serve the border Point of Entry (POE),SANDAG – *construction completed*
- SR -11/Otay Mesa East POE; SANDAG - *under construction*
- Bay Marina Drive Grade-Separated Improvements; Port of San Diego *under construction*
- 10th Avenue Grade Separation Improvements; Port of San Diego - *under construction*
- Civic Center Drive at Harbor Drive and I-15 (roadway realignments); Port of San Diego - *under construction*
- Southline Rail Improvements – Yard Expansion; SANDAG - *under construction*
- Southline Rail Improvements – Mainline Improvements; SANDAG - *under construction*
- SR -78/SR-111 Brawley Bypass (construction of an eight-mile, four-land divided expressway from SR-86 north of Brawley to 1.5 miles south of the eastern junction of SR-111 and SR-78 in Imperial County); Imperial Valley Association of Governments. – *construction completed*



Sources and Additional Information

Airport Council International – North America

California Air Resources Board and Business, Transportation & Housing Agency (Goods Movement Action Plan): http://www.arb.ca.gov/gmp/docs/gmap-1-11-07.pdf

Caltrans Corridor Mobility website, D-11 page: http://www.dot.ca.gov/hq/tpp/corridor-mobility/d11-page.html.

Caltrans Office of Truck Services: http://www.dot.ca.gov/hq/traffops/trucks/.

Future Ports: http://www.futureports.org/.

HDR Decisions Economics, Economic Impacts of Wait Times at the California–Mexico Border 2009 Update: http://www.dot.ca.gov/dist11/departments/planning/pages/planningproducts.htm.

Imperial County Transportation Commission: http://www.imperialctc.org/

Naval Base San Diego: http://cnic.navy.mil/SanDiego/.

San Diego and Imperial Valley Railroad (Genesee and Wyoming, Inc.): www.gwrr.com/

SANDAG (including Otay Mesa East): http://www.sandag.org/index.asp?projectid=56&fuseaction=projects.detail.

Southern California Association of Governments (SCAG): http://www.scag.ca.gov/goodsmove/.

US Census: http://quickfacts.census.gov/qfd/states/06/06025.html

APPENDIX B-7-12: DISTRICT 12 – ORANGE COUNTY

District Address	3347 Michelson Drive, Suite 100, Irvine, CA 92612
Goods Movement Contacts	District 12: Everrett Evans, Everrett_C_Evans@dot.ca.gov, (949) 223-5436 HQ: Joanne McDermott, Joanne_McDermott@dot.ca.gov, (916) 651-6006

District 12 covers Orange County, a metropolitan area with 34 cities, south of Los Angeles County, north of San Diego County and west of Riverside County. Only 798 square miles in total area, Orange County is the third largest county in California in terms of population, with a population of 3,055,792 (Orange County Facts & Figures). Orange County geography varies from coastal areas to inland elevations over 5,000 feet. The County is represented by the Orange County Transportation Authority (OCTA).

TRUCKING

Orange County is served by 17 State highway routes. The SR 73, SR 133, SR 241 and SR 261 are Toll Roads. The SR 91 Express Lanes are high occupancy tolling lanes that utilize congestion pricing. District 12 maintains and operates 279 route miles of highway and 266 directional miles of full-time High Occupancy Vehicle (HOV) or carpool lanes, one of the largest such networks in the State.

- As a connecting area between Los Angeles County, San Diego County, and the Inland Empire, District 12 sees considerable truck traffic.
- Interstate (I)-5 (Santa Ana Freeway), State Route (SR)- 55, SR 57, SR 91 and I-405 - all achieve daily truck volumes between 15,000 and 22,000 trucks.
- Many highway-rail at-grade crossings need to be grade-separated to improve mobility and reduce delay.
- Priority highway projects on high volume truck routes are estimated to cost over $2.0 billion.

RAIL LINES

- District 12 is served by the BN SF Railway (BNSF) and Union Pacific Railroad (UP) main and branch lines.
- BNSF and UP rail lines run through Orange County north and south to primarily serve the industrial and port areas in San Diego and Los Angeles.
- The BNSF line carries an estimated 70 daily freight trains through northern Orange County, through Yorba Linda, Anaheim, Buena Park, Fullerton, and Placentia; freight volumes are expected to increase.

  The Orange County Transportation Plan, 2012, estimated that "75 freight trains traverse Orange County on a daily basis."
- Along the Los Angeles/San Diego rail corridor (LOSSAN) runs north/south through the county, daily freight train traffic is expected to increase from 6 daily trains to 12 trains by 2025.
- No short line freight railroads operate in District 12.

AIR CARGO AIRPORTS

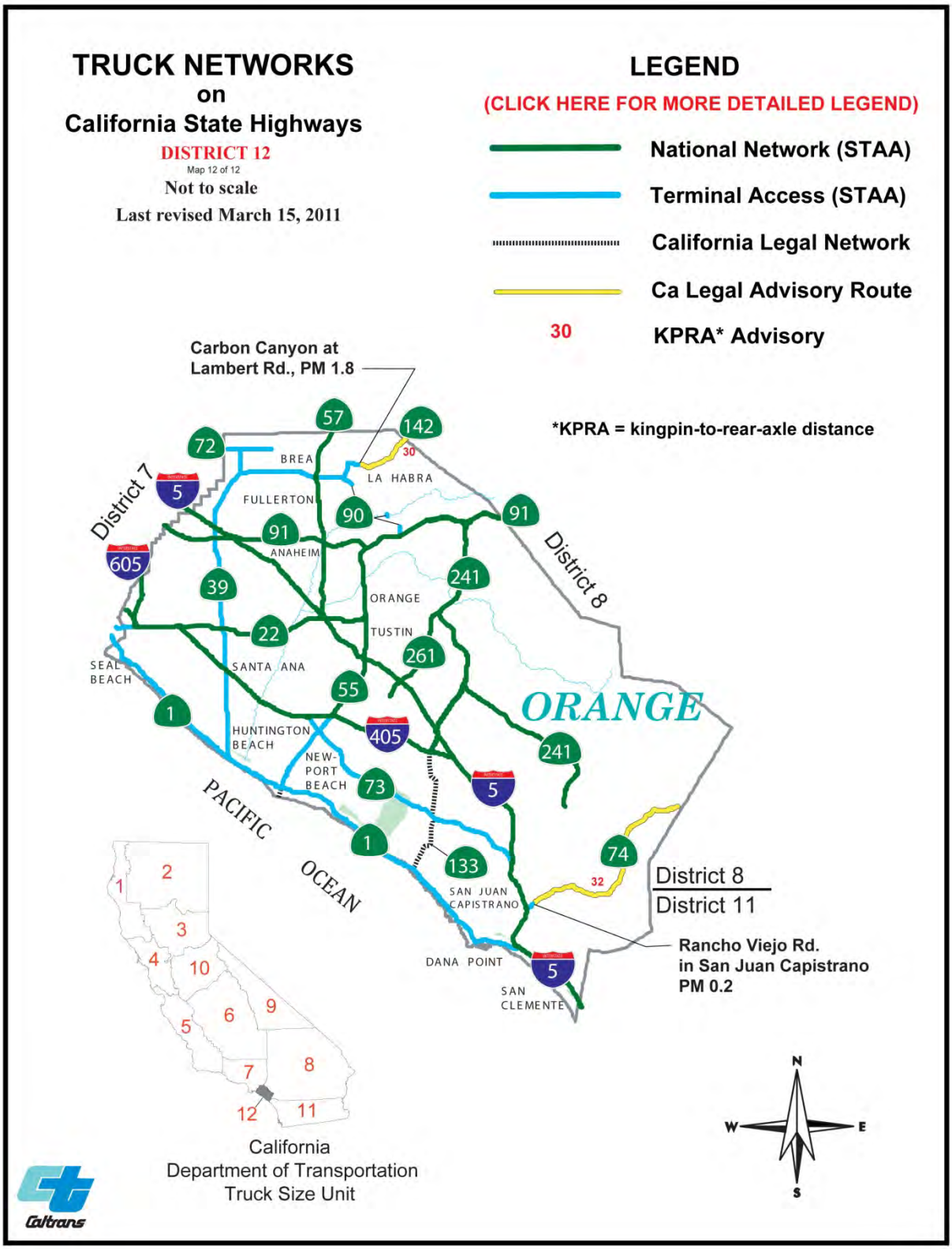
John Wayne International Airport (SNA)

- SNA ranked 99th in the nation in 2011, carrying 17,209 tons of cargo.
- Main cargo carriers at SNA are FedEx and UPS.
- Noise-based limitations at the airport constrain the carriers' operations.

TRADE CORRIDORS IMPROVEMENT FUND (TCIF)-SUPPORTED PROJECTS

The following TCIF projects, sponsored by OCTA, are located in District 12 and under construction (TCIF project number are in parentheses):

- SR - 91 Connect Auxiliary Lanes between SR- 57 and I-5 (34)
- State College Boulevard Grade Separation (35)
- Placentia Avenue Undercrossing (36)
- Orangethorpe Avenue Grade Separation (37)
- Kraemer Boulevard Undercrossing (38)
- Lakeview Avenue Overcrossing (40)
- Tustin Avenue / Rose Drive Overcrossing (41)


TRUCK NETWORKS
on
California State Highways
DISTRICT 12
Map 12 of 12
Not to scale
Last revised March 15, 2011
LEGEND
(CLICK HERE FOR MORE DETAILED LEGEND)
National Network (STAA)
Terminal Access (STAA)
California Legal Network
Ca Legal Advisory Route
30
KPRA* Advisory
*KPRA = kingpin-to-rear-axle distance
Carbon Canyon at
Lambert Rd., PM 1.8
District 7
District 8
ORANGE
BREA
LA HABRA
FULLERTON
ANAHEIM
ORANGE
TUSTIN
SANTA ANA
SEAL BEACH
HUNTINGTON BEACH
NEW-PORT BEACH
PACIFIC
OCEAN
SAN JUAN CAPISTRANO
DANA POINT
SAN CLEMENTE
District 8
District 11
Rancho Viejo Rd.
in San Juan Capistrano
PM 0.2
N
W
E
S
California
Department of Transportation
Truck Size Unit
Caltrans

SOURCES AND ADDITIONAL INFORMATION

Caltrans District 12 website: http://www.dot.ca.gov/dist12/.
Caltrans Office of Truck Services: http://www.dot.ca.gov/hq/traffops/trucks/.
John Wayne Airport website: http://www.ocair.com/newsroom/factsataglance.aspx
Orange County Transportation Authority: http://www.octa.net/goods_movement.aspx.
Orange County Transportation Plan, 2012 http://www.octa.net/pdf/finallrtp.pdf

This page is intentionally blank.

APPENDIX C: GLOSSARY

Aerotropolis. A land use development form consisting of aviation-intensive businesses and related enterprises surrounding a major airport, which serves as its core. The concept is based on airports as drivers of local economic development as well as hubs of global communications and trade.

All-cargo carrier. An air carrier certificated to provide scheduled air freight, express, and mail transportation over specified routes; may also conduct nonscheduled operations that may include passengers.

Air cargo. Commercial freight, including express packages and mail, transported by passenger or dedicated cargo airplanes.

At-grade crossing. An intersection of travelled ways – e.g., highways, rail lines, or walkways – at the same vertical elevation. (Also see ***Highway-rail at-grade crossing***.)

Barge. A large, non-motorized, usually flat-bottomed, cargo-carrying water vessel towed or pushed by other craft, used for transporting freight (often bulk commodities) on rivers and other waterways.

Berth. Wharf space at which a ship docks. A wharf may have several berths, depending on the length of the ships accommodated. To berth (verb) a ship is to bring a ship into such a space.

Belly cargo. Air freight carried in the belly of passenger aircraft.

Beneficial cargo owner. The person who or legal entity that owns or has title to the freight being transported. The importer of record, who is named as shipper or consignee on a bill of lading, or any person who physically takes possession of cargo at a destination and does not act as a third party in the movement of such goods.

Bill of lading. A contract between a shipper and a carrier listing the terms and conditions for moving freight between specified points. Serves as a receipt for goods and a contract to deliver it as freight.

Bottleneck. A section of a highway or rail network that experiences operational problems such as congestion. Bottlenecks may result from factors such as major intersections, reduced roadway width, or steep grades that can slow trucks.

Boxcar. A closed roofed freight railroad car usually with sliding doors on its side.

Breakbulk cargo. Non-containerized, general cargo of non-uniform sizes, often transported on pallets or in boxes, sacks, drums, or bags. These cargoes require labor-intensive loading and unloading processes. Examples of breakbulk cargo include iron, machinery, coffee beans, logs, and woodpulp.

Bulk cargo. Loose cargo that is unbound as loaded or mechanically conveyed, without count and in an unpackaged form. May be dry bulk or liquid bulk. Examples of bulk cargo include coal, grains, ore, cement, and petroleum products.

Bunker fuel. A low-grade fuel oil used to power ocean-going ships. By state law (2008), vessels are

required to switch from bunker fuel to cleaner, low-sulfur fuel when sailing within 24 miles of the California coast.

Capacity. The physical facilities, personnel and process available to meet the product of service needs of the customers. Capacity generally refers to the maximum output or producing ability of a machine, a person, a process, a factory, a product, or a service. In regards to the transportation system, this term references the ability of the transportation infrastructure to accommodate traffic flow.

Chassis. A metal trailer frame or undercarriage with tires, brakes, and lights that is designed to be pulled by a truck for over-the-road transportation of shipping containers, which are lifted on and off the chassis.

Class I railroad. A large freight rail carrier having annual operating revenues of $250 million or more as adjusted annually for inflation (using the base year of 1991) by the Surface Transportation Board (STB). This group includes the nation's major railroads.

Class II railroad. A freight rail carrier having annual operating revenues of less than $250 million but more than $20 million, as set and adjusted by the STB (using the base year of 1991). Class II railroads are considered mid-sized freight-hauling railroads in terms of operating revenues. They are considered "regional railroads" by the Association of American Railroads.

Class III railroad. Railroads with annual operating revenues of $20 million or less, as set and adjusted by the STB (using the base year of 1991). The typical Class III is a ***short line*** railroad, which feeds traffic to or delivers traffic from a Class I or Class II railroad. All switching and terminal rail companies are Class III railroads, regardless of operating revenues.

Classification. Grouping of railcars in a rail yard in accordance with train movement requirements, usually by destination station or junction. A yard where such activity takes place may be called a ***classification yard*.**

Coastal shipping (or ***short-sea*** or ***coastwise shipping***). Commercial marine shipping operations between ports along a single coast or involving a short sea crossing.

Cold-ironing. Shutting down the auxiliary engines on ships (in addition to the propulsion engines) while in port and connecting to electrical power supplied at the dock, thus substantially reducing air pollutant emissions. Also called ***shore power*** or ***alternative marine power***.

Container and **container shipping.** A container is a large, standard-size, weather-tight, metal box into which cargo is packed for shipment aboard specially configured, ocean-going containerships. It is designed to be moved with common handling equipment enabling high-speed intermodal transfers in economically large units between ships, railcars, truck chassis, and barges using a minimum of labor. International shipping containers are commonly 20 or 40 feet in length. U.S. domestic standard containers are larger, generally 48 or 53 feet (rail and truck).

Container terminal. A facility where cargo containers are transshipped from one vehicle or one mode of transportation to another for continued transport. Such a facility at a port, where ocean-going container vessels dock to discharge and load containers by cranes is a ***maritime container terminal***.

A facility where the transshipment is between land vehicles, such as between trucks and trains, is an ***inland container terminal***. (Also see ***Terminal***.)

Container throughput. A measure of the number of containers handled over a period of time; a measure of productivity for a seaport or terminal.

Crossdock facility. A materials-handling facility used in the short-turn-around transfer of intermodal rail or truck freight. Incoming shipments are transferred directly to outgoing trailers with little or no storage. Shipments may spend less than 24 hours at such facilities, sometimes less than an hour.

Customs. A tax or duty imposed on imported goods. Also may refer to the U.S. Customs and Border Protection agency, a unit of the Department of Homeland Security, which collects such fees and also works to prevent terrorists from entering the county, enforce immigration and drug law, and prevent the importation of illegal cargo.

Deep-sea shipping vessels. Ocean-going ships that transport cargo to and from seaports. Vessels include ***dry bulk carriers***, which transport commodities such as iron ore, coal, and food; ***liquid bulk carriers*** such as tankers that ship crude oil, chemicals, and petroleum products; diesel-powered ***container ships*** that transport imports and exports in standardized containers; ***general cargo*** ships; and ***roll on-roll off (Ro/Ro)*** vessels that transport wheeled cargo such as cars, trucks, and trains.

Distribution Center (DC). A strategically located warehouse-type facility, often highly automated, that receives, sorts, processes, temporarily stores, and redistributes inventory (products, goods) to retailers, wholesalers, or consumers. May or may not be dedicated to a single retail organization.

Dock. A space used for loading or receiving merchandise at a freight terminal.

Double-stack. Railcar movement of containers stacked two units high.

Drayage. Transportation of freight (often containers from railyard or seaports) by truck typically over a relatively short distance to an intermediate or final destination; may also refer to a charge for pickup/delivery of goods moving short distances (e.g., from marine terminal to warehouse).

Dredge. To remove sediment from the bottom of a harbor channel, river, or other waterway to improve the passage for vessels.

Dry Bulk Cargo. Cargo loaded or unloaded by means of conveyor belts, spouts, or scoops, and not placed individually; flowing cargoes such as rice, grain, various ores, etc.; stored loose.

Dwell time. – The length of time a rail car(s) sits at a particular location.

Environmental justice. The fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies.

Flatcar. In rail transportation, a freight rail car that has a floor without any housing or body above, frequently used to carry containers and trailers or oversized and odd-shaped commodities.

Focus Routes. Identified in the Caltrans Interregional Transportation Strategic Plan (ITSP), this subset of

the ***High Emphasis Routes*** highlights the State's highest priority routes that, when complete, will connect all urban areas and geographic goods movement gateways, as well as link rural and small urban areas to the trunk system.

Free Trade Zone or **Foreign Trade Zone**. A designated, sometimes enclosed area, often associated with a seaport or international airport, where goods can be landed, stored, processed, and re-exported duty-free without intervention by customs authorities.

Freight forwarder. A person or company whose business is to act as an agent on behalf of a shipper. A freight forwarder frequently consolidates several shipments from various shippers into one large shipment and coordinates booking reservations. Upon reaching the destination, the shipment is separated into small shipments and delivered.

Gate. In goods movement, the location or structure at a port of entry, seaport, or intermodal terminal where trucks are cleared to enter or exit. Increasingly, gate entry procedures are automated to confirm required information about the vehicle, the load, and compliance with applicable rules.

General cargo. In contrast to bulk cargo, any containerized or ***breakbulk*** goods.

Goods movement. The processes and activities involved in picking up, moving, and delivering products or raw materials from points of origin (or producers) to points of delivery or use (or consumers).

Grade separation. A construction design in which travelled ways – e.g., highways, railroad lines, or pedestrian walkways – cross under or over each other at different vertical elevations in order to avoid conflicts.

Green equipment. In goods movement, vehicles (such as trucks and locomotives) and cargo-handling equipment that uses emission-reducing technologies.

Greenhouse gas (GHG). Gases that trap heat in the atmosphere and thus potentially influence climate change, such as carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride.

Ground handling. In aviation, the servicing of an aircraft while it is on the ground and usually parked at a terminal gate of an airport.

Gross vehicle weight. The combined total weight of a vehicle and its freight.

Hazardous Material (or "HazMat"). A substance or material that, because of its quantity, concentration, or physical or chemical characteristics, may cause or significantly pose a substantial hazard to human health or the environment when improperly packaged, stored, transported, or otherwise managed.

High Emphasis Routes. Highways having the State's highest priority for programming to meet freeway/expressway standards or otherwise designated for their critical importance to interregional travel. First recognized in the 1990 Interregional Road System Plan (Caltrans).

Hub. A common connection point for components in a network; a common term in describing a freight

transportation network, as in "hub and spoke."

Import. To receive, bring in, or carry in goods from an outside source, especially to bring in goods or materials from a foreign country for trade or sale (opposite, see ***Export***).

Infrastructure. In goods movement, the roads and highways, tunnels and bridges, rail lines and yards, seaports and improved waterways, airports, and related intermodal yards and communication systems (including ***intelligent transportation systems***) that support the movement of products and raw materials.

Intelligent transportation systems (ITS). Advanced applications of electronics, communications, computers, detection and sensing devices, and similar technologies to improve safety, efficiency, and congestion-free movement typically through transmittal of real-time information.

Intermodal car. A rail car designed specifically for handling piggyback trailers or containers, or both. Intermodal cars may be long flatcars with collapsible trailer hitches, or shorter, lightweight platforms with rigid hitches for use at mechanized terminals. Some newer designs are articulated, and have as many as ten platforms connected to form one "car."

Intermodal freight transportation. Transportation of freight, typically in an intermodal ***container*** or vehicle, using more than one mode of transportation (e.g., rail, ship, or truck) in a single trip, generally with no handling of the freight itself when changing modes.

Intermodal terminal. A location where different transportation modes and networks connect.

Just-in-time (JIT) shipping. In goods movement, an inventory control strategy that strives to achieve a steady flow of materials through the supply chain and to minimize or avoid warehousing by having components or products produced and shipped to arrive just in time for use.

Landbridge. The movement of cargo (such as containerized goods) from one country through the port of another country and then by rail or truck to an inland point in that county or to another country – for example, the through movement of Asian goods to Europe across North America.

Less than container load (LCL) and **less than truckload (LTL)**. A shipment of cargo that is not large enough to fill a standard-size container; various shippers may pool their LCL shipments together in one container. In trucking, a shipment that would not by itself fill the truck to capacity by weight or volume.

Liquid bulk cargo. A type of bulk cargo that consists of liquid items, such as petroleum, water, or liquid natural gas.

Logistics. In the freight industry, a collective term for a wide set of activities dedicated to the production, transformation, and distribution of goods, from raw material sourcing to final market distribution, as well as the related information flows and scheduling.

Longshoremen. Dock workers who load and unload ships or perform associated administrative tasks. May or may not be members of labor unions. Also called ***stevedores***. Longshore ***gangs*** are hired by stevedoring firms to work the ships.

Maquiladora. Assembly facilities in Mexico, especially those located near the United States-Mexico border, to which foreign materials and parts are shipped (duty free) and assembled into products that are returned to the same market or exported, the facility ownership thus taking advantage of cheaper labor and less restrictive regulations.

Marine terminal. Any designated area of a seaport used for the receipt or shipment of waterborne cargo, typically including wharves, storage areas, loading and unloading equipment, rail and truck facilities, offices, maintenance areas, and other related functions.

Multimodal. The availability of multiple transportation options, or modes, within a system or a corridor. The transportation of goods under a single contract, but performed with at least two different means of transport (See also ***intermodal freight transportation***).

NOx. Generic term for oxides of nitrogen, a family of compounds. In air pollution control, nitrogen dioxide (NO2) is of primary interest and used as an indicator for the larger group of nitrogen oxides. NO2 reacts in the atmosphere to form ozone.

Off-dock rail. Freight railyards located not immediately on a marine terminal but rather within the larger region served by a port. Typically, cargo is trucked from a marine terminal or transload facility to these yards, where transcontinental rail service is available.

On-dock rail. Freight railyards located at marine terminals, providing direct shipside rail service. On-dock railyards receive import cargo discharged from marine vessels as well as export cargo unloaded from freight trains. Typically, these yards consist of rail tracks, temporary storage areas for equipment and cargo, and staging areas.

Operating port. A seaport where the port authority builds the wharves, owns the cranes and cargo-handling equipment, and hires the labor to move the cargo. A stevedore hires longshore labor to lift cargo between the ship and dock, where the port's laborers pick it up and move it to a storage or shipping site (contrast with ***landlord port***).

Panamax vessel. An ocean-going ship with dimensions of the maximum size possible to pass through the Panama Canal. In 2011, these dimensions are: maximum length 295 meters, maximum beam overall 32.25 meters, and maximum draught 13.50 meters. When expansion of the canal is completed, the ***new Panamax*** vessel will be: maximum length 366 meters, maximum beam 49 meters, and maximum draft 15.2 meters.

Particulate matter (PM). In air pollution control, solid particles and liquid droplets found in the air. Particles range in size from visible materials, such as dust, dirt, soot, or smoke, to particles so small that they can only be detected using an electron microscope. Particle pollution includes "inhalable coarse particles," with diameters larger than 2.5 micrometers and smaller than 10 micrometers and "fine particles," with diameters that are 2.5 micrometers and smaller. Diesel engines emit a complex mix of toxic pollutants, including very small carbon particles ("soot") called diesel PM, known to contain over 40 cancer-causing substances.

Port of entry. A place where imported foreign goods may be cleared through customs and other

authorities; a place where a citizen of another country may be cleared to enter. May be a land port of entry, seaport, or airport.

Positive Train Control (PTC). Technology (operations equipment) that is capable of preventing train-to-train collisions, overspeed derailments, and injuries to railroad workers. Widespread installation of PTC systems is mandated under the Rail Safety Improvement Act of 2008.

Project cargo. Term broadly applied to large, heavy, high value or project-critical materials and equipment being shipped (either domestic or overseas) for a specific purpose, such as for a new factory , highway, oil drilling platform, wind turbine generators, etc.

Proposition 1B. The ballot initiative passed by California voters in November of 2006, subsequently enacted as the Highway Safety, Traffic Reduction, Air Quality, and Port Security Bond Act of 2006. Prop 1B authorized the State to sell $19.925 billion of general obligation bonds to fund transportation projects "to relieve congestion, improve the movement of goods, improve air quality, and enhance the safety and security of the transportation system."

Public-private partnerships. In transportation planning, arrangements between government and private sector entities for the purpose of providing or improving infrastructure, facilities, and services. (Sometimes called ***P3*** projects.)

Public use airport. A publicly or privately owned airport that offers the use of its facilities to the public without users obtaining special clearances, and that has been issued a California Airport Permit by Caltrans.

Rail yard. A rail terminal, typically with a network of tracks and multiple sidings, at which traditional railroad activities occur, such as assembling trains and sorting and redistribution of railcars and cargo (see ***classification***). Railcars in yards are moved by gravity (e.g., rolling into position from a manufactured hill, or ***hump***) or by specially designed yard locomotives called ***switchers***.

Rolling stock. The inventory of wheeled transport vehicles owned by a railroad or motor carrier; often used in rail transportation, usually referring to both powered and unpowered vehicles, including locomotives, railroad cars, and passenger coaches.

Short line railroad. An independent or subsidiary railroad that operates over a relatively short distance; generally, a ***Class III railroad.*** Short line and regional railroads operate and maintain 29 percent of the American railroad industry's route mileage, and account for 9 percent of the rail industry's freight revenue and 11 percent of railroad employment.

Short-sea shipping. Commercial marine shipping operations between ports along a single coast or involving a short sea crossing; also known as ***coastal shipping*** or ***coastwise shipping***.

Siding. In rail transportation, track adjacent to a main or secondary track for meeting or passing trains.

Slow steaming. The deliberate reduction of a marine vessel's cruising speed in order to reduce fuel consumption, thus lowering operational costs, as well as reducing CO2 emissions.

SOx. Generic term for compounds of sulfur, including sulfur dioxide.

STAA – Surface Transportation Assistance Act of 1982. The Surface Transportation Assistance Act (STAA) allows large trucks, commonly called STAA trucks, to operate on routes that are part of the National Network. The Federal Highway Administration (FHWA) provides standards for STAA trucks (based on the Code of Federal Regulations Title 23 Part 658), which designate the truck sizes that all states must allow on the National Network. (The National Network includes the Interstate System and other designated highways that were a part of the Federal-Aid Primary System on June 1, 1991. The "other designated highways" are listed in Title 23 Part 658, Appendix A). STAA standards vary according to types of trucks. For a STAA truck tractor-semitrailer combination (18-wheeler), the semitrailer may be up to 53 feet in length. (See ***trucks***.)

Stevedore. A labor management company that provides equipment and hires workers to transfer cargo between ships and docks and is responsible for the loading or unloading of ships in port. Also used to mean an individual worker (i.e., a ***longshoreman***).

Strategic Highway Network (STRAHNET). A network of highways which are important to the United States' strategic defense policy and which provide defense access, continuity, and emergency capabilities for defense purposes.

Supply chain. A network of production, trade, and services required to move a product or service from supplier to customer, beginning with the transformation of raw materials, through intermediate manufacturing stages, to the delivery of finished goods to a market.

Sustainability. Policies and strategies that are aimed at meeting contemporary social needs without compromising the ability of future generations to meet their needs.

Switching. Movement of freight cars between two locations in close proximity. Typically involves moving cars within a rail yard or from specific industry locations to a yard for placement on a train.

Tank barges or **tankers**. Ships used for transporting bulk liquids, such as petroleum, chemicals, molasses, vegetable oils, liquefied gases, etc.

Tank car. A railcar used exclusively for transporting liquids, liquefied gases, compressed gases, or solids that are liquefied or compressed prior to loading.

Tariff. A schedule or system of charges, duties, or fees imposed by a government on imports or exports.

Terminal. Generally, a facility at which freight is received, handled, and shipped. Usually a location where vehicle combinations (rail cars, trucks, trailers, chassis, etc.) are regularly exchanged and temporarily stored. operates cargo-handling equipment to load and unload ships.

Terminal Access Route. A designated truck route from a STAA-designated route to a terminal. Federal law requires that states allow STAA trucks reasonable access to terminals.

Throughput. In goods movement, a measure of how much cargo is moving through a system, measured in terms of volume of trucks, trains, or cargo.

Ton and **Tonne**. A ***ton*** (also known as a ***short ton***) is a unit of weight equal to 2,000 pounds, used almost exclusively in the United States. A ***tonne*** (or metric ton) is a unit of weight equal to 1,000 kilograms,

used everywhere else in the world. A tonne is equivalent to about 2,205 pounds.

Trackage rights. In rail transportation, rights obtained by one railroad to operate its trains over another railroad's tracks.

Tractor-trailer. A combined trucking vehicle consisting of a motorized towing engine and cab (tractor) and an attached trailer, semitrailer, or both (a double) having four or more axles (also known as "semis," "big rigs" or "18-wheelers").

Trade barrier. A (usually) government-imposed restriction on the free (usually international) exchange of goods or services. May take the form of import policies, tariffs, licensing, or other restrictions.

Trade Corridor Improvement Fund (TCIF). One of the key program elements authorized by the Highway Safety, Traffic Reduction, Air Quality, and Port Security Bond Act of 2006, approved by the voters in 2006 as Proposition 1B. The $2 billion fund is available to the California Transportation Commission (CTC), as appropriated, for programmed infrastructure improvements along federally designated "Trade Corridors of National Significance" or other corridors with a high volume of freight movement.

Transloading. The operation of transferring cargo from one transportation mode to another. May also refer to the operation of transferring cargo from one container to another for any of a number of reasons, such as for consolidation, weight restrictions, palletizing, leasing contract requirements, or supply chain management (e.g., to synchronize delivery of goods to meet real-time demands).

Transload facility. Any place where transloading is conducted.

Transshipment. The shipment of goods (or containers) to an intermediate destination by one carrier, then shipped again to another destination by the same or another carrier. Shipments transferred from one transportation line to another, such as from rail to a water carrier.

Tugboat and **towboat**. A tugboat is a type of harbor craft used for maneuvering larger ships in and out of port. A towboat is a type of watercraft used to pull (tow) or push barges.

Twenty-foot equivalent unit (TEU). A standardized transportation (often maritime) industry measurement used when counting cargo containers of varying lengths. Used as an approximate measure for describing a ship's cargo-carrying capacity, or a shipping terminal's cargo handling capacity. A standard forty-foot (40 x 8 x 8 feet) container equals two TEUs (each 20 x 8 x 8 feet). Ships can carry about 4,500 to 15,000 TEUs. Trains can carry about 240 TEUs; trucks only carry one or two TEUs.

Unit train. Freight trains moving large tonnages of a single (often bulk) product between two points without intermediate yarding or switching.

Velocity. In goods movement, a measure of how fast cargo is moving through a transportation system, typically measured in terms of average vehicle speed per unit time.

Waybill. Document used to identify the shipper and consignee, routing, cargo, rate, weight, and other shipping information.

This page is intentionally blank.

APPENDIX D: ACRONYMS

3Es – Economy, Environment, and Equity
3PL – Third-Party Logistics
AADT – Annual Average Daily Traffic
AADTT – Annual Average Daily Truck Traffic
AAPA – American Association of Port Authorities
AAQS – Ambient Air Quality Standards
AAR – Association of American Railroads
AB – Assembly Bill
ACE – Automated Commercial Environment
ACTC – Alameda County Transportation Commission
ADT – Average Daily Traffic
AIS – Automated Identity System
AMBAG – Association of Monterey Bay Area Governments
AMP – Airport Master Plan
AMP – Alternative Marine Power
ARB –Air Resources Board
AQ – Air Quality
AQIP – Air Quality Improvement Program
AQMD – Air Quality Management District
ARB – California Air Resources Board
ARRA – American Recovery and Reinvestment Act
ASEAN – Association of Southeast Asian Nations
ASLRRA – American Short Line Rail Road Association
ATA – American Trucking Associations
ATMIS – Advanced Transportation Management Information Systems
ATMS – Advanced Traffic Management Systems
ATRI – American Transportation Research Institute
BASIC – Behavior Analysis and Safety Improvement Categories
BIA – Bureau of Indian Affairs
BLS – Bureau of Labor Statistics (United States)
BMP – Border Master Plan
BNSF – BNSF Railway
BTS – Bureau of Transportation Statistics
CA – California
CAA – Clean Air Act
CAAP – Clean Air Action Plan
CalEMA – California Emergency Management Agency
CalEPA – California Environmental Protection Agency
CalHEAT – California Hybrid, Efficient and Advanced Truck Research Center
CALMITSAC – California Marine and Intermodal Transportation System Advisory Council
CalOES – California Office of Emergency Services
CalSTA – California State Transportation Agency
Caltrans – California Department of Transportation
CAPA – California Association of Port Authorities
CAPM – Capital Preventive Maintenance
CARB – California Air Resources Board
CASP – California Aviation System Plan
CAWG – Collision Analysis Working Group
CBO – Congressional Budget Office
CBP – Customs and Border Protection
CCSP – Certified Cargo Screening Program
CDL – Commercial Drivers License
CEC – California Energy Commission
CEQA – California Environmental Quality Act
CFAC – California Freight Advisory Committee
CFMP – California Freight Mobility Plan
CFR – Code of Federal Regulations
CFS – Commodity Flow Survey
CHP – California Highway Patrol
CIB – California Interregional Blueprint
CITT – Center for International Trade and Transportation
CLEEN – Continuous Lower Energy, Emissions, and Noise
CMA – Congestion Management Association
CMIA – Corridor Mobility Improvement Account
CMV – Commercial Motor Vehicle
CSMP – Corridor System Management Plan
CNG – Compressed Natural Gas

COG – Council of Governments
CPMSGP – California Port and Maritime Security Grant Program
CPUC – California Public Utilities Commission
CRFC – Critical Rural Freight Corridors
CSA – Consolidated Statistical Areas
CSLRA – California Short Lines Railroad Association
CSMP – Corridor System Management Plan
CSRP – California State Rail Plan
CSTDM – California Statewide Travel Demand Model
CSU – California State University
CTA – California Trucking Association
CTC – California Transportation Commission
CTEF – Commercial Truck Enforcement Facilities
CTMP – Comprehensive Truck Management Program
CTP – California Transportation Plan
CTP – Clean Truck Program
C-TPAT – Customs-Trade Partnership
CUFC – Critical Urban Freight Corridors
CVEF – Commercial Vehicle Enforcement Facilities
CVI – Commercial Vehicle Idling
CVL – Commercial Vehicle License
CVSA – Commercial Vehicle Safety Alliance
CY – Calendar Year
DHS – Department of Homeland Security
DMP – Dynamic Mobility Project
DMV – Department of Motor Vehicles
DOF – Department of Finance
DOT – Department of Transportation
DMP – Dynamic Mobility Project
ECL – Emission Control Label
EF – Emergency Function
EIA – Energy Information Administration (United States DOT)
EIR – Environmental Impact Report
EO – Executive Order
EJ – Environmental Justice
EOBR – Electronic on Board Recorders
EPIC – Electric Program Investment Charge
ESF – Emergency Support Functions
EPA – Environmental Protection Agency
ESI – Environmental Ship Index
ETA – Estimated Time of Arrival
EU – European Union
FAA – Federal Aviation Administration
FAC – Freight Advisory Committee
FAF – Freight Analysis Framework
FAST – Free and Secure Trade
FHMTL – Federal Hazardous Materials Transportation Law
FHWA – Federal Highway Administration (US DOT)
FMCSA – Federal Motor Carrier Safety Administration
FRA – Federal Railroad Administration
FRATIS – Freight Advanced Traveler Information System
FSR – Feasibility Study Report
FSTIP – Federal Statewide Transportation Improvement Program
FTIP – Federal Transportation Improvement Program
FTL – Full Truck Load
FTZ – Free Trade Zone/Foreign Trade Zone
FY – Fiscal Year
GCCG – Gateway Cities Council of Governments
GDP – Gross Domestic Product
GHG – Greenhouse Gas
GIS – Geographic Information System
GMAP – Goods Movement Action Plan
GPS – Global Positioning Systems
GRDP – Gross Regional Domestic Product
GRP – Gross Regional Product
GVWR – Gross Vehicle Weight Rating
HCD – Department of Housing and Community Development
HLED – High-Level Economic Dialogue
HMT – Harbor Maintenance Tax
HMTF – Harbor Maintenance Trust Fund
HOS – Hours of Service
HOV – High Occupancy Vehicle
HPMS – Highway Performance Monitoring System
HR – House of Representatives
HSIPR – High-Speed Intercity Passenger Rail
HSR – High Speed Rail
I – Interstate

I/C – Interchange
IANA – Intermodal Association of North America
IATA – International Air Transport Association
ICTF – Intermodal Container Transfer Facility
IJLSM – International Journal of Logistics Systems and Management
ILA – International Longshoreman's Association
ILWU – International Longshore and Warehouse Union
IMO – International Maritime Organization
IRP – International Registered Plan
IRR – Indian Reservation Roads
IRRS – Interregional Road System
ISA – Importer Self-Assessment
ISCA – International Safe Container Act of 1977
ISO – International Organization for Standardization
ISPS – International Ship and Port Security
IT – Information Technology
ITS – Intelligent Transportation Systems
ITSP – Caltrans Interregional Transportation Strategic Plan
JIT – Just-in-Time
JOC – Journal of Commerce
JWC – Joint Working Committee (US/Mexico)
KPRA – Kingpin-to-Rear Axle
Kton – Thousands of Tons
LACD – Los Angeles Customs District
LAEDC – Los Angeles Economic Development Council
LAX – Los Angeles International Airport
LNG – Liquefied Natural Gas
Lo/Lo – Lift On/Lift Off
LOS – Level of Service
LTL – Less Than Truckload
M-5 – Marine 5 Highway Corridor
MAP-21 – Moving Ahead for Progress in the 21st Century
MAQIP – Maritime Air Quality Improvement Plan
MARAD – Maritime Administration (US DOT)
MCOM – Multistate Corridor Operations and Management
MCP – Motor Carrier Permit
MCSAP – Motor Carrier Safety Assistance Program
MCSU – Motor Carrier Safety Unit
MLW – Mean Low Water
MLLW – Mean Lower Low Water
MOW – Maintenance of Way
MPH – Miles per Hour
MPO – Metropolitan Planning Organization
MPR – Mobility Performance Report
MSA – Metropolitan Statistical Areas
MT – Metric Ton
MTC – Metropolitan Transportation Commission
N/A – Not Applicable or Not Available
NAAC – Native American Advisory Committee
NAAQS – National Ambient Air Quality Standards
NAFTA – North American Free Trade Agreement
NALB – Native American Liaison Branch
NCHRP – National Cooperative Highway Research Program
NEPA – National Environmental Protection Act
NEXTGEN – Next Generation Air Transportation System
NFAC – National Freight Advisory Council
NFN – National Freight Network
NHS – National Highway System
NN – National Network
NOAA –- National Oceanic and Atmospheric Administration
NOx – Nitrogen Oxides
NRDC – Natural Resource Defense Council
NSSR – North State Super Region
NSTEDS – North State Transportation for Economic Development Study
NTSB – National Transportation Safety Board
O&D – Origin and Destination
OAB – Oakland Army Base
OES – Office of Emergency Services
OGV – Ocean Going Vessel
OIG – Oakland International Gateway
OME – Otay Mesa East
OOIDA – Owner-Operator Independent Drivers Association
P3 – Public Private Partnership
PFN – Primary Freight Network
PHMSA – Pipeline and Hazardous Materials Safety Administration (US DOT)

PID – Project Initiation Document
PIER – Public Interest Energy Research
PIH – Poison-Inhalation Hazard
PM – Particulate Matter
PMA – Pacific Maritime Association
PNRSI – Projects of National or Regional Significance
POE – Port of Entry
POLA – Port of Los Angeles
POLB – Port of Long Beach
PPM – Parts Per Million
PRIIA – Passenger Rail Investment and Improvement Act of 2008
PSIP – Periodic Smoke Inspection Program
PTC – Positive Train Control
PUC – Public Utilities Commission
RCRMS – Rail Corridor Risk Management System
RFID – Radio Frequency Identification
RLA – Railway Labor Act
ROG – Reactive Organic Gases
Ro/Ro – Roll On/Roll Off
ROW – Right of Way
RPM – Radiation Portal Monitors
RR – Railroad
RSIA – Rail Safety Improvement Act of 2008
RTIP – Regional Transportation Improvement Program
RTP – Regional Transportation Plan
RTPA – Regional Transportation Planning Agency
SACOG – Sacramento Area Council of Governments
SAFE – Security and Accountability for Every Port Act of 2006
SAFETEA-LU – Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users
SANDAG – San Diego Association of Governments
SB – Senate Bill
SCAG – Southern California Association of Governments
SCRRA – Southern California Regional Rail Authority
SCC – Sacramento City College
SCS – Sustainable Community Strategy
SENTRI – Secure Electronic Network for Travelers Rapid Inspection
SEP – State Emergency Plan
SFS – Sustainable Freight Strategy
SHA – State Highway Account
SHS – State Highway System
SIDUE – Secretaría de Desarrollo Urbano del Estado
SIP – State Implementation Plan
SJV – San Joaquin Valley
SJVRTP – San Joaquin Valley Regional Transportation Planning Agency
SOx – Sulfur Oxides
SR – State Route
STAA – Surface Transportation Assistance Act of 1982
STB – Surface Transportation Board
STIP – State Transportation Improvement Program
SWITRS – Statewide Integrated Traffic Records System
TCIF – Trade Corridors Improvement Fund
TCR – Transportation Concept Report
TENS – Truck Enforcement Network System
TERO – Tribal Employment Rights Office
TEU – Twenty-foot Equivalent Unit
TIFIA – Transportation Infrastructure, Finance and Innovation Act
TIGER – Transportation Investment Generating Economic Recovery
TIH – Toxic Inhalation Hazard
TOFC – Trailer on Flat Car
TRB – Transportation Research Board
TSA – Transportation Security Administration
TTI – Texas Transportation Institute
TTP – Tribal Transportation Program
TWIC – Transportation Worker Identification Credential
UC – University of California
UCR – Unified Carrier Registration
UP or **UPPR** – Union Pacific Railroad
UPS – United Parcel Service
US or **U.S.** – United States
USACE – United States Army Corp of Engineers
USC – United States Code

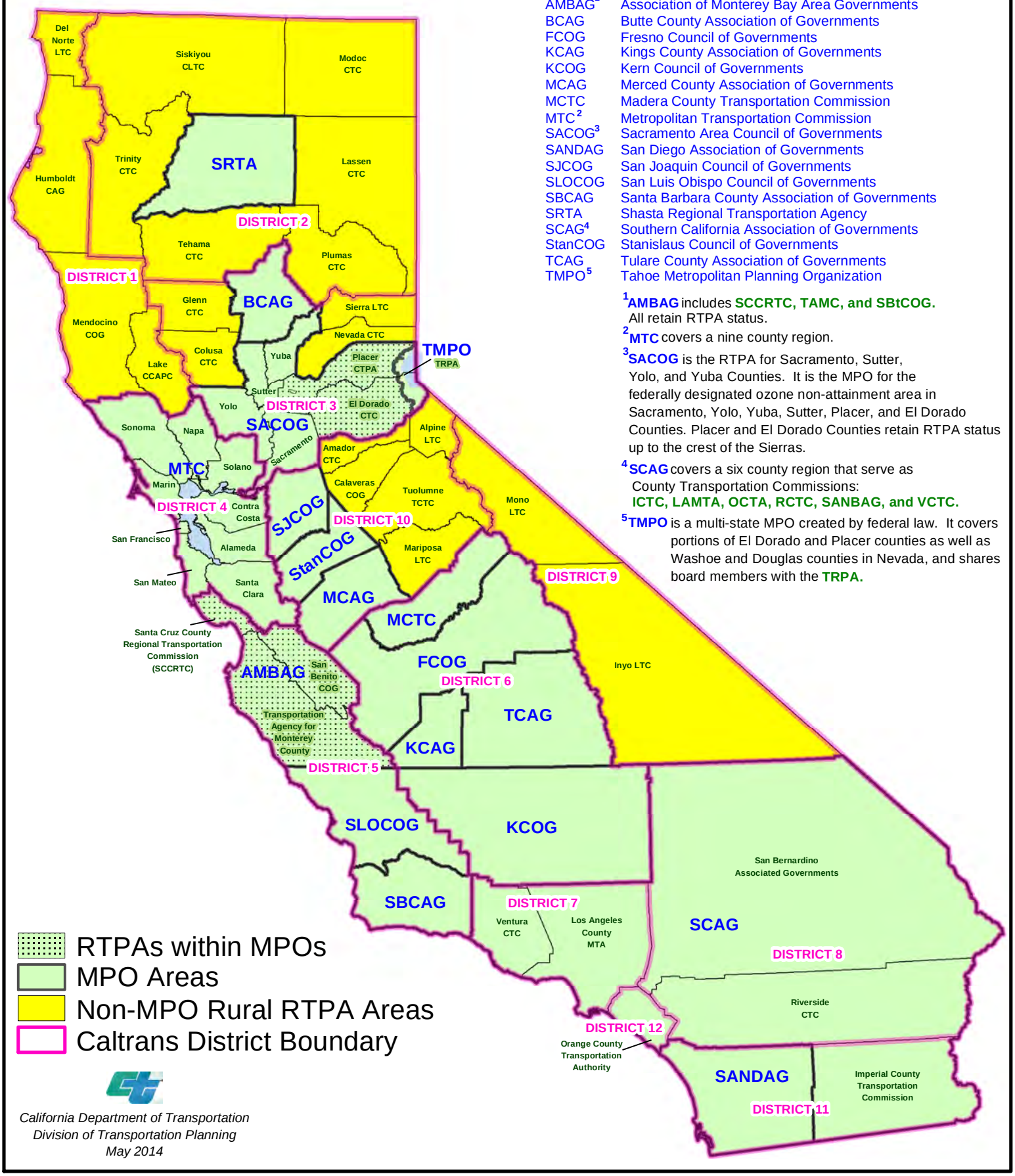
USCG – United States Coast Guard
US DOT – United States Department of Transportation
VDS – Vehicle Detection Systems
VHD – Vehicle Hours of Delay
VMT – Vehicle Miles Traveled
VRA – Veterans Recruitment Appointment
WB – Waybill
WCCC – West Coast Corridor Coalition
WIM – Weigh-in-Motion

This page is intentionally blank.

APPENDIX E:
METROPOLITAN PLANNING ORGANIZATIONS AND REGIONAL TRANSPORTATION PLANNING AGENCIES MAP

CALIFORNIA

Metropolitan Planning Organizations(MPOs)
and
Regional Transportation Planning Agencies (RTPAs)



AMBAG[1]	Association of Monterey Bay Area Governments
BCAG	Butte County Association of Governments
FCOG	Fresno Council of Governments
KCAG	Kings County Association of Governments
KCOG	Kern Council of Governments
MCAG	Merced County Association of Governments
MCTC	Madera County Transportation Commission
MTC[2]	Metropolitan Transportation Commission
SACOG[3]	Sacramento Area Council of Governments
SANDAG	San Diego Association of Governments
SJCOG	San Joaquin Council of Governments
SLOCOG	San Luis Obispo Council of Governments
SBCAG	Santa Barbara County Association of Governments
SRTA	Shasta Regional Transportation Agency
SCAG[4]	Southern California Association of Governments
StanCOG	Stanislaus Council of Governments
TCAG	Tulare County Association of Governments
TMPO[5]	Tahoe Metropolitan Planning Organization

[1] **AMBAG** includes **SCCRTC, TAMC, and SBtCOG.** All retain RTPA status.

[2] **MTC** covers a nine county region.

[3] **SACOG** is the RTPA for Sacramento, Sutter, Yolo, and Yuba Counties. It is the MPO for the federally designated ozone non-attainment area in Sacramento, Yolo, Yuba, Sutter, Placer, and El Dorado Counties. Placer and El Dorado Counties retain RTPA status up to the crest of the Sierras.

[4] **SCAG** covers a six county region that serve as County Transportation Commissions: **ICTC, LAMTA, OCTA, RCTC, SANBAG, and VCTC.**

[5] **TMPO** is a multi-state MPO created by federal law. It covers portions of El Dorado and Placer counties as well as Washoe and Douglas counties in Nevada, and shares board members with the **TRPA.**

California Department of Transportation
Division of Transportation Planning
May 2014

APPENDIX F: NETWORK ASSETS

FHWA – Draft 27,000 Mile Primary Freight Network

PRIMARY FREIGHT NETWORK ROUTES				
State	Route No	Start Point	End Point	Length (Miles)
CA	I10	I405	I5	13.03
CA	I10	I710	CA/AZ Line	221.71
CA	I105	I405	0.10 Miles West of I405	0.10
CA	I105	I605	2.38 Miles West of I10	12.87
CA	I110	I10	S1	17.40
CA	I15	I8	CA/NV Line	288.47
CA	I205	I580	I5	12.96
CA	I210	I5	S710	23.47
CA	I210	0.40 Miles East of S710	I10	24.91
CA	I215	I15	4.70 Miles North of I15	4.70
CA	I215	5.07 Miles South of S74	0.14 Miles South of S74	4.93
CA	I215	S74	S30	31.47
CA	I238	I880	I580	2.16
CA	I305	I80	0.81 Miles East of I80	0.81
CA	I305	I5	S99	2.14
CA	I40	I15	1.11 Miles East of I15	1.11
CA	I40	4.45 Miles East of I15	U95	139.48
CA	I40	3.22 Miles East of U95	CA/AZ Line	7.58
CA	I405	I5	S118	70.73
CA	I5	I8	3.21 Miles South of I8	3.21
CA	I5	I805	5.81 Miles North of I80	497.88
CA	I5	8.12 Miles North of I80	3.80 Miles North of S89	215.64
CA	I580	I205	I238	30.60
CA	I580	North End of the Richmond-San Rafael Bridge	U101	1.64
CA	I605	I405	I210	27.46
CA	I680	I580	27.40 Miles South of I580	27.40
CA	I710	I10	9th St	20.55
CA	I8	I5	S163	2.40
CA	I8	I805	11.56 Miles East of I805	11.56
CA	I80	U101	West End of Oakland-Bay Bridge	1.83
CA	I80	East End of Oakland-Bay Bridge	1.29 Miles West of S20	152.12
CA	I80	0.25 Miles West of S89 (West)	0.82 Miles East of S29 (West)	1.07
CA	I80	S89 (East)	0.19 Miles East of S89 (East)	0.19
CA	I80	1.66 Miles West of CA/NV Line	CA/NV Line	1.66
CA	I805	S905	I5	26.67
CA	I880	U101	I80	41.78
CA	Miramar	I805	I15	5.15
CA	S111	S80	S78	12.55
CA	S118	I405	8.19 Miles West of I405	8.19
CA	S120	I5	5.59 Miles East of I5	5.59
CA	S134	I5	S Glendale Ave	2.39
CA	S14	I5	Sierra Hwy	22.20
CA	S14	S58	S58	1.25
CA	S170	U101	I5	5.96
CA	S22	I405	I5	9.88
CA	S23	0.25 Miles North of U101	Tierra Rejada Rd	5.60
CA	S4	I5	S99	3.37
CA	S47	0.19 Miles East of I110	2.08 Miles East of I110	1.89
CA	S55	S91	E Warner Ave	9.32
CA	S57	I5	S60	16.22
CA	S57	S60	I10	3.12
CA	S58	5.71 Miles West of S99	S99	5.71
CA	S58	S99	S14	58.87
CA	S58	S14	U395	36.57
CA	S58	Old Hwy 58	0.30 Miles West of Old Hwy 58	0.30
CA	S60	I10	I215	52.37
CA	S60	I215	8.95 Miles East of I215	8.95
CA	S71	S60	Chino Hills Pky	3.63

CA	S710	I210	S110	2.11
CA	S78	S111	S111	1.24
CA	S86	S78	24.27 Miles North of S78	24.27
CA	S91	I110	I215	58.74
CA	S99	I5	I305	298.14
CA	U101	I10	Victoria Ave, Oxnard CA	64.26
CA	U101	1.59 Miles North of S152	0.09 Miles South of I80	74.22
CA	U101	I580	0.16 Miles North of I580	0.16
CA	U101	0.89 Miles North of I580	3.70 Miles North of S37	11.92
CA	U101	3.64 Miles South of S116	0.41 Miles South of S116	3.23
CA	U101	0.34 Miles North of S116	0.67 Miles South of S12	15.02
CA	U50	S99	Sunrise Blvd	12.53
Total				**2789.60**
PRIMARY FREIGHT NETWORK URBAN AREAS AND BORDER CROSSINGS				
State	**Population**	**Urban Area Population > 200,000**		
CA	12,150,996	Los Angeles--Long Beach--Anaheim, CA		
CA	3,281,212	San Francisco--Oakland, CA		
CA	2,956,746	San Diego, CA		
CA	1,932,666	Riverside--San Bernardino, CA		
CA	1,723,634	Sacramento, CA		
CA	1,664,496	San Jose, CA		
CA	654,628	Fresno, CA		
CA	615,968	Concord, CA		
CA	583,681	Mission Viejo--Lake Forest--San Clemente, CA		
CA	523,994	Bakersfield, CA		
CA	441,546	Murrieta--Temecula--Menifee, CA		
CA	392,141	Reno, NV--CA		
CA	370,583	Stockton, CA		
CA	367,260	Oxnard, CA		
CA	358,172	Modesto, CA		
CA	345,580	Indio--Cathedral City, CA		
CA	341,219	Lancaster--Palmdale, CA		
CA	328,454	Victorville--Hesperia, CA		
CA	308,231	Santa Rosa, CA		
CA	277,634	Antioch, CA		
CA	258,653	Santa Clarita, CA		
CA	219,454	Visalia, CA		
CA	214,811	Thousand Oaks, CA		
State	**AADTT**	**Border Crossing (Port) Name**		
CA	758	Calexico East		
CA		Otay Mesa		

FHWA – Draft Expanded 41,000 Mile Primary Freight Network

PRIMARY FREIGHT NETWORK ROUTES				
State	Route No	Start Point	End Point	Length (Miles)
CA	Dillon Rd	S86	I10	1.51
CA	Figueroa St	CA30P	I110	0.17
CA	I10	I405	I5	13.03
CA	I10	I710	CA/AZ Line	221.71
CA	I105	CA3A	I605	17.39
CA	I110	S47	I10	20.50
CA	I15	I8	CA/NV Line	288.47
CA	I205	I580	I5	12.96
CA	I210	I5	I10	48.79
CA	I215	I15	S30	46.25
CA	I238	I880	I580	2.16
CA	I305	CA34P	I80	0.81
CA	I305	I5	S99	2.14
CA	I40	I15	CA/AZ Line	154.75
CA	I405	I5	I5	72.52
CA	I5	CA37P	I8	3.21
CA	I5	I805	CA/OR Line	772.38
CA	I580	U101	I80	13.33
CA	I580	I238	I205	30.60
CA	I605	I405	I210	27.46
CA	I680	U101	I580	29.59
CA	I710	CA29P	I10	20.55
CA	I780	CA40P	I80	6.62
CA	I8	I5	0.17 Miles East of S67	15.92
CA	I8	S111	S7	7.14
CA	I80	U101	CA/NV Line	203.67
CA	I805	S905	I5	26.67
CA	I880	U101	I80	41.78
CA	Miramar	I805	I15	5.15
CA	S111	I8	S78	14.32
CA	S118	I405	8.19 Miles West of I405	8.19
CA	S120	I5	S99	6.34
CA	S134	I5	2.39 Miles East of I5	2.39
CA	S14	I5	23.45 Miles Northeast of I5	23.45
CA	S170	U101	I5	6.09
CA	S22	I405	I5	9.88
CA	S23	U101	6.85 Miles North of U101	6.85
CA	S4	I5	S99	3.37
CA	S47	CA30P	I110	2.08
CA	S55	I405	S91	11.84
CA	S57	I5	S60	16.22
CA	S57	S60	I10	3.12
CA	S58	S99	5.71 Miles West of S99	5.71
CA	S58	S99	I15	129.84
CA	S60	I10	I215	52.38
CA	S60	I215	8.95 Miles East of I215	8.95
CA	S7	MX/CA Line	I8	7.19
CA	S71	S60	3.63 Miles South of S71	3.63
CA	S710	I210	2.11 Miles South of I210	2.11
CA	S78	S111	S86	24.83
CA	S86	S78	Dillon Rd	45.81
CA	S905	MX/CA Line	I805	6.73
CA	S91	I110	I215	58.74
CA	S99	I5	I305	298.14
CA	U101	CA36P	I5	64.14
CA	U101	I80	26.12 Miles South of I680	74.31
CA	U101	I580	6.38 Miles North of S116	36.45
CA	U50	S99	12.53 Miles East of S99	12.53
CA	W Willow St	CA61R	I710	0.89

Total				3053.71
PRIMARY FREIGHT NETWORK INTERMODAL CONNECTORS				
State	Facility ID	Facility Name	Facility Description	Length (Miles)
CA	CA1A	Burbank – Glendale Airport	Thornton Av. (Airport to Buena Vista), Buena Vista St. (Thornton to I-5).	0.88
CA	CA29P	Port of Long Beach	Ocean Blvd (Port to SR-710), 9th/10th St (Santa Fe to Pico), Pico Ave (9th/10th to Ocean Blvd), Santa Fe (Anaheim to 9th), Anaheim St (Sante Fe to Alameda).	3.38
CA	CA30P	Port of Los Angeles	Seaside Ave/Rte 47: LB City limit e/o Navy Wy to beginning of Rte 47. N Front St: Rte 47 to John S Gibson Blvd. Harry Bridges Blvd/B: Figueroa St to Alameda St; Alameda St: Harry Bridges Bl ('B' St) to Anaheim St.	2.85
CA	CA31P	Port of San Francisco	Cargo Way (Jennings to 3rd), 3rd St (Cargo Way to Cesar Chaez), Cesar Chavez St (3rd St to Rt 101) - (Cargo Way proposed).	2.10
CA	CA32P	Port of Oakland	Maritime St (7th to W Grand Ave), W Grand Ave (Maritime to I-880), 7th St (Maritime to I-880).	1.96
CA	CA33P	Port of Richmond	Harbour Way (Terminal to I-580). Canal Blvd (Terminal to I-580).	1.85
CA	CA34P	Port of Sacramento	Enterprise Blvd (Industrial Rd to I-80), Industrial Blvd (Enterprise Blvd to Harbor Blvd), Harbor Blvd (Industrial Blvd to US50).	0.40
CA	CA35P	Port of Redwood City	Seaport Blvd. (Port to Rt. 101). Bloomquist St (seaport Blvd to Maple), Maple St (Bloomquist to Facility).	1.26
CA	CA36P	Port Hueneme	Hueneme Rd (Port to Los pasos), Los pasos (Heueneme to US 101). Ventura Rd (Hueneme to Channel Island), channel Island Blvd (Ventura to Victoria), Victoria Ave (Channel Island to US 101).	20.45
CA	CA37P	Port of San Diego	Pacific Hwy)Laurel to NSC Compound), Grape St (Pacific Hwy to I-5), Hawthorne St (Pacific Hwy to I-5), Broadway (Pacific Hwy to 11th), 11th St. (Broadway to I-5).	3.13
CA	CA39P	Channel Islands Harbor	Victoria Ave (Terminal to Rt 101) mileage include in CA36P.	1.02
CA	CA3A	Los Angeles International Airport	Century Blvd (Sepulveda to I-405), Aviation Blvd (Century Blvd to I-105), La Cienega Blvd (Century to I-105), Imperial Hwy (La Cienega to Sepulveda), Sepulveda Blvd (Century to I-105), 104th St (Aviat.	1.02
CA	CA40P	Port of Benicia	Bayshore Rd. (Port to Park), Park Rd. (Bayshore to Industrial), Industrial Way (Park to I-680).	2.30
CA	CA41P	Port of Stockton	Harbor St (Terminal to Fresno), Fresno Ave (Harbor to Navy), Navy Dr (W Washington to Charter Way), Charter Way (Navy to I-5), @ Washington St (Navy to Fresno).	1.28
CA	CA4A	Oakland International Airport	Airport Dr (Hegenberger to Doolittle), Hegenberger Dr (Doolittle to I-880), 98th Ave (Airport Dr to I-880).	1.04
CA	CA5A	Ontario International Airport	Archibald Av (Airport to Rt 10). Vineyard Av. (Airport to Rt. 10).	1.06
CA	CA60R	Fresno TOPC Rail Yard	North Ave.(Facility to Rt.99).	0.50
CA	CA61R	Long Beach (Carson)Rail Yard	Sepulveda Blvd. (Facility to Rt. 47).	0.70
CA	CA62R	Oakland Rail Yard	Middle Harbor Rd (7th St to I-880).	1.18

CA	CA63R	Lathrop Rail Yard	E Roth Rd (Lathrop Rlyd IFC Airport Wy to I-5), Airport Wy (E Roth Rd to French Camp Rd), French Camp Rd (Airport Wy to Rte 99). . .	4.21
CA	CA64R	LA (Nr. Union Station)	Lamar St (Station to N Main), N Main St (Lamar to Daly), Daly St (N Main to N Mission), Mission Rd (Daly to I-5). Ave 20 (N Main to N Broadway), N Broadway (Ave 20 to I-5). .	1.54
CA	CA65R	Richmond Rail Yard	Canal Blvd. (Facility to Rt. 580). . .	0.18
CA	CA66R	LA ATSF Rail Yard	Washington Blvd (Hobart Yard to I-710). Shelia St (Arrowmile to Atlantic), atlantic Blvd (Shelia to Bandini), bandini Blvd (S Downey to I-710) - Connector 2 is proposed). .	1.41
CA	CA67R	Stockton Rail Yard	Anderson St (Facility to Diamond St), Diamond St (Anderson to Mariposa Rd), Mariposa Rd (Diamond St to Rte 99), Charter Wy (Diamond St to Rte 99). . .	1.59
CA	CA68R	San Bernadino Rail Yard	2nd St (I-215 to Mt Vernon), Mount Vermont (4th St to Rialto), 4th St (Mt Vernon to 5th), Rialto Ave (Mt Vernon to Sidewinder Mountain Rd). . .	1.73
CA	CA69R	City of Industry Rail Yard	Azusa Ave (Anaheim-Puente Rd to SR 60), (Anahein-Puneta Rd to Arenth Ave). Fullerton Rd (Arenth Ave to SR 60). .	0.99
CA	CA78R	UPS - Richmond Terminal	Atlas Rd (Facility to Richmond Pk), Richmond Pkwy (Atlas to I-80). . .	1.83
CA	CA7A	Lindburgh Field - San Diego	N. Harbor Dr. (Terminal to W. Laurel St.), W. Laurel St (N. Harbor Dr to I-5). . .	1.56
CA	CA8A	San Francisco Intl Airport	San Bruno Ave (US 101 to Airport Entrance). . .	0.61
Total				**64.01**
Grand Total				**3117.72**

PRIMARY FREIGHT NETWORK URBAN AREAS AND BORDER CROSSINGS

State	Population	Urban Area Population > 200,000
CA	12,150,996	Los Angeles--Long Beach--Anaheim, CA
CA	3,281,212	San Francisco--Oakland, CA
CA	2,956,746	San Diego, CA
CA	1,932,666	Riverside--San Bernardino, CA
CA	1,723,634	Sacramento, CA
CA	1,664,496	San Jose, CA
CA	654,628	Fresno, CA
CA	615,968	Concord, CA
CA	583,681	Mission Viejo--Lake Forest--San Clemente, CA
CA	523,994	Bakersfield, CA
CA	441,546	Murrieta--Temecula--Menifee, CA
CA	392,141	Reno, NV--CA
CA	370,583	Stockton, CA
CA	367,260	Oxnard, CA
CA	358,172	Modesto, CA
CA	345,580	Indio--Cathedral City, CA
CA	341,219	Lancaster--Palmdale, CA
CA	328,454	Victorville--Hesperia, CA
CA	308,231	Santa Rosa, CA
CA	277,634	Antioch, CA
CA	258,653	Santa Clarita, CA
CA	219,454	Visalia, CA
CA	214,811	Thousand Oaks, CA

State	AADTT	Border Crossing (Port) Name
CA	758	Calexico East
CA		Otay Mesa

FHWA - National Highway System – Intermodal Connectors

Intermodal Connectors

California

FACILITY	TYPE	CONNECTOR NO.	CONNECTOR DESCRIPTION	CONNECTOR LENGTH	FACILITY ID
Anaheim - Amtrak	Multipurpose Passenger Facility	1	Katella Rd. (Station to Rt .57)	0.2	CA14M
Bakersfield - Amtrak	AMTRAK Station	1	California Ave. (Rt. 99 to Q), Q St. (California to Truxtun), Truxtun Ave. (Q to Station)	2.2	CA16S
Bakersfield Bus Terminal	Intercity Bus Terminal	1	Served by connector to Bakersfield-Amtrak a distance of 1.2 miles along California Ave. (Rt. 99 to H), H St. (California to 18th), 18th St. (H to Station)	0.6	CA46B
Barstow Bus Terminal	Intercity Bus Terminal	1	First Ave.(Station to Main), Main St.(First to Barstow), Barstow Rd.(Main to Rt. 15)	1.9	CA47B
Burbank - Glendale Airport	Airport	1	Thornton Av. (Airport to Buena Vista), Buena Vista St. (Thornton to I-5)	1.1	CA1A
Channel Islands Harbor	Port Terminal	1	Victoria Ave (Terminal to Rt 101) mileage include in CA36P	0	CA39P
City of Industry Rail Yard	Truck/Rail Facility	1	Azusa Ave (Anaheim-Puente Rd to SR 60), (Anahein-Puneta Rd to Arenth Ave)	0.9	CA69R
City of Industry Rail Yard	Truck/Rail Facility	2	Fullerton Rd (Arenth Ave to SR 60)	0.7	CA69R
Del Mar - Amtrak	AMTRAK Station	1	Lomas Sante Fe Dr. (Station to I-5)	0.9	CA20S
Emeryville - Amtrak	AMTRAK Station	1	Powell St. (Station to Rt. 80)	0.2	CA28S
Eureka Pipeline Ter.	Truck/Pipeline Terminal	1	Washington St. (Uses same connection as Port of Humbolt)	0	CA55L
Fresno - Amtrak	AMTRAK Station	1	Tulare St. (Station to Rt. 41)	0.4	CA22S
Fresno Air Terminal Airport	Airport	1	Clinton Way (Airport to McKinley), McKinley Av. (Clinton to Rt 41)	4	CA2A
Fresno Bus Terminal	Intercity Bus Terminal	1	Broadway (Station to Fresno St.), Fresno St.(Broadway to Rt. 99)	0.6	CA54B
Fresno TOPC Rail Yard	Truck/Rail Facility	1	North Ave.(Facility to Rt.99)	0.5	CA60R
Fullerton - Amtrak	Multipurpose Passenger Facility	1	Harbor Blvd. (Station to Rt. 91)	1.1	CA15M
Indio Bus Terminal	Intercity Bus Terminal	1	Requa Ave.(Station to Jackson), Jackson St.(Requa to Rt. 10)	1.8	CA48B
John Wayne Airport - Orange Co.	Airport	1	MacArthur Blvd. (Airport to I-405)	0.5	CA11A

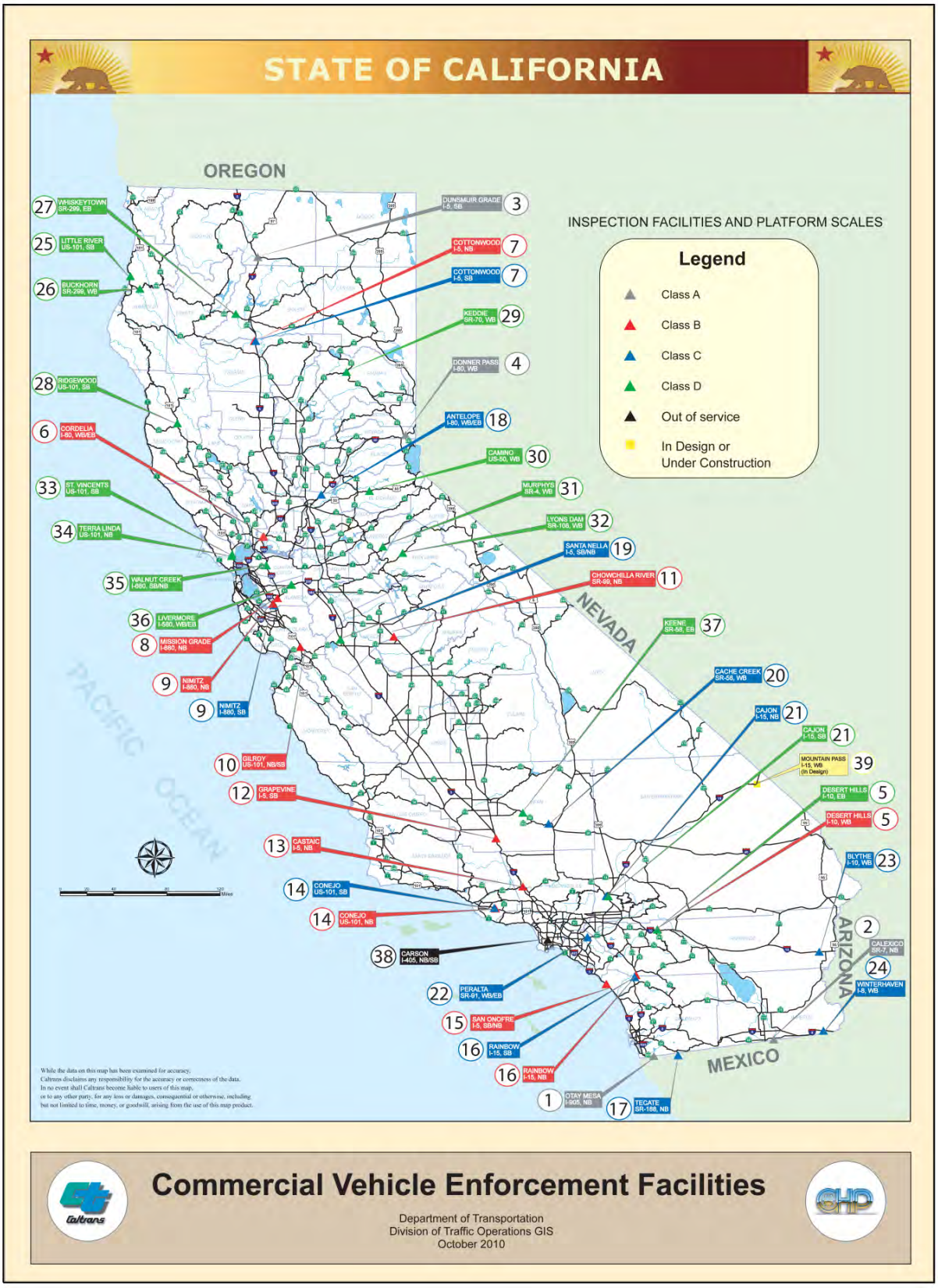
LA (Nr. Union Station)	Truck/Rail Facility	1	Lamar St (Station to N Main), N Main St (Lamar to Daly), Daly St (N Main to N Mission), Mission Rd (Daly to I-5)	1.3	CA64R
LA (Nr. Union Station)	Truck/Rail Facility	2	Ave 20 (N Main to N Broadway), N Broadway (Ave 20 to I-5)	0.6	CA64R
LA ATSF Rail Yard	Truck/Rail Facility	1	Washington Blvd (Hobart Yard to I-710)	1.8	CA66R
LA ATSF Rail Yard	Truck/Rail Facility	2	Shelia St (Arrowmile to Atlantic), atlantic Blvd (Shelia to Bandini), bandini Blvd (S Downey to I 710) - Connector 2 is proposed)	3.1	CA66R
LA/Vernon Facility	Truck/Rail Facility	1	Washington St. (Facility to I-710) - Included in LA ATSF Railyard (CA66R)	0	CA70R
Lathrop Rail Yard	Truck/Rail Facility	1	E Roth Rd (Lathrop Rlyd IFC Airport Wy to I-5), Airport Wy (E Roth Rd to French Camp Rd), French Camp Rd (Airport Wy to Rte 99)	3.1	CA63R
Lindburgh Field - San Diego	Airport	1	N. Harbor Dr. (Terminal to W. Laurel St.), W. Laurel St (N. Harbor Dr to I-5)	1	CA7A
Long Beach (Carson)Rail Yard	Truck/Rail Facility	1	Sepulveda Blvd. (Facility to Rt. 47)	0.7	CA61R
Long Beach Airport	Airport	1	Lakewood Blvd. (Airport to Route 405)	1	CA75A
Los Angeles 1 Pipeline Ter.	Truck/Pipeline Terminal	1	Served by an existing NHS route	0	CA57L
Los Angeles 2 Pileline Ter.	Truck/Pipeline Terminal	1	Served by an existing NHS route	0	CA56L
Los Angeles Bus Terminal	Intercity Bus Terminal	1	7th St.(Station to Alameda), Alameda St.(7th to Rt. 10)	1	CA49B
Los Angeles International Airport	Airport	1	Century Blvd (Sepulveda to I-405), Aviation Blvd (Century Blvd to I-105), La Cienega Blvd (Century to I-105), Imperial Hwy (La Cienega to Sepulveda), Sepulveda Blvd (Century to I-105), 104th St (Aviation to La Cienega), 111th St (Aviation to La Cienega)	8.2	CA3A
Martinez - Amtrak	AMTRAK Station	1	Marina Vista (Station to Alhambra), Alhambra St (Marina Vista to Rt. 4)	2.3	CA17S
Oakland - Amtrak	AMTRAK Station	1	Broadway (Station to second), Second St. (Broadway to Jackson), Jackson St. (Second to Rt. 880)	0.6	CA27S
Oakland Bus Terminal	Intercity Bus Terminal	1	Castro St. (Station 18th), 18th St.(Castro to Rt. 980)	0.2	CA51B
Oakland International Airport	Airport	1	Airport Dr (Hegenberger to Doolittle), Hegenberger Dr (Doolittle to I-880), 98th Ave (Airport Dr to I-880)	1.9	CA4A
Oakland Rail Yard	Truck/Rail Facility	1	Middle Harbor Rd (7th St to I-880)	1.9	CA62R
Oceanside - Amtrak	AMTRAK Station	1	Hill St (Station to Mission), Mission Ave. (Hill to I-5)	0.9	CA12S
Ontario International Airport	Airport	1	Archibald Av (Airport to Rt 10)	0.7	CA5A
Ontario International Airport	Airport	2	Vineyard Av. (Airport to Rt. 10)	0.8	CA5A

Palm Springs Regional Airport	Airport	1	Tahquitz Canyon Way (Airport to N. Indian Canyon Drive) N. Indian Canyon Drive (from Tahquitz Canyon Way to I-10)	8	CA6A
Port Hueneme	Port Terminal	1	Hueneme Rd (Port to Los pasos), Los pasos (Heueneme to US 101)	11.8	CA36P
Port Hueneme	Port Terminal	2	Ventura Rd (Hueneme to Channel Island), channel Island Blvd (Ventura to Victoria), Victoria Ave (Channel Island to US 101)	8.7	CA36P
Port of Benicia	Port Terminal	1	Bayshore Rd. (Port to Park), Park Rd. (Bayshore to Industrial), Industrial Way (Park to I-680)	1.9	CA40P
Port of Humbolt	Port Terminal	1	Washington St. (Port to Rt. 101)	0.4	CA38P
Port of Long Beach	Port Terminal	1	From Henry Ford Ave, E on Anaheim St, S on Santa Fe Ave, SE on 9th St, S on Pico Ave to Ocean Blvd to Terminal	3	CA29P
Port of Los Angeles	Port Terminal	1	From Henry Ford Ave, W on Alameda St and Harry Bridges Blvd, SW on John S. Gibson Blvd to Terminal	3.6	CA30P
Port of Los Angeles	Port Terminal	2	From Ocean Blvd, NW on Front St, N on John S. Gibson Blvd to terminal	1	CA30P
Port of Oakland	Port Terminal	1	Maritime St (7th to W Grand Ave), W Grand Ave (Maritime to I-880), 7th St (Maritime to I-880)	1.8	CA32P
Port of Redwood City	Port Terminal	1	Seaport Blvd. (Port to Rt. 101)	1.6	CA35P
Port of Redwood City	Port Terminal	2	Bloomquist St (seaport Blvd to Maple), Maple St (Bloomquist to Facility)	0.5	CA35P
Port of Richmond	Port Terminal	1	Harbour Way (Terminal to I-580)	0.8	CA33P
Port of Richmond	Port Terminal	2	Canal Blvd (Terminal to I-580)	1.1	CA33P
Port of Sacramento	Port Terminal	1	Enterprise Blvd (Industrial Rd to I-80), Industrial Blvd (Enterprise Blvd to Harbor Blvd), Harbor Blvd (Industrial Blvd to US50)	2.3	CA34P
Port of San Diego	Port Terminal	1	Pacific Hwy)Laurel to NSC Compound), Grape St (Pacific Hwy to I-5), Hawthorne St (Pacific Hwy to I-5), Broadway (Pacific Hwy to 11th), 11th St. (Broadway to I-5)	3.4	CA37P
Port of San Francisco	Port Terminal	1	Cargo Way (Jennings to 3rd), 3rd St (Cargo Way to Army St), Army St (3rd St to Rt 101) - (Cargo Way proposed)	1.6	CA31P
Port of Stockton	Port Terminal	1	Harbor St (Terminal to Fresno), Fresno Ave (Harbor to Navy), Navy Dr (W Washington to Charter Way), Charter Way (Navy to I-5), @ Washington St (Navy to Fresno)	4.3	CA41P
Richmond Rail Yard	Truck/Rail Facility	1	Canal Blvd. (Facility to Rt. 580)	0.2	CA65R
Sacramento Metro Airport	Airport	1	Served by an existing NHS route	0	CA10A
Salinas Bus Terminal	Intercity Bus Terminal	1	Salinas St. (Station to Rt. 183), Rt. 183 (Salinas to Rt. 101)	0.7	CA42B
San Bernadino - Amtrak	AMTRAK Station	1	2nd St. (Station to I-215)	0.7	CA25S

San Bernadino Rail Yard	Truck/Rail Facility	1	2nd St (I-215 to Mt Vernon), Mount Vermont (4th St to Rialto), 4th St (Mt Vernon to 5th), Rialto Ave (Mt Vernon to Sidewinder Mountain Rd)	2.9	CA68R
San Diego - Amtrak	AMTRAK Station	1	Part of Port of San Diego (CA37P)	0	CA24S
San Diego Bus Terminal	Intercity Bus Terminal	1	Part of Port of San Diego (CA37P)	0	CA43B
San Francisco Intl Airport	Airport	1	San Bruno Ave (US 101 to Airport Entrance)	0.3	CA8A
San Francisco - Trans Bay	Intercity Bus Terminal	1	Bus Separator Ramp (Station to I-80)	0.7	CA44B
San Jose - Amtrak	AMTRAK Station	1	Montgomery to The Alameda to Santa Clara St. to Almaden Blvd. to St. James St. to Rt 87	1	CA18S
San Jose Bus Terminal	Intercity Bus Terminal	1	Post St. (Station to Almaden), Almaden St. (Post to St James), St James St.(Almaden to Rt. 87)	0.5	CA52B
San Jose Intl Airport	Airport	1	Served by an existing NHS route	0	CA9A
San Juan Capistrano - Amtrak	AMTRAK Station	1	Ortega Hwy (Station to I-5)	0.3	CA21S
San Luis Obispo Bus Terminal	Intercity Bus Terminal	1	Rt. 227 (Station to Rt. 101)	0.4	CA45B
Santa Ana - Amtrak	Multipurpose Passenger Facility	1	Santa Ana Blvd (Station to I-5)	0.2	CA13M
Santa Barbara - Amtrak	AMTRAK Station	1	Yanonali (Station to Garden St.), Garden St. (Yanonali to Rt. 101)	0.3	CA19S
Santa Barbara Airport	Airport	1	Moffet Pl. (Airport to Rte. 217), Rte. 217 (Moffet to Rte. 101)	2.4	CA76A
Santa Barbara Bus Terminal	Intercity Bus Terminal	1	Carillo St. (Station to Rt. 101)	0.7	CA53B
Stockton Amtrak Station	AMTRAK Station	1	San Joaquin St (station to Lafeyette), Lafeyette St and Washington St (San J to Stanislaus)	1	CA77S
Stockton Bus Terminal	Intercity Bus Terminal	1	Center St: Stockton Bus Terminal to Rte 4 (one-way street)	0.1	CA50B
Stockton Bus Terminal	Intercity Bus Terminal	2	El Dorado St: Stockton Bus Terminal to Rte 4 (one-way street)	0.1	CA50B
Stockton Rail Yard	Truck/Rail Facility	1	Anderson St (Facility to Diamond St), Diamond St (Anderson to Mariposa Rd), Mariposa Rd (Diamond St to Rte 99), Charter Wy (Diamond St to Rte 99)	2.8	CA67R
Union Station (LA) - Amtrak	Multipurpose Passenger Facility	1	Los Angeles St. (Station to Alameda St.), Alameda St. (Los Angeles to Rt. 101)	0.3	CA23M
UPS - Richmond Terminal	Truck/Rail Facility	1	Atlas Rd (Facility to Richmond Pk), Richmond Pkwy (Atlas to I-80)	1.9	CA78R
TOTAL				122.2	

Updated: 07/31/2013

Commercial Vehicle Enforcement Facilities Map



CALIFORNIA COMMERCIAL VEHICLE ENFORCEMENT FACILITIES (WEIGH STATIONS)

Rte	County	PM	Name	CVEF No.	Class	Operational Status	Facility Type	Direction	Phone	Division	City or Nearest City	Street Address	Zip Code
4	Calaveras	29.7	Murphys	43	D	Operational	Platform	WB	(209) 728-1306	Valley			
5	San Diego	R67.4	San Onofre	19	B	Operational	Inspection	NB	(760) 430-7700	Border	Oceanside	Interstate 5	
5	San Diego	R67.4	San Onofre	18	B	Operational	Inspection	SB	(760) 430-7777	Border	Oceanside	Interstate 5	
5	Kern	11.9	Grapevine	15	B	Operational	Inspection	SB	(661) 858-2540	Central	Lebec		
5	Merced	23.4	Santa Nella	27	C	Operational	Platform	NB	(209) 854-2661	Central	Santa Nella		
5	Merced	23.4	Santa Nella	26	C	Operational	Platform	SB	(209) 854-1678	Central	Santa Nella		
5	Tehama	40.8	Cottonwood	22	C	Operational	Platform	SB	(530) 347-5444	Northern	Cottonwood	19340 N/B I-5	96022
5	Tehama	40.8	Cottonwood	9	B	Operational	Inspection	NB	(530) 347-1813	Northern	Cottonwood	19340 N/B I-5	96022
5	Siskiyou	R7.2	Dunsmuir Grade	4	A	Operational	Inspection	SB	(530) 926-2425	Northern	Mt. Shasta	1001 I-5 South	96067-9998
5	Los Angeles	R54.4	Castaic	16	B	Operational	Inspection	NB	(661) 294-5530	Southern	Santa Clarita		91355
7	Imperial	0.1	Calexico	2	A	Operational	Inspection	NB	(760) 768-4000	Border	Calexico	1700 E. Carr Road	92231
8	Imperial	R89.6	Winterhaven	35	C	Operational	Inspection	WB	(760) 572-0781	Border	Winterhaven		
10	Riverside	R15.8	Desert Hills	40	D	Operational	Platform	EB	(951) 849-5646	Border	Banning	47250 Interstate 10	92220
10	Riverside	R15.8	Desert Hills	6	B	Out of Service	Inspection	WB	(951) 849-5646	Border	Banning	47250 Interstate 10	92220
10	Riverside	R144.5	Black Rock	34	C	Operational	Inspection	WB	(760) 922-5022	Border	Blythe	West of Mesa Dr.	
15	Riverside	1	Rainbow	20	B	Operational	Inspection	NB	(951) 506-2020	Border	Temecula		
15	San Diego	53.5	Rainbow	33	C	Operational	Platform	SB	(951) 506-2030	Border	Temecula		
15	San Bernardino	R20.9	Cajon	30	C	Operational	Platform	NB	(760) 249-5175	Inland	San Bernardino		
15	San Bernardino	R20.9	Cajon	52	D	Operational	Platform	SB	(760) 249-6363	Inland	San Bernardino		
50	El Dorado	27.1	Camino	42	D	Operational	Platform	WB	(916) 844-2118	Valley	Placerville		
58	Kern	105.5	Cache Creek	28	C	Operational	Platform	WB	(661) 824-2496	Inland	Tehachapi		
58	Kern	81	Keene	51	D	Operational	Platform	EB	(661) 822-4763	Inland	Tehachapi		
70	Plumas	33	Keddie	41	D	Operational	Platform	WB	(916) 283-2909	Northern		Junction of CA 89	
80	Solano	14.4	Cordelia	7	B	Operational	Inspection	EB	(707) 864-5565	Golden Gate	Suisun	3895 Interstate 80	94585
80	Solano	14.4	Cordelia	8	B	Operational	Inspection	WB	(707) 864-5535	Golden Gate	Suisun	3895 Interstate 80	94585
80	Sacramento	16	Antelope	24	C	Operational	Platform	EB	(916) 263-3556	Valley	Citrus Heights/ Antelope		
80	Sacramento	16	Antelope	23	C	Operational	Platform	WB	(916) 263-3557	Valley	Citrus Heights/ Antelope		
80	Nevada	18.8	Donner Pass	5	A	Operational	Inspection	WB	(530) 587-1242	Valley	Truckee	12800 S I-80	96161
91	Orange	13.8	Peralta	32	C	Operational	Platform	EB	(714) 283-2614	Border	Anaheim		
91	Orange	13.8	Peralta	31	C	Operational	Platform	WB	(714) 283-2710	Border	Anaheim		
99	Merced	0.9	Chowchilla River	14	B	Operational	Inspection	NB	(559) 665-2904	Central	Le Grand	8820 S. Highway 99	95333
101	Humboldt	97.5	Little River	36	D	Operational	Platform	SB	(707) 677-0600	Northern			
101	Ventura	9.2	Conejo	29	C	Operational	Platform	SB	(805) 498-3853	Coastal	Thousand Oaks	4001 U.S. Hwy 101	91360
101	Ventura	9.2	Conejo	17	B	Operational	Inspection	NB	(805) 498-3853	Coastal	Thousand Oaks	4001 U.S. Hwy 101	91360
101	Santa Clara	11.4	Gilroy	12	B	Operational	Inspection	NB	(408) 683-9086	Coastal	San Martin	12000 South Valley Fwy	95046
101	Santa Clara	8.8	Gilroy	13	B	Operational	Inspection	SB	(408) 848-3078	Coastal	San Martin	12000 South Valley Fwy	95046
101	Marin	15.2	St. Vincents	45	C	Operational	Platform	SB	(415) 491-1002	Golden Gate	San Rafael		
101	Marin	14.1	Terra Linda	46	C	Operational	Platform	NB	(415) 491-1001	Golden Gate	San Rafael		
101	Mendocino	41.1	Ridgewood	39	D	Operational	Platform	SB	(707) 459-8571	Northern			
108	Tuolumne	17.2	Lyons Dam	44	D	Operational	Platform	WB	(209) 586-1129	Central	Long Barn		
188	San Diego	0.1	Tecate	21	C	Operational	Inspection	NB	(619) 478-2989	Border	Tecate	455 Thing Rd.	91980

CALIFORNIA COMMERCIAL VEHICLE ENFORCEMENT FACILITIES (WEIGH STATIONS)

Rte	County	PM	Name	CVEF No.	Class	Operational Status	Facility Type	Direction	Phone	Division	City or Nearest City	Street Address	Zip Code
299	Humboldt	R7.4	Buckhorn	37	D	Operational	Platform	WB	(707) 668-5471	Northern			
299	Shasta	12.6	Whiskeytown	38	D	Operational	Platform	EB	(916) 244-1468	Northern	Redding		
405	Los Angeles	12.2	Carson	53	D	Out of Service	Platform	NB	(310) 327-1789	Southern	Torrance		
405	Los Angeles	12.2	Carson	54	D	Out of Service	Platform	SB	(310) 327-9950	Southern	Torrance		
580	Alameda	R8.9	Livermore	50	D	Operational	Platform	EB	(925) 449-8506	Golden Gate	Livermore		
580	Alameda	R8.9	Livermore	49	D	Operational	Platform	WB	(925) 449-9527	Golden Gate	Livermore		
680	Alameda	R8.7	Mission Grade	10	B	Operational	Inspection	NB	(925) 862-2223	Golden Gate	Sunol	4751 Highway 680	94586
680	Contra Costa	16	Walnut Creek	48	D	Operational	Platform	NB	(925) 646-6585	Golden Gate			
680	Contra Costa	16	Walnut Creek	47	D	Operational	Platform	SB	(925) 646-6584	Golden Gate			
880	Alameda	3.7	Nimitz	11	B	Operational	Inspection	NB	(510) 794-3658	Golden Gate	Fremont	4415 Interstate 880	94536
880	Alameda	3.7	Nimitz	25	C	Operational	Platform	SB	(510) 794-3660	Golden Gate	Fremont		
905	San Diego	12	Otay Mesa	1	A	Operational	Inspection	NB	(619) 671-3000	Border	San Diego		

Revised 5/29/14.

Sources: Caltrans Legal Truck Access, http://www.dot.ca.gov/hq/traffops/engineering/trucks/weigh-stations/locations.xlsx and CHP Divisions and Offices, http://www.chp.ca.gov/depts_divs_offs/inspection.html

APPENDIX G: PUBLIC OUTREACH AND STAKEHOLDER PARTICIPATION

G-1: Metrans Stakeholder Survey

G-2: Community Organization Focus Groups

G-3: Public Workshop Materials

G-4: Primary Freight Network (PFN) Comment Letter

This page is intentionally blank.

APPENDIX G-1: METRANS STAKEHOLDER SURVEY

Background

As part of the development of the California Freight Mobility Plan (CFMP), Caltrans, Division of Transportation Planning, Division of Transportation Planning, Office of System, Freight, and Rail Planning used the consulting services of METRANS, California State University, Long Beach for an initial scoping study for the CFMP that would engage a diversity of stakeholders and to create greater understanding of our stakeholder's needs and priorities and to help shape the development of the CFMP.

The Principal Investigator for the study was Dr. Thomas O'Brien, Director of Research at California State University Long Beach's Center for International Trade and Transportation (CITT). METRANS conducted the "California Freight Mobility Plan (CFMP) Stakeholder Survey." The electronic survey was sent to more than 180 stakeholders in August and September of 2012. METRANS s received 72 completed surveys, of which 27 responders participated in a 45-minute follow-up telephone interview. The 33-question survey was conducted on-line using Qualtrics Survey Software in a multiple choice format with room for supplementary comments. To keep the survey and interview responses anonymous, the survey team analyzed the completed survey responses to capture the key findings without attribution.

Completed surveys represented a broad range of public, private, and community interests. Public sector respondents accounted for nearly 75 percent of the completed surveys. As an indication of their involvement in goods movement policy development, 79 percent of the stakeholders were aware of the 2005/2006 Goods Movement Action Plan (GMAP). Although industry and environmental stakeholders were expected to be diverse and passionate in their views, there were several questions in which more than of the 75percent responses were consistent. This summary highlights the responses in which there was general agreement and the most frequent answers for questions that requested rankings.

Key Survey Findings

- Respondents recommended that the state freight planning office focus on developing funding resources, developing statewide freight plans and bringing key stakeholders together. Respondents also recommended that the CFMP include a statewide prioritized list of projects.
- Nearly 200 projects were identified as a "top five priority" needed by all respondent's organizations to improve the flow of goods.
- The CFMP objectives should have private and public sector benefits. To address both, respondents noted that objectives should improve goods movement reliability, reduce goods movement travel time and cost, improve freight rail and freight intermodal connections, improve local and intra-regional goods movement. In addition, the CFMP should continue to focus on increasing mobility and addressing traffic relief; improving goods movement, reducing environmental impacts of freight movement, improving air quality, protecting public health, enhancing public safety, maximize economic and public benefit, and generate jobs.
- The CFPM should continue to emphasize the four primary priority freight regions and corridors (Los Angeles/Inland Empire, San Diego/Border, San Francisco Bay Area, and Central Valley), and focus on inter-regional connectivity and statewide priorities.
- Most respondents (other than environmental advocates) noted that CEQA needs "reform" or "streamlining" and that it should not hinder environmental protection.
- The top five **goods movement problems / issues** identified were:
    1. Freight rail and freight intermodal terminal access
    2. Community and environmental impacts
    3. Seaport access
    4. General state of highways
    5. Need for highway-rail grade separations.

The top five "**Outside California Threats"** noted were:

1. Panama Canal expansion
2. Prince Rupert and other Canadian port developments
3. Freight rail access improvement
4. Mexican port development
5. Gulf Coast investments.

- The top five **constraints** identified were:
  1. Lack of project financing
  2. Environmental issues or controversy
  3. Regulatory and jurisdictional conflicts
  4. Project approval processes
  5. Community opposition.
- Respondents were asked to rank the **importance to their organization** and stakeholders of an extensive list of freight-related issue areas in developing policies for statewide freight. The top five **most important policy issues** selected were:
  1. Jobs and the economy
  2. Regional and state economic competitiveness
  3. Public funding and financing for infrastructure
  4. Sustainable goods movement systems
  5. Public health impacts and safety.
- Respondents were asked to rank the top five **emerging national and global freight trends**. The top five most significant trends noted were:
  1. Larger ocean vessels with more capacity
  2. Changing geography of supply chain
  3. Shifts in global manufacturing and sourcing
  4. Transshipment (e.g., demand for transload / cross-dock infrastructure)
  5. Rising fuel costs
  6. Freight rail and freight intermodal terminal road access improvements.
- Respondents were asked to rate the relevance to their organization of an extensive list of funding sources in terms of effectively addressing their goods movement priorities. The top five **most relevant funding sources** were:
  1. Trade Corridors Improvement Funds [Proposition 1B (TCIF)- *Voter approved bond funding]*
  2. Federal Economic Stimulus Grants
  3. Federal gas tax; voter- approved tax measures
  4. Environmental impact fees.
- Although very few respondents noted that they undertake post-project evaluation measures, they ranked the following **performance measures for evaluating investment effectiveness** in the top 5:
  1. Freight network efficiency
  2. Freight network capacity improvements
  3. Cost-effectiveness
  4. Reliability
  5. Environmental quality.
- The survey respondent's listed nearly 75 critical documents or websites used by their organization to assist with freight planning and or decision making. Forty-eight survey respondents also identified their five most critical project partners.
- In response to the survey question, "Which, if any, aspects of the GMAP should be: enhanced, deleted, updated or don't know, in the forthcoming Freight Mobility Plan (FMP)?", respondents' top five selections were to update or enhance: policies pertaining to addressing greenhouse gases (GHG); Caltrans' interaction with stakeholders; GMAP Guiding Principles; address project gaps; and continuing emphasis on the four primary freight corridors. The CFMP development process and Caltrans' interaction with stakeholders should be enhanced.

APPENDIX G-2:
COMMUNITY ORGANIZATION FOCUS GROUPS

California Freight Mobility Plan

Final

FOCUS GROUP SUMMARY REPORT

Prepared by:

VRPA Technologies, Inc.
4630 W. Jennifer Street, Suite 105
Fresno, CA 93722
www.vrpatechnologies.com
Project Manager: Georgiena M. Vivian

September 2013

Funding for this project was provided by the California Department of Transportation, Division of Transportation Planning, State Planning and Research Program. The contents of this report reflect the views of the author who is responsible for the facts and accuracy of the data presented herein. The contents do not necessarily reflect the official views or policies of the State of California or the Federal Highway Administration. This report does not constitute a standard, specification, or regulation.

Introduction

The State of California Department of Transportation (Caltrans), Office of System, Freight and Rail Planning, Freight Planning Branch is in the process of preparing the California Freight Mobility Plan (CFMP). The CFMP is a comprehensive, long-range planning document encouraged by the federal transportation law, "Moving Ahead for Progress in the 21st Century" [(MAP-21), Public Law 112-141].

One of the major components of the planning process being used to help inform the development of the California Freight Mobility Plan is receiving comment and input from four focus groups conducted in different regions of the State:

- San Francisco Bay Area
- San Joaquin Valley
- Southern California: Los Angeles and the Inland Empire (San Bernardino)

This public opinion research is one component of a broader public engagement and input-gathering effort on the part of Caltrans. Results of the focus groups will help Caltrans identify significant freight system, environmental, and health issues of concern to communities near major freight corridors and intermodal facilities to be addressed in the CFMP. Input received from attendees at the focus groups will be used to inform the Freight Advisory Committee (FAC) and in the development of the CFMP.

A range of between 4 and 13 participants were present at each of the focus group sessions. Exhibit A provides a listing of the number of participants by participating agency. A range of between 24 and 366 potential stakeholder agency representatives were identified for the focus group sessions. Of the range of stakeholders referenced above, between 24 to 108 stakeholders listed for each focus group were actually contacted either by email or telephone to recruit potential participants. During each session, the VRPA Team delivered a PowerPoint slide presentation, which included a set of questions. The questions consisted of both multiple choice (polling) and open-ended discussion questions. Participants were able to provide input on the polling questions by utilizing a technology that provided each participant with a clicker with buttons that represented each of the answer choices. Responses were immediately recorded and displayed on the PowerPoint slides so participants and the VRPA Team could observe the results, which helped facilitate further discussion on each topic.

Focus groups provide a method to conduct "qualitative research". While phone surveys or other quantitative research methods use much larger sample size populations, focus groups emphasize the language, perceptions, and attitudes that can help Caltrans better understand

why community advocacy groups and other organizations (stakeholders) think the way they do, and what criteria they use to form their opinions. While the findings highlighted in this Summary Report shed light and add depth to public opinion research on community attitudes, the findings from focus groups cannot be projected or attributed to all similar stakeholders in each of the regions/sub-regions where focus groups were held.

The Planning Public Engagement Contract (PPEC) was used to plan for and conduct focus group outreach activities. VRPA Technologies, Inc. (VRPA) and its subconsultant team were contracted to do outreach activity by Caltrans.

Expected Outcomes

The following expected outcomes were prepared to ensure that the focus groups furthered the CFMP outreach process:

- Improve and increase Caltrans' understanding of freight transportation community concerns, issues, and impacts from freight transportation;
- Improve relationships with community groups through continued involvement throughout the CFMP development process; and,
- Ability to supply a more accurate and complete list of freight transportation impacts on communities during development of the CFMP.

Summary of Findings

The polling and discussion questions posed at each of the four focus group sessions covered a wide variety of topics related to freight mobility. Participants were asked to provide their opinions regarding Caltrans' role, the public's role, public outreach, benefits, impacts, critical issues, and suggestions for improvement. The sessions produced several common themes among all focus group participants including the following:

- Focus group respondents agreed that outreach to the public is difficult, but it is essential to the planning process. There needs to be more collaboration between and among elected officials, government agencies, the freight industry, and the public.
- Effective public outreach throughout the State requires coordination with environmental justice representatives. This would entail a grassroots and targeted approach involving environmental justice organizations working with Caltrans, regional, and local agencies to inform and educate underrepresented communities about freight planning issues and solutions. Since respondents felt that environmental justice communities were most impacted by freight activities, it is essential that they be targeted in outreach efforts utilizing methods with the highest chance of success.
- The respondents offered some suggestions to improving outreach with the public, and especially the underrepresented communities. They recommended that planning

documents be prepared in a language that is short and to the point, and easily understood by the general public and environmental justice communities. The documents also need to be made easily accessible. Some respondents indicated that radio is the primary source of information to environmental justice communities and should be utilized in outreach efforts. While placing materials on the Caltrans website was also considered a favorable idea, respondents agreed that the website should be enhanced to include more information, and that the information provided should be made easier to understand.

- Many focus group respondents mentioned the need for "green" technologies. Along with the requirements of Senate Bill (SB) 375, "green" techniques and solutions should be considered in the CFMP to address current and future freight impacts. The freight industry should consider new technologies and strategies to reduce impacts, specifically to environmental justice communities.
- Focus group respondents identified various impacts of the freight system, which include health, noise, air quality, traffic congestion, ground vibration, degradation to pavement, and diversion of resources and energy. All respondents agreed that communities and neighborhoods adjacent to freight facilities were most impacted, which typically include underrepresented groups and environmental justice communities.
- The freight impact that respondents were most concerned about was health. Although long-term impacts such as environmental risks and health effects are difficult to determine, respondents felt that short- and long-term health goals should be developed and included in the CFMP, to be implemented over time. Caltrans also needs to consider population growth and assess the risks of goods movement on future populations.
- Several respondents suggested the need to provide a cost/benefit analysis in the CFMP. They felt the cost/benefit analysis should be conducted as a part of the planning process to determine those modes and mobility improvements that would reduce health costs and enhance a healthy well-being.

Focus Group Locations and Schedule

The VRPA Technologies, Inc. (VRPA) Team, under contract with Caltrans Office of Community Planning, conducted four focus group sessions in June 2013. The four focus group sessions were held as follows:

- June 4, 2013 - San Joaquin Valley Session in Fresno at AIS Market Research office located at 1320 E. Shaw Avenue, Suite 155, and held between 12:00 PM and 3:00 PM
- June 13, 2013 - Los Angeles Area Session in downtown Los Angeles at the main offices of the Southern California Association of Governments (SCAG) located at 818 W. 7th Street, 12th Floor, and held between 10:00 AM and 1:00 PM

- June 26, 2013 – San Francisco Bay Area Session in downtown Oakland at the Elihu M. Harris State Office Building located at 1515 Clay Street, Room 12, and held between 1:00 PM and 4:00 PM
- June 27, 2013 – Inland Empire Session in San Bernardino, California at the San Bernardino Associated Governments (SANBAG)/Southern California Association of Governments (SCAG) offices located at 1170 West 3rd Street, Suite 140,and held between 12:30 PM and 3:30 PM

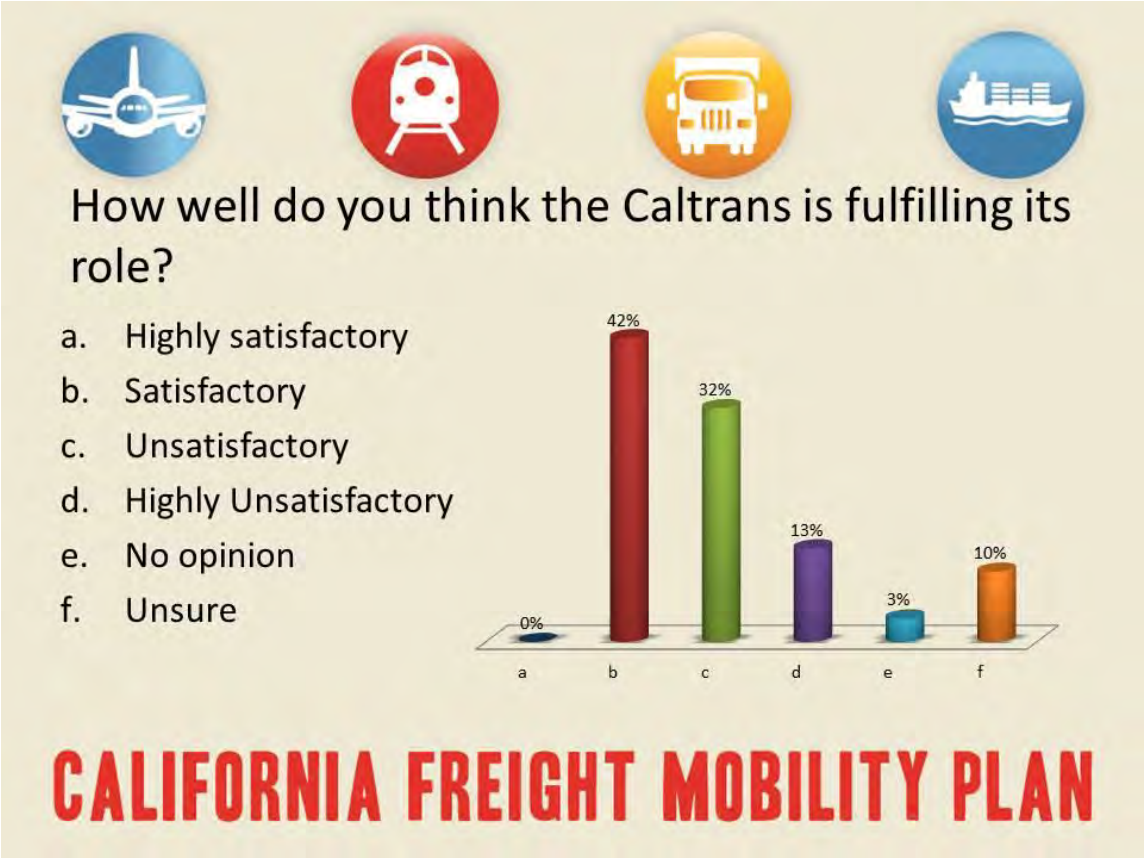
Summary of CFMP Focus Group Sessions

A detailed summary report of the focus group sessions has prepared and can be obtained on request by contacting the Caltrans Office of System and Freight Planning.

QUESTION 1

(31 responses) - A majority of respondents felt that Caltrans was responsible for freight planning and enforcement along with local agencies. During the focus group discussion, some respondents indicated they were not aware that Caltrans had a significant role in freight planning and thought it was mostly handled at the regional and local levels. It was agreed that Caltrans should work closely with other State departments to enhance freight movement planning and enforcement and not rely on local efforts alone. Some respondents suggested that local public officials should be more engrained in the freight planning and enforcement process.

QUESTION 2

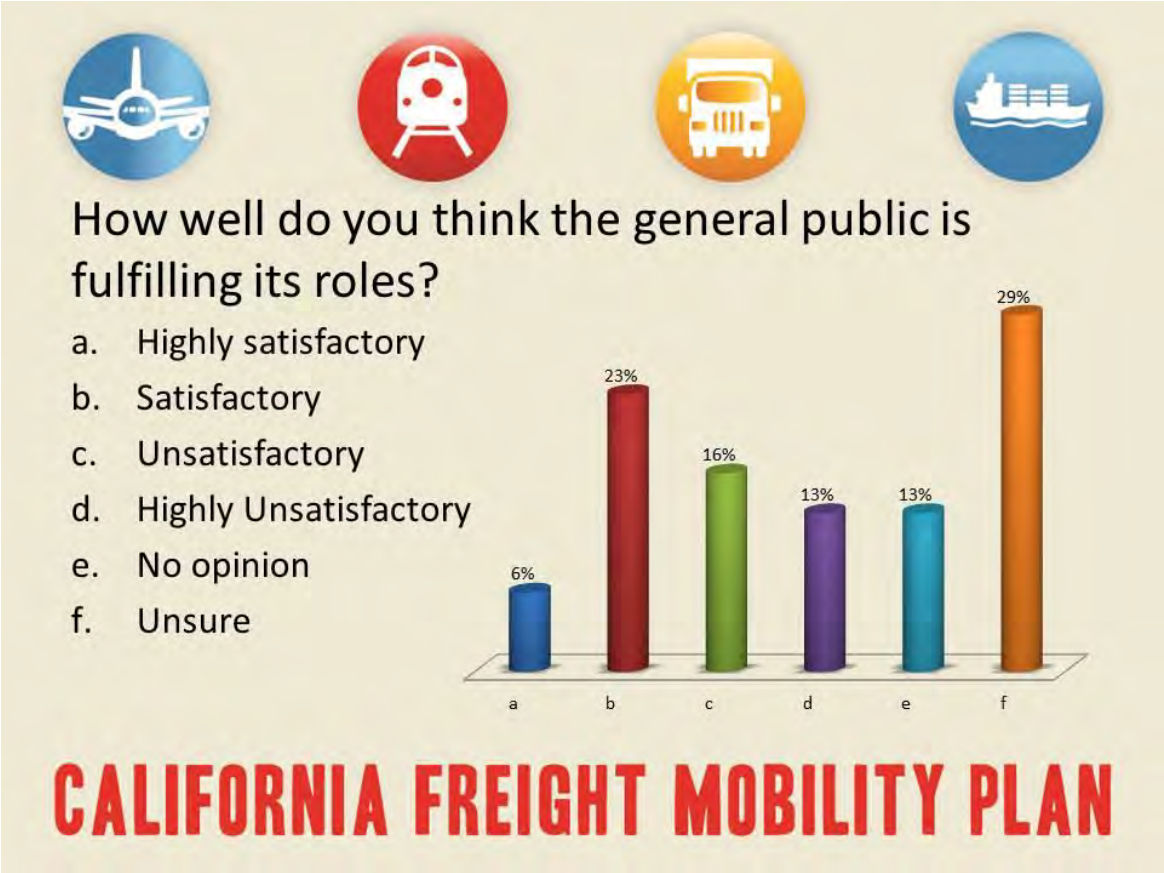


(31 responses) - Respondents were fairly split on whether the State is fulfilling its role in freight planning, with generally equal results indicating satisfactory and unsatisfactory answers. Respondents indicated there needed to be better/improved collaboration between the elected officials, the freight industry, and the general public. Most respondents agreed that there needs to be more public outreach, which could lead to better freight policy. Public outreach should also involve environmental justice (EJ) representatives on the California Freight Advisory Committee. Some respondents felt that the State does a good job of policy-making, but lacks in implementation and enforcement.

QUESTION 3

(31 responses) - A majority of respondents believe the public should be involved in some, if not all, aspects of freight planning. They also agreed that the public needs to get more involved in the planning process before expansions or new freight facilities are approved and constructed. Organizations need to be involved so they can inform their constituents of planning activities that impact them. The group recognized that outreach to the public is difficult, but necessary. Effective EJ outreach, specifically in the San Joaquin Valley, requires a grassroots and targeted approach involving EJ agencies and organizations working with Caltrans, regional, and local agencies to inform and educate underrepresented communities and neighborhoods about freight planning issues and solutions. While public involvement may slow down the planning process, it will benefit in the long-run because of a higher public satisfaction and consensus.

QUESTION 4



(31 responses) - Respondents' opinions varied on whether the general public is fulfilling its roles. Most respondents agreed that the public needs a better understanding of why local, State, and federal agency freight planning is needed and required and a stronger public outreach effort is essential. Planning documents need to be easily accessible, short and to the point, and understandable to the general public and EJ communities.

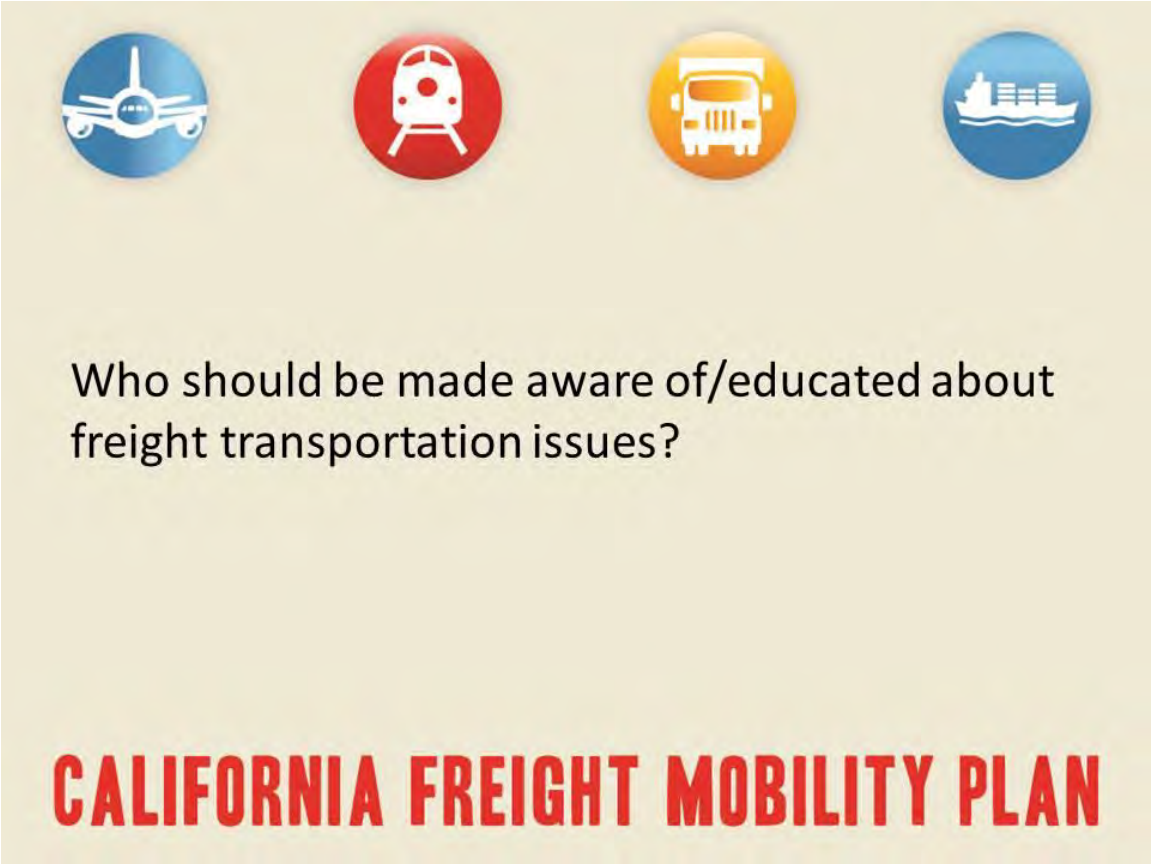
QUESTION 5

(31 responses) - A majority of respondents indicated that they obtain information through websites and radio. Radio is the primary source of information to EJ communities. Respondents felt the Caltrans website should be enhanced to include more information that is easier to understand and utilize. Respondents also indicated that the following sources also provide information on freight issues:

- Google
- Information from refueling stations
- Newspapers
- Email distribution lists
- Freight magazines (Railway Age)
- Pacific Institute
- Airports
- Radio
- LISTSERV

One respondent recommended a central source of information needs to be created to identify upcoming meetings, workshops, and events related to transportation and other transportation-related issues.

QUESTION 6



In general, respondents felt that everyone needed to be made more aware and educated about freight transportation issues. However, they felt that certain groups specifically needed increased awareness including:

- Regional and local agencies
- People who are most impacted such as those living in freight corridors
- Elected officials
- Schools

QUESTION 7

All respondents indicated they knew someone employed in the freight movement industry.

Respondents provided a variety of responses to the follow-up question regarding what the person they know does for a living. The most common responses included truck driver, Caltrans employee, longshoremen, air cargo, port workers, and railroad staff.

QUESTION 8

While a few respondents indicated they felt the freight transportation system did not have any positives, a majority of respondents believe the benefits of the freight industry include jobs and economic development. Goods movement systems provide employment opportunities, but jobs are often focused on warehousing versus other quality jobs. Some respondents stated that the freight transportation system provides flexibility between modes – seaports, trucks, and air freight, with good connectivity. Another noted benefit was access to and availability of products in stores.

QUESTION 9

Most of the respondents agreed that the impacts of the freight systems include health, noise, air quality, traffic, vibration, pavement damage (on local streets), port, and rail. These impacts mostly affect EJ communities and families that live in adjacent communities and neighborhoods. Respondents suggested the need to conduct a cost/benefit analysis as part of the CFMP to determine those modes and improvements that address health concerns. The freight industry needs to take responsibility for the impacts they are causing in EJ communities and neighborhoods.

QUESTION 10

(Not asked to the SJV focus group participants) - The overwhelming response to this question among respondents was in regards to health (asthma, obesity, and health in general). "Quality of life" issues are the major concern. Some respondents felt that EJ communities were the most negatively impacted by freight movement. One of the respondents requested the CFMP stress the need for a balance between impacts and how mitigation strategies are funded and applied to reduce impacts.

QUESTION 11

(Asked to SJV focus group participants only) - Respondents identified safety, health, traffic congestion, social impacts as the major issues of concern. One respondent mentioned the requirements of Senate Bill (SB) 375 and that "green" technologies or solutions should be considered to address freight impacts and improvements as we grow into the future. Several comments were made that Caltrans needs to develop a long-range plan that promotes sustainable and clean freight systems.

QUESTION 12

(Not asked to SJV focus group participants) - Respondents voiced similar concerns as referenced above in Question #11. They felt long-term impacts (environmental risks, health effects) cannot be predicted. They also felt that Caltrans needs to identify long-term financing to address growth and freight mobility impacts. Caltrans also needs to consider population growth and assess the risks of goods movement on future populations.

QUESTION 13

(Asked to SJV focus group participants only) - The respondents agreed that the CFMP should research and identify new technologies to enhance the efficiency of the existing and future freight systems.

QUESTION 14

(31 responses) - All focus group respondents indicated there were freight transportation activities that negatively affect them and/or those they represent. In addition to those already mentioned in responses above, some respondents felt the CFMP should address land use impacts and the siting of new freight facilities, in addition to the economic benefits of new facilities.

QUESTION 15

Respondents indicated that the specific freight transportation activities that negatively affect them include diesel trucking, airport operations, and agriculture. The specific impacts include health, air quality, noise, pollution, lack of maintenance, and traffic congestion. Since these focus groups were conducted in different parts of the state, respondents indicated a variety of locations where they are impacted most. These include ports, freight rail yards, State Route 99 corridor, Arvin, Adams community in Fresno, and Kettleman City.

QUESTION 16

The general consensus among focus group participants was that these both positively and negatively impacted the community. The positive impacts include jobs and employment. The negative impacts include noise, aesthetics, air quality, and health. Most respondents felt that EJ communities were more heavily impacted.

QUESTION 17

(Asked to SJV focus group participants only) - The general consensus among participants was that they both positively and negatively impact the community. The positive impacts include jobs, the economy, carbon sequestration, and appropriate buffer between urban and other agricultural uses and activities. The negative impacts include traffic congestion, noise, pedestrian safety, pollution, dust, and health issues (asthma).

QUESTION 18

(13 responses) – (Asked to SJV focus group participants only)

QUESTION 19

(Asked to SJV focus group participants only) - A small majority of respondents indicated they had considered relocating. Measures that could convince them to stay include improved health practices, more and better jobs, reduced congestion, more green space, and better access to medical needs.

QUESTION 20

The most noted unmet needs include better land use planning near freight facilities, efficiency of the system versus health impacts, flexibility of various freight modes, safety issues, pursing "green" technologies and infrastructure, collaboration with the public and EJ communities, and rail improvements.

QUESTION 21

Respondents provided numerous suggestions in response to this question. Some of the major suggestions were related to public outreach, funding, "green" technologies, health impacts, and coordination between and among agencies, freight industry, and the public. The CFMP should address the need for efficient inter-modal facilities, impacts on tidelands, designated truck facilities, consider the use of Maglev trains for goods movement, plan for automated container facilities, consider a new tariff and tax on containers, and research new technologies. More public outreach activities need to be scheduled that include the involvement of community leaders, EJ representatives, the freight industry, elected officials, and the public. The freight industry needs to "go green" and identify and apply new technologies and innovative strategies to reduce impacts on EJ communities. The CFMP also needs a list of best practices. One respondent stated there needs to be more respect for the EJ communities from the freight industry when they are proposing new or expanded freight facilities.

QUESTION 22

(Not asked to the Los Angeles focus group participants) - Respondents indicated they hoped the CFMP would provide a radically different approach to local planning and EJ community involvement. They would like the CFMP to identify "green" technologies, better urban planning, identify the impact of land use changes, economic benefits of the freight system, address "quality of life" issues, and alternative energies for freight.

QUESTION 23

Some respondents felt the culture of the transportation industry is resistant to change. A majority of respondents mentioned the need for "green" technologies which can reduce freight system impacts and address sustainability goals. A respondent said we need to identify innovative funding strategies including demonstration projects such as vehicle miles driven taxes and tolls, but cautioned that this must be done carefully and transparently. Some respondents identified the need for more rail systems and facilities and need to double track existing lines to enhance passenger and freight rail movement in the State. They felt that the use of freight rail lines should be considered to use haul products should be considered during the planning process versus the use of diesel trucks.

QUESTION 24

Most respondents were not favorable to an increase in taxes and felt that the answer was not to obtain more money, but to better align the money we already have. These respondents felt it was more appropriate to charge fees to the industry that causes the impacts instead of charging everyone. However, some respondents felt that by doing this, it might cause freight-related industries to move to other states with lower fees, which would shift the economic benefits elsewhere. Other respondents pointed out that fees and taxes on businesses would ultimately be passed onto the consumer. Some respondents were favorable to a toll. Many respondents felt that agencies need to do a better job of being transparent in regards to the allocation of fees and taxes for improvements. People feel that they already pay high taxes, but don't know where the money is going and don't feel like it is being allocated properly. Therefore, they will not be favorable to an increase in taxes which may exacerbate this feeling. One respondent suggested that freight trips could be reduced by locating processing plants closer to the source of the products they use (e.g. agricultural commodities).

QUESTION 25

The responses to this question offered by participants were widely varied. Some of the suggestions included raising tariffs to increase goods produced locally, investment in alternative technologies, shifts to modes that are more efficient and have reduced impacts, providing better enforcement, and prioritizing improvements and funding those with the highest priority.

QUESTION 26

One respondent asked the following question:

- What is the status of the plan now and what are key areas of focus?

The answer provided was that the focus of the CFMP is all aspects of goods movement statewide. The current schedule states that a draft Plan will be completed in January 2014 and a final Plan in June 2014.

During this time, some of the respondents made statements that they were pleased with the focus group effort implemented by Caltrans. They think that Caltrans needs to have EJ communities also represented on the California Freight Advisory Committee (CFAC). They feel that Caltrans needs input from various levels of agencies and not just the freight industry. They would also like to see coordination with the California Cleaner Freight Coalition.

QUESTION 27

(Only asked to SJV focus group participants) - The respondents would like Caltrans to consider incorporating ideas from the new Regional Transportation Plans (RTPs) and Sustainable Communities Strategies (SCSs) and from the latest San Joaquin Valley Interregional Goods Movement Study as they prepare the CFMP. They also felt that the State needs to better manage its own resources between departments.

QUESTION 28

(Only asked to SJV focus group participants) - Respondents suggested reaching out to Boards of Supervisors around the State and within the Valley. They also suggested contact and involvement with EJ representatives.

QUESTION 29

(24 responses) - All respondents were interested in ongoing involvement in the CFMP. Most of them preferred to attend meetings and workshops, although some also wanted to receive progress updates through email as well as provide review and comments on draft documents. One respondent suggested that technical data collected as part of the Plan should be available to promote a project or influence a project in different ways. Some attendees were concerned that the advisory committee did not include representatives of the environmental justice community. Attendees at the Inland Empire Focus Group did identify California Environmental Justice Alliance (CEJA) as an environmental justice organization that represents other regional and local environmental justice agencies from throughout the State. CEJA is a statewide coalition of grassroots, environmental justice organizations.

Methodology

The following section identifies the steps taken to plan, conduct, analyze, and document the four focus group sessions. For purposes of this effort, outreach activities began in December 2012 with initiation of the Task and Cost Proposals, and the Caltrans/VRPA kick-off meeting held on February 6, 2013. The focus groups were held between June 4, 2013 and June 27, 2013.

- Focus Group Stakeholder Lists

  To develop the list of relevant advocacy and community organizations (stakeholders) that would be recruited and ultimately invited to participate in one of the four focus group sessions, the following steps were taken by the VRPA Team:

  ✓ Coordinated with the Freight Planning Branch to develop a comprehensive list of relevant stakeholders in each region of California where the four focus groups took place (San Joaquin Valley, Southern California or Los Angeles Area, San Francisco Bay Area, and the Inland Empire). The stakeholders targeted as part of this effort included:
  - Community Based Organizations (CBOs), Faith Based Organizations (FBOs) with health and/or environmental justice (EJ) issues
  - Traditionally underrepresented groups
  - Health advocacy organizations
  - Environmental justice representative groups or agencies most affected by freight activity, such as those residing near ports, airports, intermodal facilities, and along freight corridors
  - Farming Industry Representatives
  - Other community organizations or agencies
  - Worked with the Freight Planning Branch to expand the list of potential stakeholders noted above from the following Caltrans Districts within the focus group regions:
    - District 4 (D4) (San Francisco Bay Area)
    - D6 and D10 (San Joaquin Valley)
    - D7 (Los Angeles)
    - D8 (Inland Empire)

  ✓ Worked with the Freight Planning Branch to develop a list of potential focus group stakeholders, which VRPA augmented using listings or contacts from Metropolitan Planning Organizations (MPOs) including the:
  - San Joaquin Valley region

    - Each of the eight Valley COGs including the Fresno Council of Governments (Fresno COG)
  - Southern California region
    - Southern California Association of Governments (SCAG)
  - San Francisco Bay Area region
    - Metropolitan Transportation Commission (MTC)
    - Association of Bay Area Governments (ABAG)
    - Alameda Transportation Commission
  - Inland Empire region
    - Riverside County Transportation Commission (RCTC)
    - Western Riverside Council of Governments (WRCOG)
    - Coachella Valley Association of Governments (CVAG)
    - San Bernardino Associated Governments (SANBAG)

✓ Reviewed VRPA's latest list of over 6,000 California stakeholders to identify additional stakeholders that represent the affected regions and that were not already reflected in the lists received from the Freight Planning Branch staff or other agencies noted above.

✓ Discussed the recruitment process with stakeholders that had committed to attend focus group sessions in each region/subregion and requested that they help to identify other stakeholders that might be willing to participate in a focus group session.

✓ Prepared a recommended list of potential stakeholders for each region/subregion. The list was reviewed to ensure that each of the counties in the region or subregion were represented, and that environmental justice, health, freight industry and agribusiness organizations were represented.

The above process resulted in the following numbers of stakeholders identified for recruitment in each region/subregion. The final stakeholder lists are on file with Caltrans.

✓ San Joaquin Valley – 120 with 108 actually contacted (telephoned or emailed) for recruitment
✓ Southern California (Los Angeles Area) – 63 with 57 actually contacted for recruitment
✓ San Francisco Bay Area – 366 with 99 actually contacted for recruitment
✓ Inland Empire – 24 with all 24 contacted for recruitment

- Recruitment Process

  The VRPA Team undertook the following process to recruit focus group attendees:

  - ✓ Created a list of prescreening questions to help identify potential participants who represented advocacy groups and other organizations (stakeholders) noted previously. VRPA originally set out to recruit at least eight to twelve) participants; however, three of the focus groups included less than eight participants and one session included more than the target with thirteen participants attending. VRPA contacted (telephoned or emailed) a total of 288 stakeholders on each of the four region/subregion stakeholder lists containing 573 potential stakeholder group representatives. Contacted stakeholders were called and/or emailed a minimum of three times prior to the scheduled focus group session. Recruitment for each session began at least three weeks prior to the session date

  - ✓ Offered the following incentives to help entice stakeholders to attend and participate:
    - Gift cards
    - Meals (breakfast or lunch)

  - ✓ Contacted stakeholders using the following recruitment process:
    - Initial contact was by telephone or by email
    - Prepared and utilized a recruitment phone script to recruit for each focus group session (reference Exhibit B - Example Phone Script)
    - Follow-up contact was by telephone or email depending on level of agreement or success in making contact with the potential participant

- Focus Group Planning

  VRPA took the following steps to plan and schedule each focus group session:

  - ✓ Identified the session date, time, and location of each of the four focus group sessions
    - Worked with Caltrans to identify appropriate venues to conduct each of the focus groups. Venue availability considered the following:
      - ➢ Free or low cost rental fees
      - ➢ A room large enough to accommodate at least 15 participants and VRPA Team staff comfortably so participants and the VRPA Team can observe each other.
      - ➢ Location of an adjoining conference room or facility to accommodate a maximum of five (5) Caltrans staff. The room needed to be close enough to

accommodate audio equipment so that Caltrans staff could hear the focus group in progress.
    - The venue should be inviting so that it encourages conversation.
    - The venue should feel safe, be easily accessible (centralized proximity to participants, adequate parking, access to public transportation, etc.), and consider access for people with disabilities.
- Set-up the focus group session rooms before each session began including the placement of:
    - Projectors
    - Screens
    - Computers
    - Tables and chairs in both rooms
    - Meals
    - Notepads and pencils
    - PowerPoint presentation
    - Flip chart
    - Participant hand-out materials
    - CFMP mapping
    - Focus group agenda and script
    - List of participants
    - Markers
    - Name tags for staff and table name placards for participants
- Worked with Caltrans to identify the appropriate time that each focus group should be scheduled. Considerations included:
    - Availability of participants
    - Location of venue vs. commute congestion especially in the San Francisco Bay Area, the Los Angeles Basin, and in the Inland Empire
    - Venue calendar
    - Other considerations

✓ Created and emailed "eye-catching" invitations to participants agreeing to join a focus group. Focus group invitations are provided in Exhibits C through F. The invitations were designed and used as follows:

- For those potential participants agreeing to join a focus group, the VRPA Team created a formal highly graphic and colorful invitation and emailed the invite within two days following their agreement to participate.
- VRPA followed-up with each participant by email or called them more than three times to remind them of the focus group date including the day prior to the scheduled focus group session.

- Prepared the focus group agenda. The agenda set the stage for how the focus group was to be structured. The following activities were covered during each focus group session:
  - Welcome
  - Introductions
  - CFMP Overview
  - Focus group purpose statement
  - Ground rules
  - Definition of environmental justice
  - Initial group exercise (a brain teaser to capture the attention of participants and get them engaged early)
  - Focus group questions
  - Continued focus group engagement and feedback
  - Title VI Survey (to be completed by participants)
  - Wrap-up
  - Next steps
  - Closing, a thank you, and disbursement of gift cards

✓ Prepared focus group questions as follows:
- Prepared between 23 and 30 questions in addition to an "Ice Breaker" question. Following the first focus group session in the San Joaquin Valley, the VRPA Team and Caltrans staff reduced the questions from 30 to 23 questions to eliminate similar or duplicative questions.
- Prepared questions that were both "open-ended" as well as "multiple-choice" using polling software and equipment
- Placed the questions and other agenda items in a graphically-designed PowerPoint slide presentation (reference Appendices A through D)
- Compared the questions to the objectives noted previously
- Ordered the questions in such a manner that they were comfortable and understandable for the participants
- Tested the questions prior to the first focus group session. The VRPA Team tested the questions using its contacts with similar background to those that were participating in the focus group sessions
- Prepared an explanation of environmental justice to ensure that all participants understood the term and its use in focus group questions
- Prepared focus group session ground rules

✓ Prepared focus group session script that addressed the following:
- Opening section – VRPA Team staff welcomed the participants, introduced the purpose and context of the focus group, explained what a focus group is and how

the session will flow, made introductions, defined environmental justice, identified the ground rules, facilitated the opening exercise, which was intended to be fun and focus participant thoughts on freight issues.

- Question section – questions were asked by VRPA Team staff that were designed and tested. Follow-up related questions were asked by the moderator and questions regarding freight mobility or other related issues were answered. The VRPA Team moderator consulted with Caltrans staff in attendance in adjacent rooms at necessary intervals during each focus group session to receive vital technical information or feedback that furthered discussion during each focus group.
- Closing section – the closing section "wrapped-up" focus group activities. This included:
  - Providing a general overview of focus group discussion
  - Explaining how the information and feedback they provided will be used
  - Explaining when the planning process will be completed and how they can remain involved
  - Giving participants an opportunity and avenue for further input, if desired or necessary
  - Thanking the participants

- Conducting Each Focus Group Session

When participants arrived, the VRPA Team conducted each session in the following manner:

- ✓ For each of the four focus groups, VRPA Team staff moderated and managed the focus group process
- ✓ Welcomed the participants
- ✓ Provided packets of information to participants and to Caltrans staff including the following:
  - Focus Group Session Comment sheet (reference Exhibit G)
  - Caltrans Contact Sheet (in case they had other questions or needed further information (reference Exhibit H)
  - CFMP Development Process Graphic showing the information and input that will be used by Caltrans to develop the CFMP (reference Exhibit I)
- ✓ Three maps were given to each focus groups based on applicable region including the:
  - Statewide 2011 Annual Average Daily Truck (AADT) Volumes - Three to Five+ Axle (greater than 3,000 AADT) (reference Exhibit J) – *given to all*

- San Joaquin Valley, Southern California, and San Francisco Bay Area 2011 Annual Average Daily Truck (AADT) Volumes - Three to Five+ Axle (greater than 3,000 AADT) (reference Exhibit K) – applicable region
- San Joaquin Valley, Southern California, and San Francisco Bay Area Major Freight Facilities (reference Exhibit L)

➢ Notepad and pen

✓ Explained how the session will be recorded
✓ Carried out the focus group as planned and scripted
✓ Provided for spontaneity, i.e., asking spontaneous questions that arose from the discussion, probing deeper into a topic
✓ Made sure that all participants were heard and made every effort to engage quieter participants
✓ Received complete answers to the questions posed
✓ Listed comments on a flip chart for the San Francisco Bay Area and the Inland Empire Focus Group Sessions to allow participants to process their thoughts considering what had already been said
✓ Monitored the time
✓ Made sure that the discussion remained on track
✓ Tried to get participant answers to the questions asked within the 3–hour session period
✓ Stayed neutral and didn't take sides on an issue or with a participant. The VRPA Team moderated and facilitated each focus group, but did not influence how participants responded
✓ Explained how participants can stay involved and provided them with Caltrans contact information

- Prepared Focus Group Summaries

VRPA prepared an analysis summary or synopsis of each focus group within days following the session as noted below: (reference Appendix A through D):

✓ Reviewed the session with Caltrans staff in attendance at each focus group session to ensure that all information and input was captured
✓ Transcribed the session notes immediately following each session and wrote the focus group synopsis
✓ Forwarded an Administrative Draft of each focus group synopsis to Caltrans for review and comment

- Prepared the Focus Group Summary Report

  VRPA has prepared this summary report considering the following:
  - ✓ Read through all focus group summaries
  - ✓ Identified and documented findings, common trends or comments that appeared repeatedly in the summaries for each focus group and ideas or input that stood out from each of the summaries
  - ✓ Determined if the expected outcomes and focus group objectives were addressed based upon the focus group process conducted and the summaries developed
  - ✓ Wrote the final summary report to include all information about the background and purpose of the focus group sessions, details of the sessions, results, and conclusions

EXHIBIT A
Focus Group Participants by Participating Agency

Los Angeles Focus Group

Organization/Agency	Number of Attendees
Northwest San Pedro Neighborhood Council	1
Harbor Gateway North Neighborhood Council	2
Move LA	1
Los Angeles Air Cargo Association	1
East Yard Communities for Environmental Justice (EYCEJ)	1
Coalition for a Safe Environment (CFASE)	1

Inland Empire Focus Group

Organization/Agency	Number of Attendees
March Joint Powers Authority (JPA)	1
Center for Community Action and Environmental Justice (CCAEJ)	6

Bay Area Focus Group

Organization/Agency	Number of Attendees
Regional Asthma Management & Prevention	1
Pacific Institute	1
Northern California Trade Corridor Coalition	1
Bay Area Healthy 880 Communities	1

San Joaquin Valley Focus Group

Organization/Agency	Number of Attendees
Kings Community Leadership Institute	1
Revive the San Joaquin	1
Sierra Club (Kern Kaweah)	1
Madera Oversight Coalition	1
Fresno County Farm Bureau	1
Coalition for Clean Air	1
Comite Alma (Valley Leap)	3
Madera Coalition for Community Justice	1
Fresno-Madera Medical Society	1
United Way of Fresno County	1
California Rural Legal Assistance, Inc.	1

EXHIBIT B
Recruitment Phone Script

Caltrans Freight Mobility Plan – Potential Invite Phone Script

INTRODUCTION

Hello, my name is _____ with _____. I also represent the State of California, Department of Transportation or Caltrans, Office of System and Freight Planning. Caltrans is in the process of developing a long-range state freight plan, called the California Freight Mobility Plan, and would like your input as a representative of __(organization)___.

Question #1: Do you have a few minutes to discuss your possible involvement in a focus group contributing to Caltrans' update of the California Freight Mobility Plan? Record Y or N in spreadsheet.

YES If they say yes to Question #1, then say the following:

Great! Thank you so much for your interest in freight mobility in California. As I mentioned, Caltrans is in the process of developing the California Freight Mobility Plan. This Plan will be a comprehensive, long-range planning document that addresses current freight movement conditions and trends in California, responds to major issues in goods movement across all modes of transportation, and responds to the State's focus for improved health and air quality.

The focus groups are a major component of the Plan and will help Caltrans identify significant freight system and environmental/health issues of concern to communities near major freight corridors or freight facilities.

We have called you today because your agency has been identified as a group that may be interested in or affected by freight movement in California.

NO If they say no to Question #1, say the following:

Thank you so much for your time on this call. Do you have any questions of me or would you like to contact Caltrans directly to discuss freight mobility issues in your region?

YES If they want to contact Caltrans, say the following:

Great! I am happy to provide you with the contact for Caltrans. ___ name is _____ _____ and ___ phone number is: (___) ___-____. ___ email address is: _____.____@dot.ca.gov.

NO If they do not want to contact Caltrans, say the following:

No problem.

Is there anyone else from your organization that would be appropriate to participate in the focus group?

	YES (another participate)Say the following: Great! Can you please provide me with their name and contact information? (Record name and contact info in spreadsheet.) Thank you for your time and have a great day/evening ("day" - if it is before 3:00 PM or "evening" - if it is after 3:00 PM). Bye. **NO** Say the following: No problem. Thank you for your time and have a great day/evening ("day" - if it is before 3:00 PM or "evening" - if it is after 3:00 PM). Bye.

Question #2: Are you familiar with the California Freight Mobility Plan or its predecessor, the Goods Movement Action Plan? Record Y or N in spreadsheet.
Go to the next question:

Question #3: Has your agency discussed potential freight impacts in your area or region or freight mobility issues in the past? Record Y or N in spreadsheet.
Go to the next question:

Question #4: Can you provide me with some background regarding your agency's purpose and tell me whether or not you believe the region, community, or citizens that your agency represents may be impacted by freight movement or if they have freight related issues that they would like Caltrans to be aware of? Record Y or N in spreadsheet.

YES If they say yes to Question #4, take down the information they provide and then skip to Question #5 below.	**NO** If they say no to Question #4, say the following: Thank you so much for your time on this call. Do you have any questions of me or would you like to contact Caltrans directly to discuss freight mobility issues in your region?

	YES If they want to contact Caltrans, say the following: Great! I am happy to provide you with the contact for Caltrans. ___ name is _____ _____ and ___ phone number is: (___) ___-____). His email address is: ___._____@dot.ca.gov. Thank you for your time and have a great day/evening ("day" - if it is before 3:00 PM or "evening" - if it is after 3:00 PM). Bye. **NO** If they don't want to contact Caltrans, say the following: No problem. Thank you for your time and have a great day/evening ("day" - if it is before 3:00 PM or "evening" - if it is after 3:00 PM). Bye.

Question #5: From what you now know about the California Freight Mobility Plan, would you be interested in participating in a focus group in your region or area in a couple of weeks? If not, do you know of another representative from your agency or group that might be interested in participating? Record Y or N in spreadsheet.

YES If they say yes to Question #5, skip to Question #6 below.	**NO** If they say no to Question #5, say the following: Thank you so much for your time on this call. Do you have any questions of me or would you like to contact Caltrans directly to discuss freight mobility issues in your region?

	YES If they want to contact Caltrans, say the following: Great! I am happy to provide you with the contact for Caltrans. ___ name is _____ _____ and ___ phone number is: (___) ___-____). His email address is: ___._____@dot.ca.gov. Thank you for your time and have a great day/evening ("day" - if it is before 3:00 PM or "evening" - if it is after 3:00 PM). Bye. **NO** If they don't want to contact Caltrans, say the following: No problem. Thank you for your time and have a great day/evening ("day" - if it is before 3:00 PM or "evening" - if it is after 3:00 PM). Bye.

Question #6: Based upon your responses to the previous questions, we believe that your agency's involvement in a focus group may be important. Therefore, we would like to provide your [or suggested individual's] name and information to Caltrans as a potential invitee to participate in the San Joaquin Valley focus group to be held on _____, June ____ at ___ ___ at _____ in _____. If asked to be involved, can you or another representative of your agency or group attend the focus group session at that location and on that day? Record Y or N in spreadsheet.

YES If they say yes to Question #6, say the following: Great! May we get your email address so that we may contact you regarding the focus group following this call? Get or confirm their email address.	**NO** If they say no to Question #6, then ask: We understand. Would a different day work better for you or a member of your agency? If they say **yes**, take down the day and time and then say the following: Great! May we get your email address so that we may contact you regarding the focus group following this call? Get or confirm their email address.

CLOSING

Say the following:

Thank you so much for your time on this call today and your potential willingness to participate in a focus group regarding this important planning process related to freight. We will discuss your willingness to participate on the _____ focus group with Caltrans and send you an email regarding Caltrans' final focus group selection process. Again, thank you for your time and have a great day/evening ("day" - if it is before 3:00 PM or "evening" - if it is after 3:00 PM).

Good Bye.

EXHIBIT C
San Joaquin Valley Focus Group Invitation


Caltrans
JOIN US!
TUESDAY • JUNE 4 • 2013
12:00 pm to 3:00 pm
AIS Marketing Research
1320 Shaw Avenue, Suite 155
Fresno, California 93710
N
SHAW AVE
99
41
N 1st St
Cedar Ave
DRIVING DIRECTIONS
Coming from NORTH of Fresno
CA-99 South to Shaw Avenue, Exit 140
Right onto W. Shaw Avenue (6.9 miles)
Left turn at N. 6th Street
Left turn into second driveway
Arrive at 1320 E. Shaw, setback in
second set of buildings off of Shaw
Coming from SOUTH of Fresno
CA-99 North to CA-41N, Exit 131
Take Shaw Avenue, Exit 132
Right on E. Shaw Avenue (1.1) miles
Left turn at N. 6th Street
Left turn into second driveway
Arrive at 1320 E. Shaw, setback in
second set of buildings off of Shaw
Problems locating us, please call
Georgiena Vivian at (559) 259-9257
CALIFORNIA FREIGHT MOBILITY PLAN

EXHIBIT D

Southern California (Los Angeles Area) Focus Group Invitation

Caltrans

JOIN US!

THURSDAY • JUNE 13 • 2013

10:00 am to 1:00 pm

Southern California Association
of Governments (SCAG)
818 West 7th Street, 12th Floor
Los Angeles, CA 90017-3435

DRIVING DIRECTIONS

Harbor Freeway (110)
Exit on 6th Street
Turn right on S. Flower Street

Parking at
818 W. 7th Street
$10/Day.

Additional parking available at
700 S. Flower Street
$17/Day.

SCAG offices are also accessible
via Metrolink, Blue Line and Dash Routes.
Please visit the SCAG website at
http://www.scag.ca.gov/directions.htm
for additional information.
Telephone - (213) 236-1800.

CALIFORNIA FREIGHT MOBILITY PLAN

EXHIBIT E
San Francisco Bay Area Focus Group Invitation

Caltrans

JOIN US!

WEDNESDAY • JUNE 26 • 2013

1:00 pm to 4:00 pm

Elihu M. Harris
State Office Building
1515 Clay Street, Room 12
Oakland, CA 94612
(510) 622-2564

FROM HAYWARD:
Take I-880 North merge onto I-980 East, exit 13th - 17th Streets exit and stay in the right hand lane and go 2 blocks, right onto 14th Street, left onto Clay Street and the Elihu M. Harris Building is immediately on the left.

Public Parking is available at Clay Street Parking Garage, immediately across from the Elihu M. Harris Building. $14/Day

The Elihu M. Harris State Office Building is also accessible via Bart, AC Transit and Amtrak. Please visit the State Office Building website for additional information, http://www.dgs.ca.gov/resd/BuildingList/ElihuMHarrisBuild/BuildingInfo.aspx

DRIVING DIRECTIONS

FROM SACRAMENTO:
Highway I-80 West, to I-580 East, merge onto I-980 West, exit 14th - 18th Street, straight onto Brush Street, left onto 17th Street, right onto Clay Street, Elihu M. Harris Building is immediately on the right.

FROM SAN FRANCISCO:
Cross the Bay Bridge, middle right hand lanes, merge onto I-580 East, merge onto I-980 West, exit 14th - 18th Street exit, straight onto Brush Street, left onto 17th Street, right onto Clay Street, Elihu M. Harris Building is immediately on the right.

FROM WALNUT CREEK:
Highway I-680 South, merge onto CA-24 West, after the Caldecott Tunnel CA-24 West becomes I-980 West. Exit 14th - 18th Streets, straight to go onto Brush Street, left onto 17th Street, right onto Clay Street, Elihu M. Harris Building is immediately on the right.

CALIFORNIA FREIGHT MOBILITY PLAN

EXHIBIT F
Inland Empire Focus Group Invitation

Caltrans

JOIN US!

THURSDAY • JUNE 27 • 2013

12:30 pm to 3:30 pm

San Bernardino Associated Governments (SANBAG)
1170 West 3rd Street, Suite 140
San Bernardino, CA 92410

DRIVING DIRECTIONS

From I-215 North
Exit 2nd Street
Left on 2nd Street
Right on I Street
Left on 3rd Street

From I-215 South
Exit 3rd Street
Right on 3rd Street

Free parking for SANBAG visitors is located in the East parking lot of the SANBAG Santa Fe Depot

SANBAG Offices (909) 884-8276.

CALIFORNIA FREIGHT MOBILITY PLAN

EXHIBIT G
Focus Group Session Comment Sheet

COMMENTS

Thank you for your participation. Please use this form to share your comments.
You may also email your comments to Joanne McDermott at: joanne.mcdermott@dot.ca.gov
Please visit the CFMP website at www.dot.ca.gov/hq/tpp/offices/ogm/california_freight_mobility_plan.html

COMMENTS:

Are there any specific groups or individuals that you feel should be included in the statewide freight planning process?
If yes, please identify them.

EXHIBIT H
Caltrans Contact Sheet

EXHIBIT I
CFMP Development Process Graphic

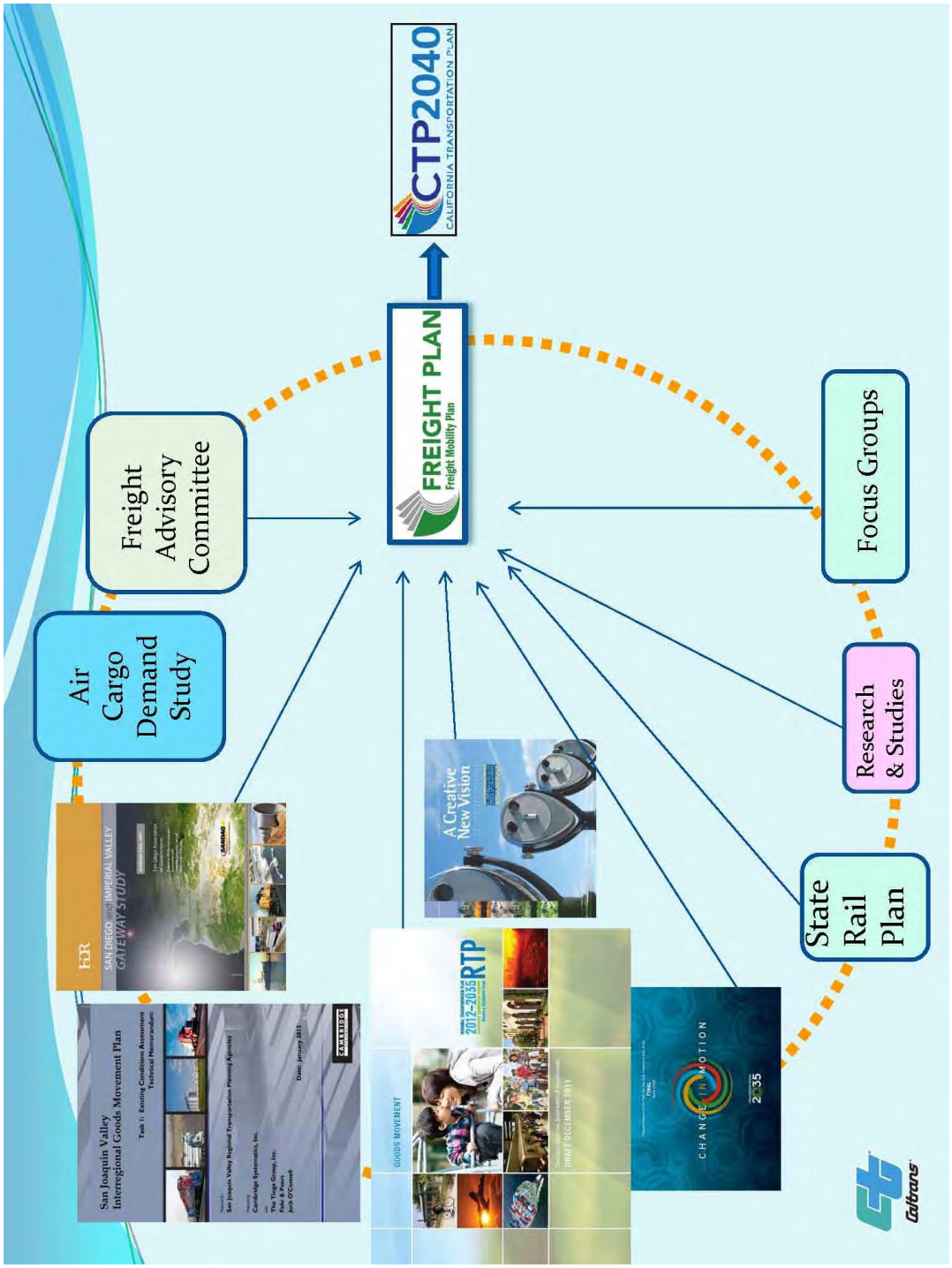


EXHIBIT J
Statewide 2011 Annual Average Daily Truck (AADT) Volumes – Three to Five+ Axles (Greater than 3,000 AADT)

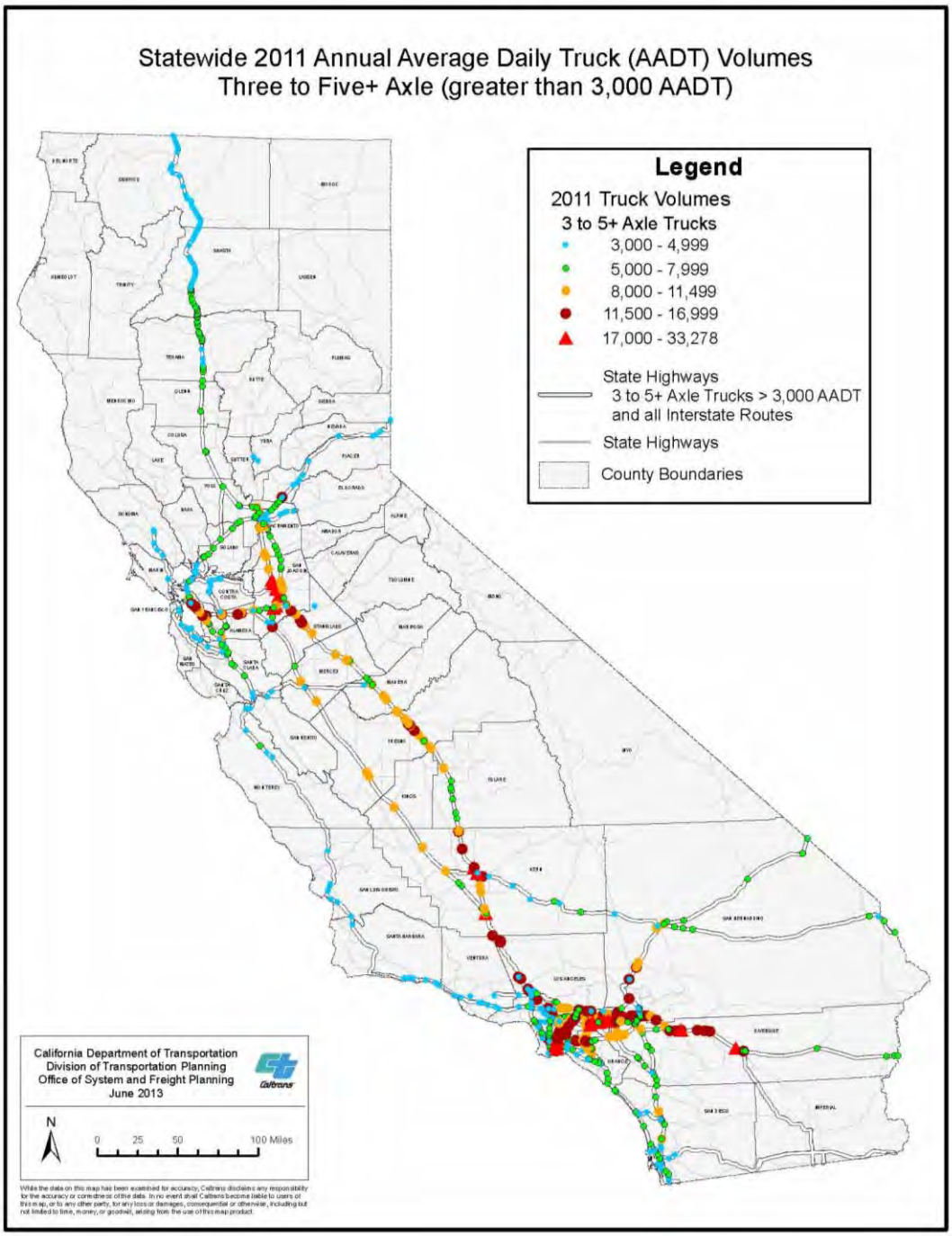
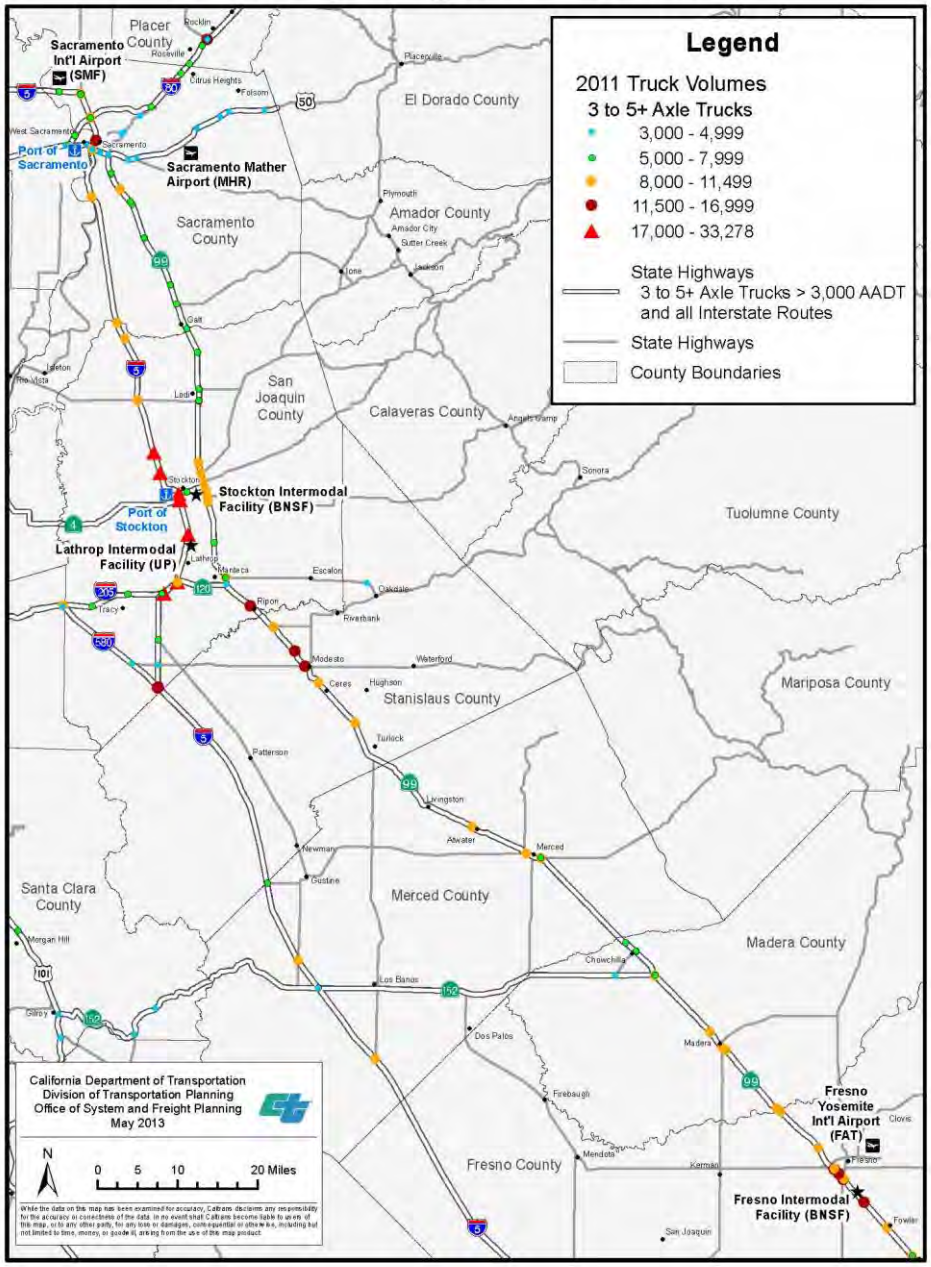


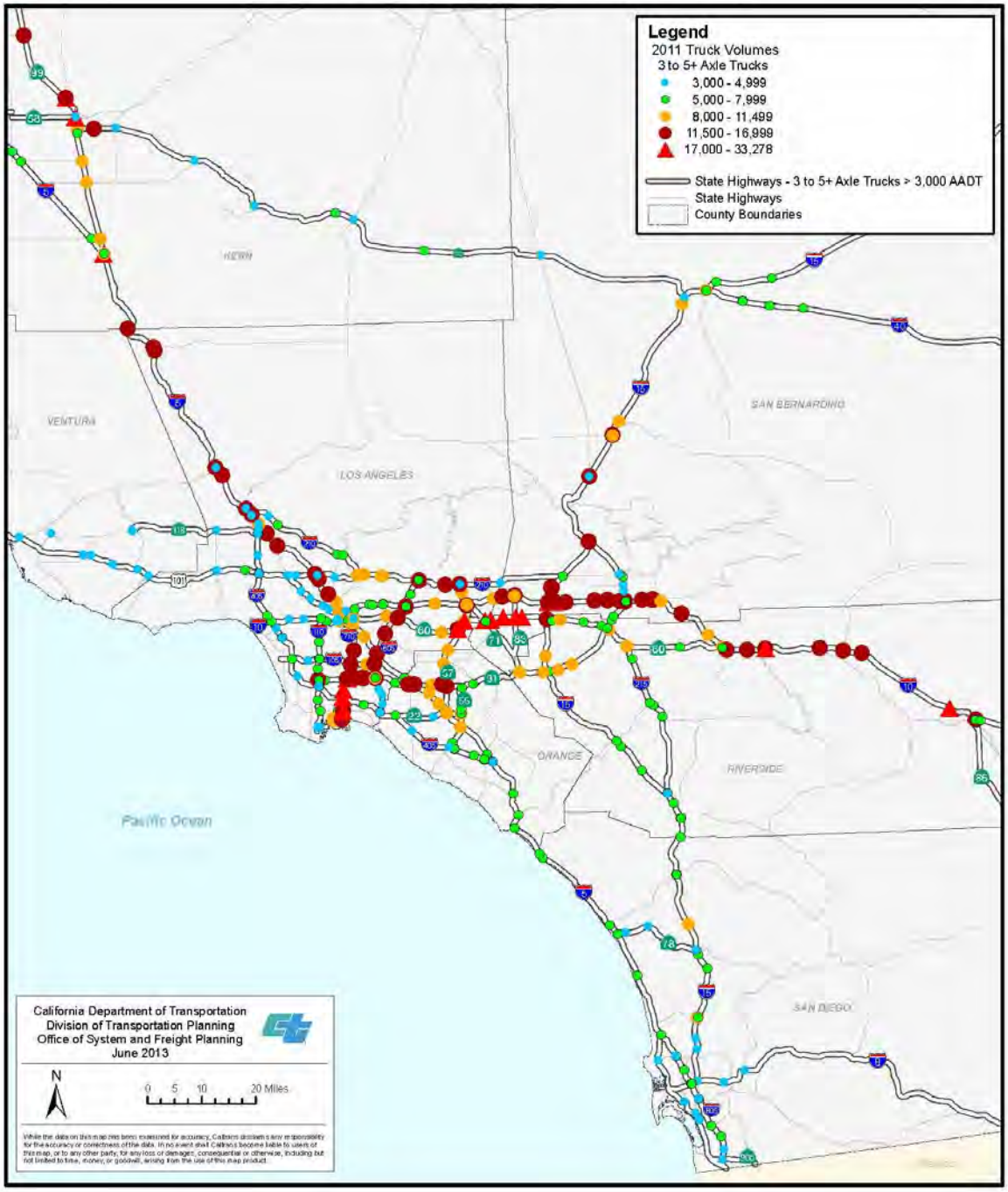
EXHIBIT K

San Joaquin Valley, Southern California, and San Francisco Bay Area 2011 Annual Average Daily Truck (AADT) Volumes – Three to Five+ Axle (Greater than 3,000 AADT)

Central Valley - 2011 Annual Average Daily Truck (AADT) Volumes
Three to Five+ Axle (greater than 3,000 AADT)



Southern California
2011 Annual Average Daily Truck (AADT) Volumes
Three to Five+ Axle (greater than 3,000 AADT)



San Francisco Bay Area and Delta Region
2011 Annual Average Daily Truck (AADT) Volumes
Three to Five+ Axle (greater than 3,000 AADT)

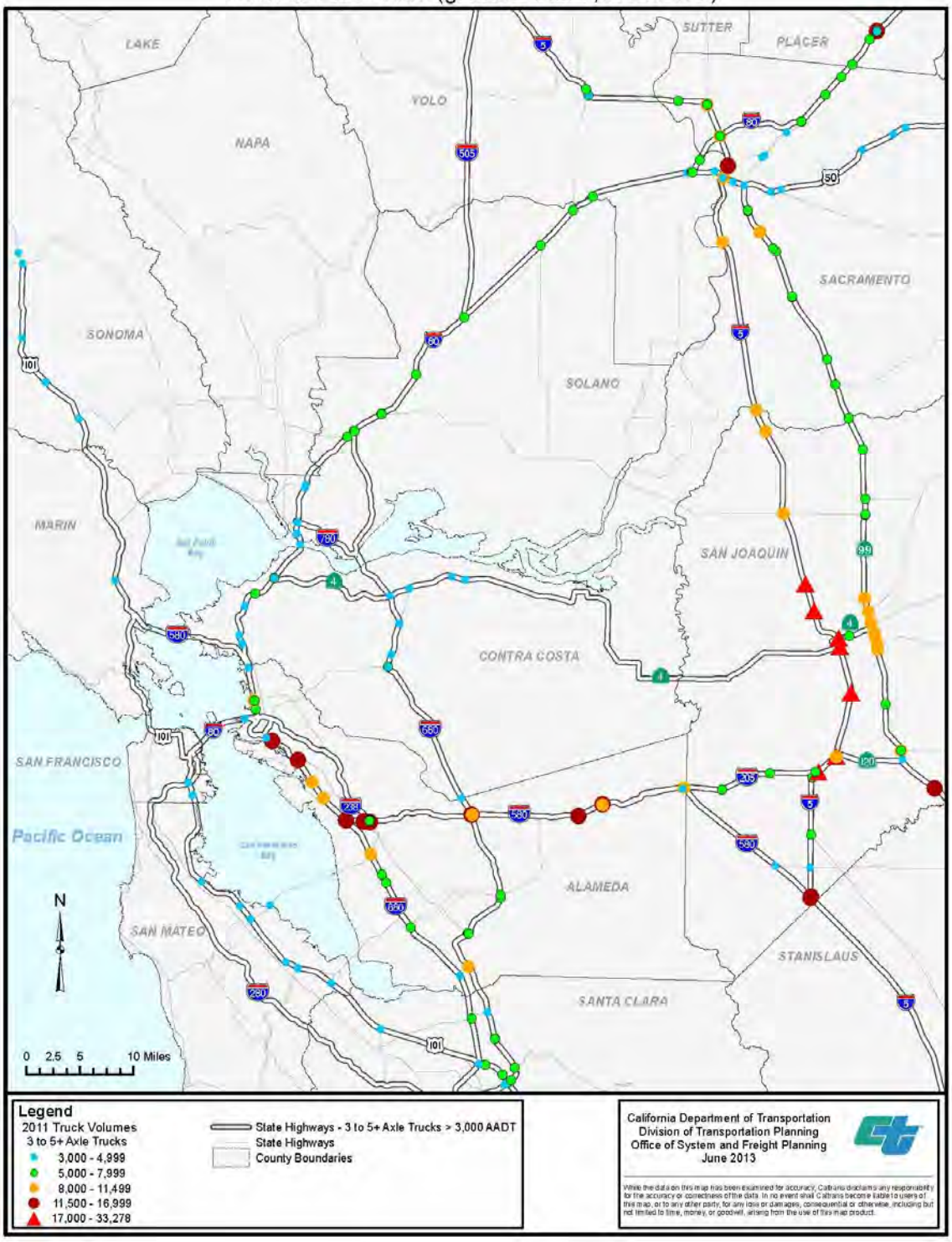
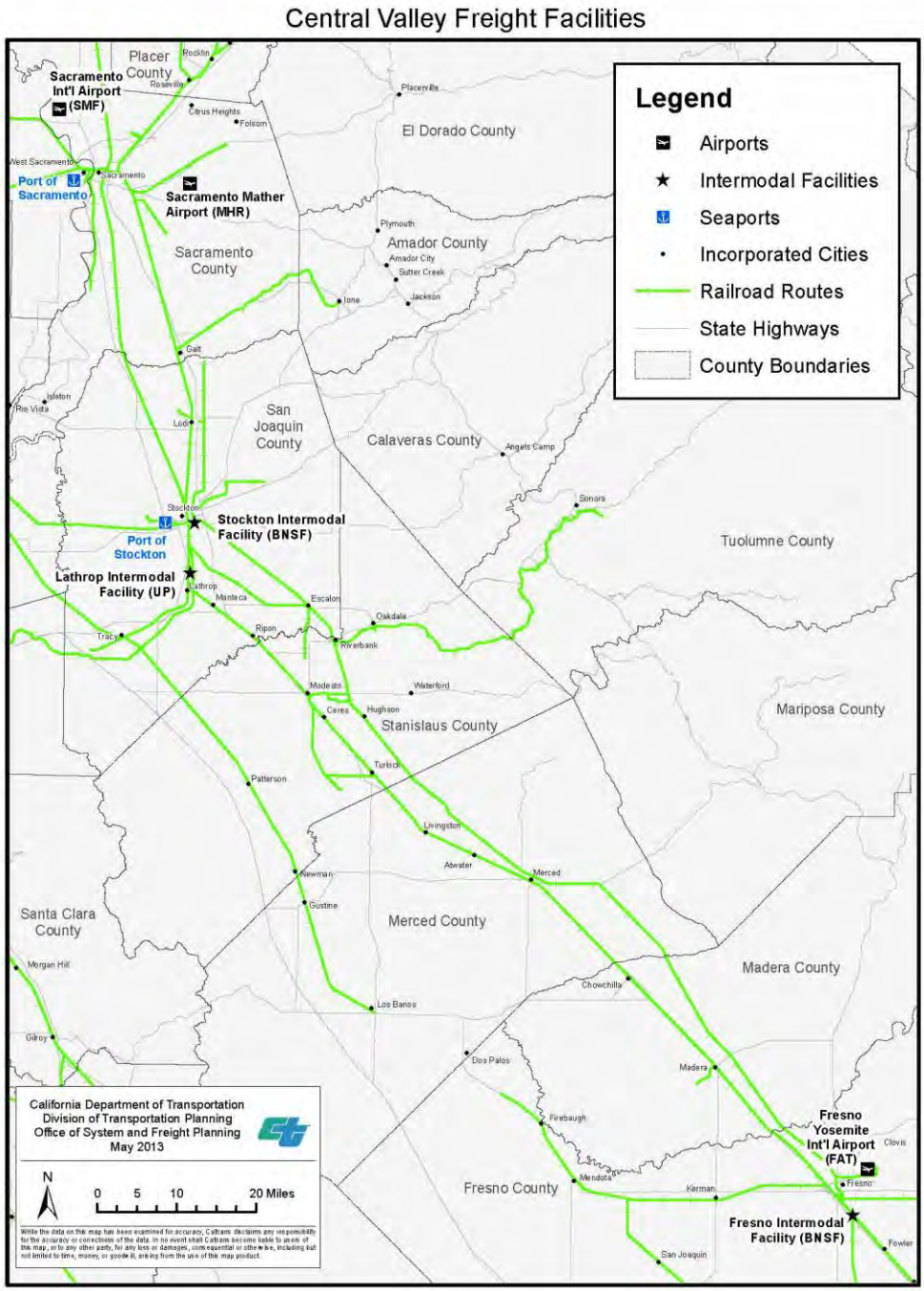


EXHIBIT L

San Joaquin Valley, Southern California and San Francisco Area Major Freight Facilities



Southern California
Major Freight Facilities

San Francisco Bay Area and Delta Region - Major Freight Facilities

APPENDIX G-3:
PUBLIC WORKSHOP MATERIALS

Public outreach and involvement were essential elements throughout development of the California Freight Mobility Plan (CFMP). Presentations were made throughout the process to the California Transportation Commission, the Native American Advisory Committee, various regional agencies, associations, and boards, among others. In addition, eight public workshops were held between June and July of 2014 identified in the map below. These open-house format workshops were interactive in nature and included:

- A non-audio looped video that introduced the plan, its purpose, and how it was developed
- Several stations with Caltrans staff members available to answer questions, discuss materials, and to receive feedback about the Plan
- Informational poster boards
- Draft copies of the CFMP and freight project list
- Opportunities to indicate individual level of support for specific CFMP goals and identify freight investment project priority types
- English/Spanish versions of some materials

The following materials are a compilation of some handouts made available at the workshops.

Welcome

- to the -

CALIFORNIA FREIGHT MOBILITY PLAN

Public Workshop



Please visit each station at your own pace to learn more about the California Freight Mobility Plan, ask questions, and provide feedback and comments.

CALIFORNIA FREIGHT MOBILITY PLAN

THE VISION

As the national gateway for international trade and domestic commerce, California enhances economic competitiveness by collaboratively developing and operating an integrated, multimodal freight transportation system that provides safe, sustainable freight mobility. This system facilitates the reliable and efficient movement of freight and people while ensuring a prosperous economy, social equity, and human and environmental health.

THE GOALS

1. Economic Competitiveness

Improve the contribution of the California freight transportation system to support economic efficiency, productivity, and competitiveness.

2. Safety and Security

Improve the safety, security, and resilience of the freight transportation system.

3. Freight System Infrastructure Preservation

Improve the state of good repair of the freight transportation system.

4. Environmental Stewardship

Avoid and reduce adverse environmental and community impacts of the freight transportation system.

5. Congestion Relief

Reduce costs to users by minimizing congestion on the freight transportation system.

6. Innovative Technology and Practices

Use innovative technology and practices to operate, maintain, and optimize the efficiency of the freight transportation system while reducing its environmental and community impacts.

THE OBJECTIVES

1. Build on California's history of investments to seek sustainable and flexible funding solutions with federal, private, and advocacy groups.

2. Invest in freight projects that enhance economic activity, freight mobility, reliability, and global competitiveness.

1. Reduce rates of incidents, collisions, fatalities, and serious injuries associated with freight movement.

2. Utilize technology to provide for the resilience and security of the freight transportation system.

1. Apply sustainable preventive maintenance and rehabilitation strategies.

1. Integrate environmental, health, and social equity considerations in all stages of freight planning and implementation.

2. Conserve and enhance natural and cultural resources.

3. Avoid and reduce air and water pollution, greenhouse gas (GHG) emissions, and other negative impacts associated with freight transportation by transforming the freight transportation system to be cleaner and more efficient.

4. Consider impacts and mitigation relative to the context of the project location.

5. Develop an efficiency metric that captures the intensity of pollutants per unit of freight moved.

1. Identify causes and solutions to freight bottlenecks.

2. Invest strategically to optimize system performance.

3. Develop, manage, and operate an efficient integrated freight system.

1. Support research, demonstration projects, development, and deployment of innovative technologies.

2. Promote the use of advanced technologies within the freight industry to support the State Implementation Plan (SIP), attainment of California greenhouse gas reduction targets, and to reduce local air toxics.

3. Support and incorporate the use of low carbon renewable fuels.

4. Promote innovative technologies and practices utilizing real time information to move freight on all modes more efficiently.

CALIFORNIA FREIGHT MOBILITY PLAN

Policies, Strategies, & Implementation

Strengths

California (CA) has the largest, most diverse economy in the United States, an economy supported by the largest, most diverse freight system in the nation. This status can be attributed to the strengths of the freight system listed below. These strengths are advantages that we need to build upon in order to maintain our status as a leader.

- Geographic position on the Pacific Rim
- Access to the very limited west/east transportation corridors in North America
- Decades of innovation and investment that built the transportation system, created industries, and farmed the land that make California's national and international trade possible
- The freight system is the most extensive, sophisticated, and least polluting in the country
- Strong export economy
- The success of the Trade Corridors Improvement Fund (TCIF) program

Needs

The following are the major needs of the freight system that must be addressed in order to achieve the vision for freight in California.

Funding
Address the lack of a dedicated, reliable, and long-term freight funding program

Impact Reduction
Reduce the negative impacts freight has on communities and the environment

Zero Emissions
Transition fuel types and the vehicle fleet to zero or near-zero emission sources and technology

Maintain Competitive Edge
Respond to competition from other west coast ports and the Panama Canal expansion

Maintain System
Maintain existing facilities

Improve Safety
Improve the safety of the freight transportation system

Congestion Reduction
Address congestion and bottlenecks on the freight transportation system

Strategies

Maintain

Maintain and enhance existing assets

Use Technology

Apply new technology and system operation practices to improve the performance of all aspects of the freight system

(Image source: San Pedro Bay Ports Clean Air Action Plan)

Add Capacity

Strategically add new capacity

Reduce Impacts

Address the negative impacts of freight movement through programs and projects

Collaborate

Formalize regional collaboration with freight stakeholders and continue the state level Ca Freight Advisory Committee

Fund

Creation of dedicated, reliable, long-term freight funding programs

Freight Project List

Freight Project Definition

The freight project list contains projects in regional and local transportation or freight plans that generally meet the following definition for a freight project

An improvement that significantly contributes to the freight system's economic activity or vitality; relieves congestion on the freight system; improves the safety, security, or resilience of the freight system; improves or preserves the freight system infrastructure; implements technology or innovation to improve the freight system or reduce or avoid its negative impacts; or reduces or avoids adverse community and/or environmental impacts of the freight system.

Project Types

System Preservation: Preventative maintenance projects, rehabilitation and reconstruction projects, improvements required by regulatory mandates

Community and Environmental Stewardship: Projects in freight corridors that are specifically targeted to avoiding, reducing or mitigating freight impacts on the environment and community

Operations and Management: Low-cost investments on the freight transportation system that can often be made in the near term to help reduce the need for more costly investments later on.

Capacity Expansion: Projects that will expand the freight transportation system's capacity

Implementation

The following are a few of the elements of each project that should be taken into consideration while identifying the most effective and competitive projects for freight improvement in California.

Project Focus Areas: gateways, corridors, last-mile connectors, and regional and statewide initiatives

Goals Alignment: ideally, individual projects will address more than one goal. The most competitive projects will address the most of the six goals and have the greatest measurable impact on those goals.

Project Type: System Preservation, Community and Environmental Stewardship, Operations and Management, Capacity Expansion

CALIFORNIA FREIGHT ADVISORY COMMITTEE

CFAC Member Organizations

Alameda County Transportation Commission
Automobile Club of Southern California
Association of Monterey Bay Area Governments
Bay Area Air Quality Management District
BNSF Railway
California Air Resources Board
California Airports Council
California Association of Port Authorities
California Chamber of Commerce
California Department of Housing and Community Development
California Department of Public Health
California Energy Commission
California Farm Bureau Federation
California Highway Patrol
CA Marine and Intermodal Transportation System Advisory Council (CALMITSAC)
California Natural Resources Agency
California Public Utilities Commission
California Retailers Association
California Short Line Railroad Association
California State Assembly
California State Lands Commission
California State Senate
California Transportation Commission
California Trucking Association
Center for Community Action and Environmental Justice
Coalition for Clean Air
Communities for a Better Environment
Devine Intermodal
FedEx Corporation
Greenlining Institute
Governor's Office of Business and Economic Development
International Brotherhood of Teamsters Joint Council No. 42
International Longshore and Warehouse Union
Los Angeles County Metropolitan Transportation Authority
Los Angeles World Airports
Metropolitan Transportation Commission
Mobility-21
National Association of Industrial Office Properties SoCal Chapter
Native American Advisory Committee
Natural Resources Defense Council
Pacific Merchant Shipping Association
Port of Long Beach
Port of Los Angeles
Port of Oakland
Rural Counties Task Force
Sacramento Area Council of Governments
San Bernardino Associated Governments
San Diego Association of Governments
San Francisco International Airport
San Joaquin Valley Air Pollution Control District
San Joaquin Valley Regional Planning Agencies
Shasta County Regional Transportation Agency
Sierra Club California
Silicon Valley Leadership Group
South Coast Air Quality Management District
Southern California Association of Governments
Union Pacific Railroad
United Parcel Service
US Customs and Border Protection
US Department of Transportation – Federal Highway Administration

California Freight Advisory Committee

The California Freight Mobility Plan (CFMP) development is guided largely by the California Freight Advisory Committee (CFAC). Caltrans, in collaboration with the California State Transportation Agency (CalSTA), established the CFAC in response to guidance provided in the federal legislation, Moving Ahead for Progress in the 21st Century (MAP-21) and Assembly Bill (AB) 14 (Lowenthal, 2013). The first CFAC meeting was held in April of 2013. All CFAC meetings are open to the public.

MAP-21 and AB 14

MAP-21encourages and AB 14 requires the formation of a state freight advisory committee. Both pieces of legislation provide guidance on how the committee should be formed and ask that the CFAC:

- Advise CalSTA on freight-related priorities, issues, projects, and funding needs
- Serve as a forum for discussion for state transportation decisions affecting freight mobility
- Communicate and coordinate regional priorities with other organizations
- Promote the sharing of information between private and public sectors on freight issues
- Participate in the development of the state freight plan

CFAC Purpose

The CFAC meets quarterly, or as needed, to participate in the development of the CFMP, to serve as a forum for the discussion of freight-related topics, to help coordinate regional freight priorities with other organizations, and to advise the State on freight-related priorities, issues, projects, and funding needs.

The committee is entirely advisory in nature, and has no governmental powers in and of itself. Although the input of the CFAC members is integral to the development of the California Freight Mobility Plan (CFMP), participation of organizations on the committee doesn't necessarily mean that the organizations agree with the draft freight plan or related products.

CFAC Meeting, Sacramento, April 2013

CFAC Meeting, Stockton, August 2013

CFAC Meeting, Long Beach, June 2013

CFAC Membership

Consistent with MAP-21 and AB 14's guidance, the CFAC consists of a representative cross section of public and private sector freight stakeholders including representatives of:

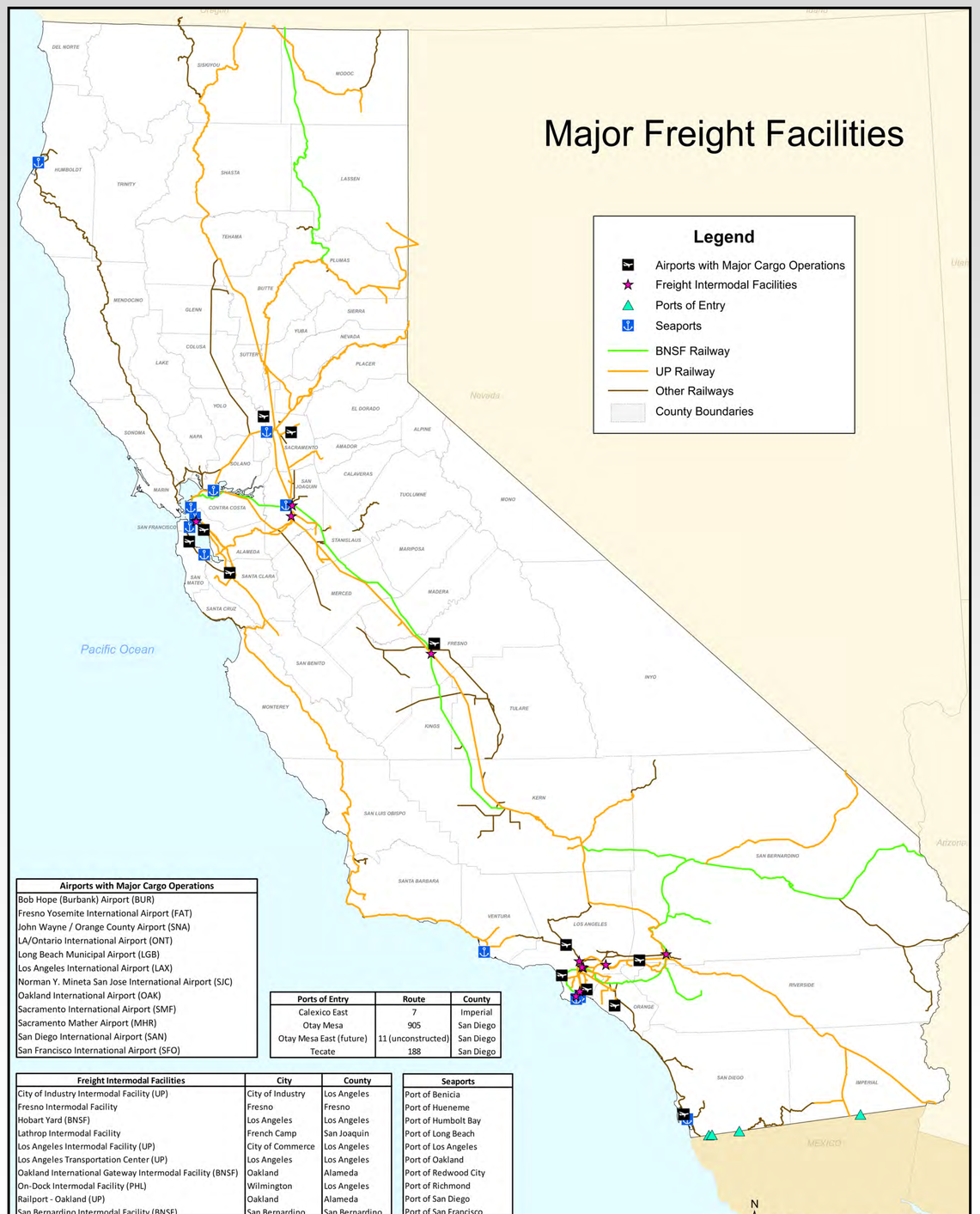
- Seaports
- Railroads
- Airports
- Trucking
- Shippers
- Carriers
- Freight-Related Associations
- Freight Industry Workforce
- Regional Governments
- Local Governments
- State Agencies
- Federal Agencies
- Tribal Governments
- Environmental Organizations
- Safety Organizations
- Community Organizations

For a complete list of member organizations see the "CFAC Member Organizations" column to the left.

CALIFORNIA FREIGHT MOBILITY PLAN

Freight System Assets, Condition, Performance, and Forecast

California's Multimodal State Freight System



Airports with Major Cargo Operations
Bob Hope (Burbank) Airport (BUR)
Fresno Yosemite International Airport (FAT)
John Wayne / Orange County Airport (SNA)
LA/Ontario International Airport (ONT)
Long Beach Municipal Airport (LGB)
Los Angeles International Airport (LAX)
Norman Y. Mineta San Jose International Airport (SJC)
Oakland International Airport (OAK)
Sacramento International Airport (SMF)
Sacramento Mather Airport (MHR)
San Diego International Airport (SAN)
San Francisco International Airport (SFO)

Ports of Entry	Route	County
Calexico East	7	Imperial
Otay Mesa	905	San Diego
Otay Mesa East (future)	11 (unconstructed)	San Diego
Tecate	188	San Diego

Freight Intermodal Facilities	City	County
City of Industry Intermodal Facility (UP)	City of Industry	Los Angeles
Fresno Intermodal Facility	Fresno	Fresno
Hobart Yard (BNSF)	Los Angeles	Los Angeles
Lathrop Intermodal Facility	French Camp	San Joaquin
Los Angeles Intermodal Facility (UP)	City of Commerce	Los Angeles
Los Angeles Transportation Center (UP)	Los Angeles	Los Angeles
Oakland International Gateway Intermodal Facility (BNSF)	Oakland	Alameda
On-Dock Intermodal Facility (PHL)	Wilmington	Los Angeles
Railport - Oakland (UP)	Oakland	Alameda
San Bernardino Intermodal Facility (BNSF)	San Bernardino	San Bernardino
Stockton Intermodal Facility	Stockton	San Joaquin
UP Long Beach ICTF	Long Beach	Los Angeles

Seaports
Port of Benicia
Port of Hueneme
Port of Humbolt Bay
Port of Long Beach
Port of Los Angeles
Port of Oakland
Port of Redwood City
Port of Richmond
Port of San Diego
Port of San Francisco
Port of Stockton
Port of West Sacramento

Condition and Performance

The following interim performance measures are being proposed to help guide investments on the freight system while we await final federal guidance. Each measure category corresponds to one of the six CFMP goals. Data for some measures is currently available; and for others, systems and processes for gathering the data will need to be developed.

INFRASTRUCTURE PRESERVATION
- Pavement Condition
- Roadway Bridge Condition
- Road and Rail Height Allowances
- Weight Accommodation
- Navigation Channel and Berth Depths
- Waterway Bridge Clearance

CONGESTION RELIEF
- Truck Travel Speed
- Truck Hours of Delay
- Posted Maximum Train Speed
- Highway Bottlenecks/ Chokepoints
- Rail Bottlenecks/Chokepoints
- Corridor Reliability Buffer Index

SAFETY
- Roadway Truck Related Collision Fatalities and Injuries
- Railroad Grade Crossing Related Fatalities and Injuries

ECONOMIC COMPETITIVENESS
- Freight cost per ton-mile

INNOVATIVE TECHNOLOGY
- Efficiency comparison before and after technology implementation

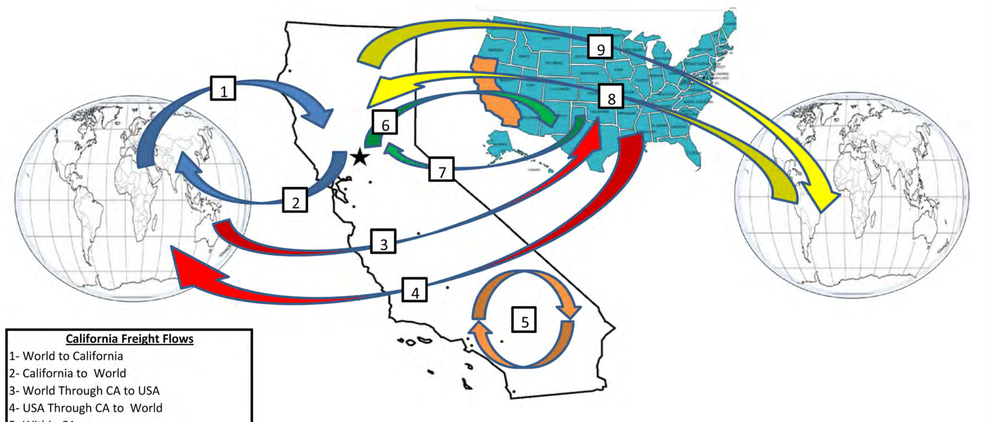
ENVIRONMENTAL STEWARDSHIP
- Criteria pollutant emissions
- Greenhouse gas emissions

Freight Forecast

Forecasting international trade and freight flows is fraught with uncertainty. Still, it is important to anticipate the future so that appropriate programs and facilities can be ready when needed. The following are some of the most significant trends for freight movement in California (CA).

TRENDS
- Total shipments by weight (into, out of, and within CA) are projected to grow approx. 180% statewide between 2012 and 2040
- Domestic and International outbound shipments from CA will grow faster than inbound shipments
- Trucking is currently the predominant freight mode and carries the largest amount of goods, and this is forecast to continue through 2040
- Freight moved by truck is expected to increase
- Value of shipments is expected to grow two or three times as fast as the weight being transported
- Because of rise in value of shipments, cost of trucks in congestion will rise accordingly
- Because of increase in number of truck trips, damage to roadways will increase accordingly
- Projected growth cannot be accommodated on the current system as currently developed and operated.
- Increasing congestion will significantly impact quality of life and CA's ability to maintain and

Freight Flows From, To, Within, and Through California

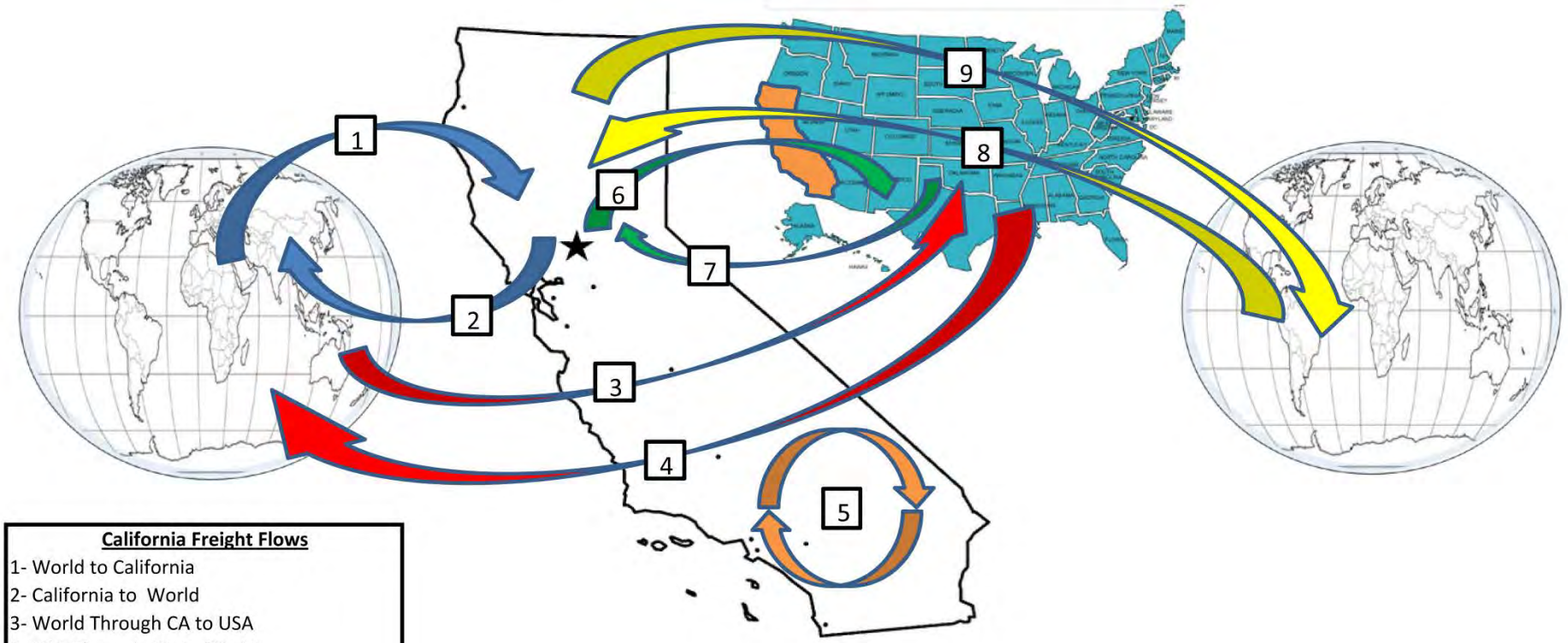


California Freight Flows
1- World to California
2- California to World
3- World Through CA to USA
4- USA Through CA to World
5- Within CA
6- CA to USA
7- USA to CA
8- World Through USA to CA
9- CA Through USA to World

Office of System, Freight, and Rail Planning
Caltrans 10/18/2013

CALIFORNIA FREIGHT MOBILITY PLAN

Freight Flows From, To, Within, and Through California



California Freight Flows

1- World to California
2- California to World
3- World Through CA to USA
4- USA Through CA to World
5- Within CA
6- CA to USA
7- USA to CA
8- World Through USA to CA
9- CA Through USA to World

Office of System, Freight, and Rail Planning
Caltrans 10/18/2013

Welcome

- to the -

CALIFORNIA FREIGHT MOBILITY PLAN

Public Workshop

Please visit each station at your own pace to learn more about the California Freight Mobility Plan, ask questions, and provide feedback and comments.

CALIFORNIA FREIGHT MOBILITY PLAN

THE VISION

As the national gateway for international trade and domestic commerce, California enhances economic competitiveness by collaboratively developing and operating an integrated, multimodal freight transportation system that provides safe, sustainable freight mobility. This system facilitates the reliable and efficient movement of freight and people while ensuring a prosperous economy, social equity, and human and environmental health.

THE GOALS

1. Economic Competitiveness

Improve the contribution of the California freight transportation system to support economic efficiency, productivity, and competitiveness.

2. Safety and Security

Improve the safety, security, and resilience of the freight transportation system.

3. Freight System Infrastructure Preservation

Improve the state of good repair of the freight transportation system.

4. Environmental Stewardship

Avoid and reduce adverse environmental and community impacts of the freight transportation system.

5. Congestion Relief

Reduce costs to users by minimizing congestion on the freight transportation system.

6. Innovative Technology and Practices

Use innovative technology and practices to operate, maintain, and optimize the efficiency of the freight transportation system while reducing its environmental and community impacts.

THE OBJECTIVES

1. Build on California's history of investments to seek sustainable and flexible funding solutions with federal, private, and advocacy groups.

2. Invest in freight projects that enhance economic activity, freight mobility, reliability, and global competitiveness.

1. Reduce rates of incidents, collisions, fatalities, and serious injuries associated with freight movement.

2. Utilize technology to provide for the resilience and security of the freight transportation system.

1. Apply sustainable preventive maintenance and rehabilitation strategies.

1. Integrate environmental, health, and social equity considerations in all stages of freight planning and implementation.

2. Conserve and enhance natural and cultural resources.

3. Avoid and reduce air and water pollution, greenhouse gas (GHG) emissions, and other negative impacts associated with freight transportation by transforming the freight transportation system to be cleaner and more efficient.

4. Consider impacts and mitigation relative to the context of the project location.

5. Develop an efficiency metric that captures the intensity of pollutants per unit of freight moved.

1. Identify causes and solutions to freight bottlenecks.

2. Invest strategically to optimize system performance.

3. Develop, manage, and operate an efficient integrated freight system.

1. Support research, demonstration projects, development, and deployment of innovative technologies.

2. Promote the use of advanced technologies within the freight industry to support the State Implementation Plan (SIP), attainment of California greenhouse gas reduction targets, and to reduce local air toxics.

3. Support and incorporate the use of low carbon renewable fuels.

4. Promote innovative technologies and practices utilizing real time information to move freight on all modes more efficiently.

CalSTA · Caltrans · California 2050 · FREIGHT PLAN

CALIFORNIA FREIGHT MOBILITY PLAN

Policies, Strategies, & Implementation

Strengths

California (CA) has the largest, most diverse economy in the United States, an economy supported by the largest, most diverse freight system in the nation. This status can be attributed to the strengths of the freight system listed below. These strengths are advantages that we need to build upon in order to maintain our status as a leader.

- Geographic position on the Pacific Rim
- Access to the very limited west/east transportation corridors in North America
- Decades of innovation and investment that built the transportation system, created industries, and farmed the land that make California's national and international trade possible
- The freight system is the most extensive, sophisticated, and least polluting in the country
- Strong export economy
- The success of the Trade Corridors Improvement Fund (TCIF) program

Needs

The following are the major needs of the freight system that must be addressed in order to achieve the vision for freight in California.

Funding
Address the lack of a dedicated, reliable, and long-term freight funding program

Impact Reduction
Reduce the negative impacts freight has on communities and the environment

Zero Emissions
Transition fuel types and the vehicle fleet to zero or near-zero emission sources and technology

Maintain Competitive Edge
Respond to competition from other west coast ports and the Panama Canal expansion

Maintain System
Maintain existing facilities

Improve Safety
Improve the safety of the freight transportation system

Congestion Reduction
Address congestion and bottlenecks on the freight transportation system

Strategies

Maintain

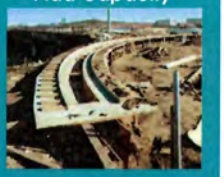
Maintain and enhance existing assets

Use Technology

Apply new technology and system operation practices to improve the performance of all aspects of the freight system

(Image source: San Pedro Bay Ports Clean Air Action Plan)

Add Capacity



Strategically add new capacity

Reduce Impacts

Address the negative impacts of freight movement through programs and projects

Collaborate

Formalize regional collaboration with freight stakeholders and continue the state level Ca Freight Advisory Committee

Fund

Creation of dedicated, reliable, long-term freight funding programs

Freight Project List

Freight Project Definition

The freight project list contains projects in regional and local transportation or freight plans that generally meet the following definition for a freight project

An improvement that significantly contributes to the freight system's economic activity or vitality; relieves congestion on the freight system; improves the safety, security, or resilience of the freight system; improves or preserves the freight system infrastructure; implements technology or innovation to improve the freight system or reduce or avoid its negative impacts; or reduces or avoids adverse community and/or environmental impacts of the freight system.

Project Types

System Preservation: Preventative maintenance projects, rehabilitation and reconstruction projects, improvements required by regulatory mandates

Community and Environmental Stewardship: Projects in freight corridors that are specifically targeted to avoiding, reducing or mitigating freight impacts on the environment and community

Operations and Management: Low-cost investments on the freight transportation system that can often be made in the near term to help reduce the need for more costly investments later on.

Capacity Expansion: Projects that will expand the freight transportation system's capacity

Implementation

The following are a few of the elements of each project that should be taken into consideration while identifying the most effective and competitive projects for freight improvement in California.

Project Focus Areas: gateways, corridors, last-mile connectors, and regional and statewide initiatives

Goals Alignment: ideally, individual projects will address more than one goal. The most competitive projects will address the most of the six goals and have the greatest measurable impact on those goals.

Project Type: System Preservation, Community and Environmental Stewardship, Operations and Management, Capacity Expansion

CALIFORNIA FREIGHT ADVISORY COMMITTEE

CFAC Member Organizations

- Alameda County Transportation Commission
- Automobile Club of Southern California
- Association of Monterey Bay Area Governments
- Bay Area Air Quality Management District
- BNSF Railway
- California Air Resources Board
- California Airports Council
- California Association of Port Authorities
- California Chamber of Commerce
- California Department of Housing and Community Development
- California Department of Public Health
- California Energy Commission
- California Farm Bureau Federation
- California Highway Patrol
- CA Marine and Intermodal Transportation System Advisory Council (CALMITSAC)
- California Natural Resources Agency
- California Public Utilities Commission
- California Retailers Association
- California Short Line Railroad Association
- California State Assembly
- California State Lands Commission
- California State Senate
- California Transportation Commission
- California Trucking Association
- Center for Community Action and Environmental Justice
- Coalition for Clean Air
- Communities for a Better Environment
- Devine Intermodal
- FedEx Corporation
- Greenlining Institute
- Governor's Office of Business and Economic Development
- International Brotherhood of Teamsters Joint Council No. 42
- International Longshore and Warehouse Union
- Los Angeles County Metropolitan Transportation Authority
- Los Angeles World Airports
- Metropolitan Transportation Commission
- Mobility-21
- National Association of Industrial Office Properties SoCal Chapter
- Native American Advisory Committee
- Natural Resources Defense Council
- Pacific Merchant Shipping Association
- Port of Long Beach
- Port of Los Angeles
- Port of Oakland
- Rural Counties Task Force
- Sacramento Area Council of Governments
- San Bernardino Associated Governments
- San Diego Association of Governments
- San Francisco International Airport
- San Joaquin Valley Air Pollution Control District
- San Joaquin Valley Regional Planning Agencies
- Shasta County Regional Transportation Agency
- Sierra Club California
- Silicon Valley Leadership Group
- South Coast Air Quality Management District
- Southern California Association of Governments
- Union Pacific Railroad
- United Parcel Service
- US Customs and Border Protection
- US Department of Transportation – Federal Highway Administration

California Freight Advisory Committee

The California Freight Mobility Plan (CFMP) development is guided largely by the California Freight Advisory Committee (CFAC). Caltrans, in collaboration with the California State Transportation Agency (CalSTA), established the CFAC in response to guidance provided in the federal legislation, Moving Ahead for Progress in the 21st Century (MAP-21) and Assembly Bill (AB) 14 (Lowenthal, 2013). The first CFAC meeting was held in April of 2013. All CFAC meetings are open to the public.

MAP-21 and AB 14

MAP-21encourages and AB 14 requires the formation of a state freight advisory committee. Both pieces of legislation provide guidance on how the committee should be formed and ask that the CFAC:

- Advise CalSTA on freight-related priorities, issues, projects, and funding needs
- Serve as a forum for discussion for state transportation decisions affecting freight mobility
- Communicate and coordinate regional priorities with other organizations
- Promote the sharing of information between private and public sectors on freight issues
- Participate in the development of the state freight plan

CFAC Purpose

The CFAC meets quarterly, or as needed, to participate in the development of the CFMP, to serve as a forum for the discussion of freight-related topics, to help coordinate regional freight priorities with other organizations, and to advise the State on freight-related priorities, issues, projects, and funding needs.

The committee is entirely advisory in nature, and has no governmental powers in and of itself. Although the input of the CFAC members is integral to the development of the California Freight Mobility Plan (CFMP), participation of organizations on the committee doesn't necessarily mean that the organizations agree with the draft freight plan or related products.

CFAC Meeting, Sacramento, April 2013

CFAC Meeting, Stockton, August 2013

CFAC Meeting, Long Beach, June 2013

CFAC Membership

Consistent with MAP-21 and AB 14's guidance, the CFAC consists of a representative cross section of public and private sector freight stakeholders including representatives of:

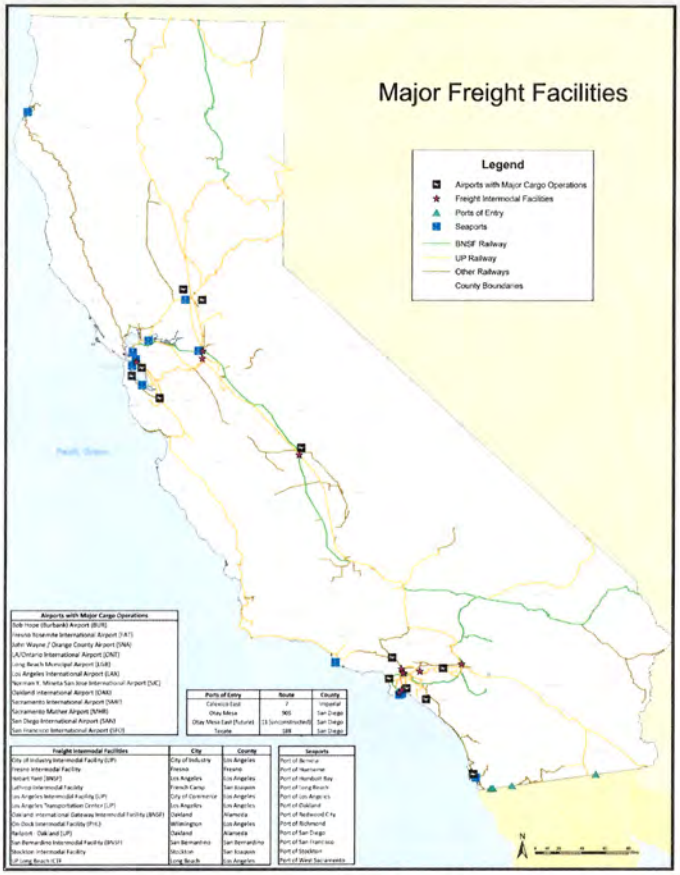
- Seaports
- Railroads
- Airports
- Trucking
- Shippers
- Carriers
- Freight-Related Associations
- Freight Industry Workforce
- Regional Governments
- Local Governments
- State Agencies
- Federal Agencies
- Tribal Governments
- Environmental Organizations
- Safety Organizations
- Community Organizations

For a complete list of member organizations see the "CFAC Member Organizations" column to the left.

CALIFORNIA FREIGHT MOBILITY PLAN

Freight System Assets, Condition, Performance, and Forecast

California's Multimodal State Freight System



Condition and Performance

The following interim performance measures are being proposed to help guide investments on the freight system while we await final federal guidance. Each measure category corresponds to one of the six CFMP goals. Data for some measures is currently available; and for others, systems and processes for gathering the data will need to be developed.

INFRASTRUCTURE PRESERVATION
- Pavement Condition
- Roadway Bridge Condition
- Road and Rail Height Allowances
- Weight Accommodation
- Navigation Channel and Berth Depths
- Waterway Bridge Clearance

CONGESTION RELIEF
- Truck Travel Speed
- Truck Hours of Delay
- Posted Maximum Train Speed
- Highway Bottlenecks/ Chokepoints
- Rail Bottlenecks/Chokepoints
- Corridor Reliability Buffer Index

SAFETY
- Roadway Truck Related Collision Fatalities and Injuries
- Railroad Grade Crossing Related Fatalities and Injuries

ECONOMIC COMPETITIVENESS
- Freight cost per ton-mile

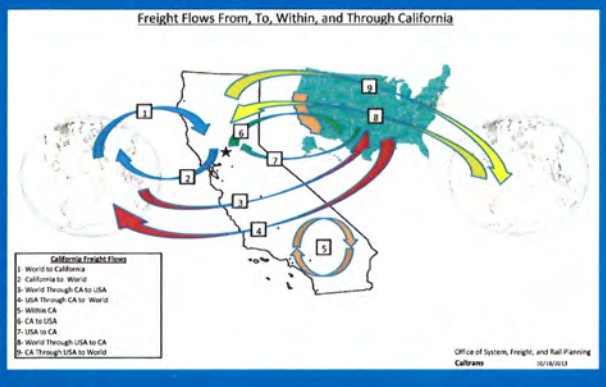
INNOVATIVE TECHNOLOGY
- Efficiency comparison before and after technology implementation

ENVIRONMENTAL STEWARDSHIP
- Criteria pollutant emissions
- Greenhouse gas emissions

Freight Forecast

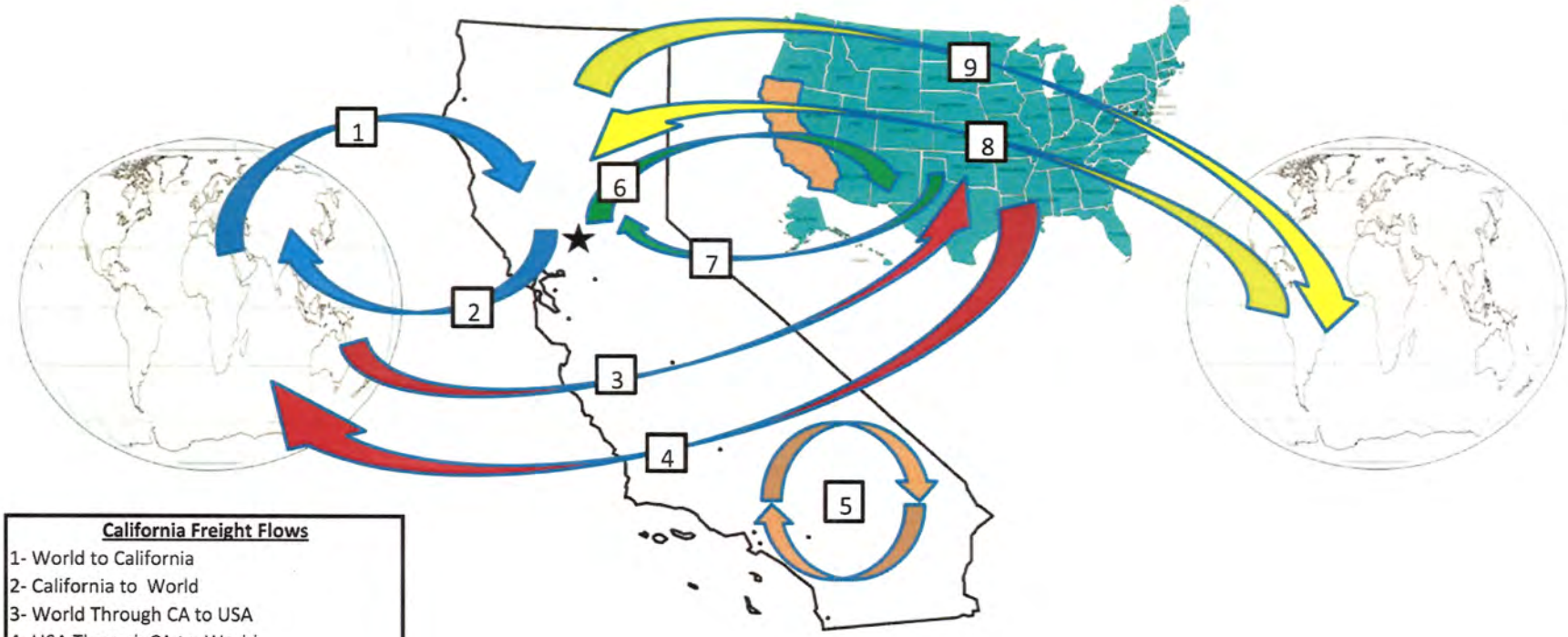
Forecasting international trade and freight flows is fraught with uncertainty. Still, it is important to anticipate the future so that appropriate programs and facilities can be ready when needed. The following are some of the most significant trends for freight movement in California (CA).

TRENDS
- Total shipments by weight (into, out of, and within CA) are projected to grow approx. 180% statewide between 2012 and 2040
- Domestic and International outbound shipments from CA will grow faster than inbound shipments
- Trucking is currently the predominant freight mode and carries the largest amount of goods, and this is forecast to continue through 2040
- Freight moved by truck is expected to increase
- Value of shipments is expected to grow two or three times as fast as the weight being transported
- Because of rise in value of shipments, cost of trucks in congestion will rise accordingly
- Because of increase in number of truck trips, damage to roadways will increase accordingly
- Projected growth cannot be accommodated on the current system as currently developed and operated.
- Increasing congestion will significantly impact quality of life and CA's ability to maintain and



CALIFORNIA FREIGHT MOBILITY PLAN

Freight Flows From, To, Within, and Through California



California Freight Flows

1- World to California
2- California to World
3- World Through CA to USA
4- USA Through CA to World
5- Within CA
6- CA to USA
7- USA to CA
8- World Through USA to CA
9- CA Through USA to World

Office of System, Freight, and Rail Planning
Caltrans 10/18/2013


Native American Trust Lands
and
Major Freight Facilities
Legend
Native American Trust Lands
No Registered Trust Land - Tribal Offices
* Ione Band of Miwok Indians
* Lower Lake Rancheria
* Mechoopda Indian Tribe of the Chico Rancheria
* Potter Valley Tribe
* Tejon Indian Tribe
Airports with Major Cargo Operations
Freight Intermodal Facilities
Ports of Entry
Seaports
BNSF Railway
UP Railway
Other Railways
County Boundaries
Data Source for Native American Trust Lands: Bureau of Indian Affairs, January 2009
Pacific Ocean
California Department of Transportation
Division of Transportation Planning
Office of System and Freight Planning
June 2014
N


Native American Trust Lands
and
Highway Freight Network
Legend
Native American Trust Lands
No Registered Trust Land - Tribal Offices
* Ione Band of Miwok Indians
* Lower Lake Rancheria
* Mechoopda Indian Tribe of the Chico Rancheria
* Potter Valley Tribe
* Tejon Indian Tribe
US DOT - Primary Freight Network - 27k
US DOT - Freight Network - 41k
Other Interstates
Other State Highway Freight Network
County Boundaries
Data Source for Native American Trust Lands: Bureau of Indian Affairs, January 2009
Pacific Ocean
California Department of Transportation
Division of Transportation Planning
Office of System and Freight Planning
June 2014
N

CALIFORNIA FREIGHT MOBILITY PLAN

Context of Freight Issues

Freight Policy and Decision-Making

The following provided direction for the development of the California Freight Mobility Plan (CFMP).

FEDERAL AND STATE POLICY
- Moving Ahead for Progress in the 21st Century Act (MAP-21)
- Assembly Bill 14 (Lowenthal, 2013)

STAKEHOLDER COLLABORATION AND PUBLIC OUTREACH
- California Freight Advisory Committee (CFAC)
- Tribal Consultation
- CFMP Focus Groups with env. justice and community orgs.

ASSOCIATED STATEWIDE PLANS, PROGRAMS, AND POLICIES
- Goods Movement Action Plan (GMAP)
- California Transportation Plan (CTP)
- California State Rail Plan (CSRP)
- Proposition 1B and Trade Corridor Improvement Fund (TCIF)

CALIFORNIA'S AIR QUALITY POLICY AND PROGRAMS
- Assembly Bill 32, Global Warming Solutions Act of 2006
- Senate Bill 375, Sustainable Communities and Climate Protection Act of 2008
- CA Air Resources Board's (ARB) Vision for Clean Air
- ARB Sustainable Transport Initiative
- Various state incentive programs for emission reduction

REGIONAL FREIGHT POLICY AND PLANS
- Various CA regional freight plans

Native American Freight Connections

California is home to 110 federally-recognized Native American Tribal Governments. Like all communities, Native American reservations and Rancherias need access to the freight system and at the same time may be negatively impacted by the freight system.

Rural location of most communities means less freight related employment opportunities	Many rural and Tribal roads do not allow full size, 53-ft. truck trailers, adding cost and time to deliveries

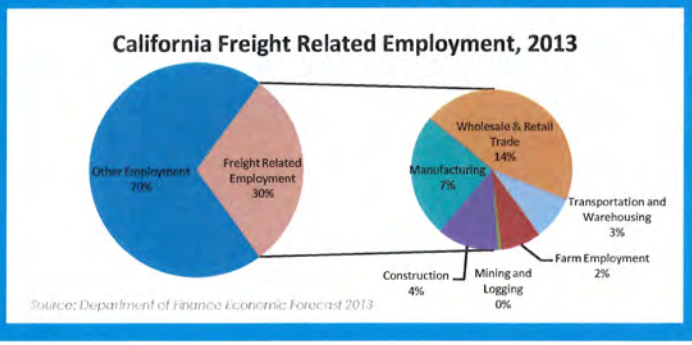
To ensure that the CA Multimodal State Freight System serves all of California's federally-recognized Native American Tribal Governments, major freight connectors to the Native American Trust Lands are being identified.

Economy, Labor, and Workforce

8th	40%	$145 Billion
Largest World Economy	U.S. Container Trade	
California (CA) was the 8th largest economy in the world in 2012	The San Pedro Ports handle 40% of U.S. container trade imports	CA manufactured $145 billion in exports in 2013

ECONOMIC TRENDS
- Freight system investments have not kept pace with the maintenance, preservation, and upgrades needed to keep the system efficient and reliable
- CA's ports faced with competition from Canada, Mexico, East Coast, and Gulf Coast – which have all gained in import volume
- Panama Canal expansion could intensify loss of CA's market share

LABOR TRENDS
- The trucking industry is facing a driver shortage and is finding it difficult to recruit and train entry level drivers
- Increased costs associated with requirements for newer trucks are making it economically challenging for small, independent trucking companies
- To remain competitive globally, CA faces challenge of transitioning industry to more efficient operations while retaining jobs



Safety and Security

CONCERNS
- Increasing transportation safety and transportation security in the face of limited funding
- Crimes committed on the premises of transport operators (break-ins)
- Robbery of valuable cargo in transit
- Armed piracy in the air or on the high seas
- Infrastructure disruption can have massive economic costs

SAMPLE OF SAFETY AND SECURITY STRATEGIES

Crude oil tank car and operations safety improvements

Certified Cargo Screening Program

Positive Train Control

Truck safety improvements, including devices to limit max. speed and a national clearinghouse to track positive drug and alcohol test results

ITS and Technology

WHAT IS ITS?

Intelligent Transportation Systems (ITS) are a collection of roadway, communications, and computer technologies that are used to improve the operation of roadway, rail, air, and maritime systems. They are intended to:

- **Increase travel safety**
- **Minimize environmental impact**
- **Improve traffic management**
- **Maximize the benefits of freight facilities**

COMMON FREIGHT ITS ELEMENTS
- Traffic control and monitoring
- Weigh-In-Motion (WIM)
- Delivery space booking
- Vehicle and container location and condition monitoring
- Route planning
- Driving behavior monitoring and controlling
- Freight status monitoring
- Rail management and rail crossing safety

CURRENT AND DEVELOPING ITS EFFORTS
- Truck Enforcement Networks
- Smart Truck Parking on California's I-5 Corridor
- Electronic Freight Management Initiative
- State Route 11/Otay Mesa East Port of Entry ITS
- Regional Integration of Intelligent Transportation Systems (RIITS)
- Performance Measurement System (PeMS)
- Gateway Cities Technology Plan for Goods Movement

CALIFORNIA FREIGHT MOBILITY PLAN

Community & Environment

Freight Impacts on Communities and the Environment

Emissions

Emission related impacts include incidence of serious health problems such as asthma, other respiratory ailments, cancer, cardiovascular disease, and premature death.

Congestion

Congestion related impacts include increased idling and emissions, reduced economic productivity, increased fuel costs, and stress.

Noise

Noise related impacts include hearing loss, sleep disruption, interference with the learning process, and an increase in antisocial behavior.

Quality of Life

Other freight impacts include water quality degradation, blight, and vibrations.

Proximity

Communities close to heavy freight industry activity are disproportionally impacted by freight.

Significant Progress in Freight Impact Reduction

California has the most aggressive environmental goals, policies, and regulations in the United States. These policies set the stage for California to be a leader in reducing freight impacts on the communities and the environment.

MARITIME

The 11 publicly owned California deepwater seaports and their partners have implemented strategies including clean air programs, shore side power options, and ship speed reduction.

70%

Reduction in PM* emissions at the largest ports since 2005

FREIGHT RAIL

Union Pacific (UP) and Burlington Northern Santa Fe (BNSF) voluntarily agreed to reduce diesel emissions through the use of new technologies, engines, and practices.

50-70%

Reduction in PM emissions at the highest risk rail yards since 2005

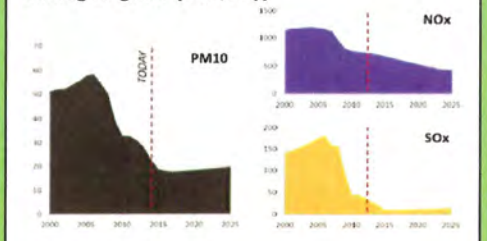
TRUCKING

CA has multiple regulations that apply to on-road diesel trucks including: Truck and Bus Regulation, Tractor-Trailer Greenhouse Gas Reduction, Periodic Smoke Inspection Program, Emission Control Label, and Commercial Vehicle Idling.

98%

Less PM and NOx* emissions, and 97% less SOx*, with new diesel truck engines

Progress in Reducing Freight Emissions in CA with Existing Programs (Tons/Day)



Source: ARB January 2014;
http: www.arb.ca.gov/board/books/2014/012314/14-1-5pres.pdf

** Particulate Matter (PM)*
Nitrogen Oxides (NOx)
Sulfur Oxides (SOx)

Looking Forward

Shore Power

Clean Fuel

Air Monitoring

Images Source: Port of Long Beach

Much has already been achieved to reduce freight impacts through better engines, cleaner fuels, infrastructure changes, and improved operations practices. But more improvement is still needed.

- Transition from the existing diesel-dependent freight system into one with significant numbers of zero and near-zero emission engines for trucks, locomotives, cargo-handling equipment, ships, and aircraft.
- Support the parallel development of the necessary supporting infrastructure, and implement logistical/efficiency improvements to reduce the emissions impact of moving freight.
- Incentivize and prioritize freight projects that maximize greenhouse gas (GHG), criteria pollutants, and air toxics emission impact reductions.
- Implement projects in designated freight corridors or regions to meet established State targets and establish a location specific impact reduction program to avoid, reduce or mitigate freight impacts on the community and environment.

How do you feel about the California Freight Mobility Plan Goals?

Please use one sticker to indicate your level of support for each of the goals.

	Strongly Support	Generally Support	Somewhat Support	Don't Support	Have No Opinion
1. **Economic Competitiveness:** Improve the contribution of the California freight transportation system to support economic efficiency, productivity, and competitiveness.					
2. **Safety and Security:** Improve the safety, security, and resilience of the freight transportation system.					
3. **Freight System Infrastructure Preservation**: Improve the state of good repair of the freight transportation system.					
4. **Environmental Stewardship**: Avoid and reduce adverse environmental and community impacts of the freight transportation system.					
5. **Congestion Relief:** Reduce costs to users by minimizing congestion on the freight transportation system.					
6. **Innovative Technology and Practices**: Use innovative technology and practices to operate, maintain, and optimize the efficiency of the freight transportation system while reducing its environmental and community impacts.					

Where would you invest in freight improvements?

Please use one sticker to show your highest priority investment in the freight system.

Increase Freight Related Jobs	
Safety Improvement	
System Preservation and Maintenance	
Community and Environmental Mitigation	
Congestion Relief Through Infrastructure Projects	
Congestion Relief Through Innovative Technologies	
Expand Freight System Capacity	
Separation of Freight Travel (trucks and trains) from Automobiles	

This page is intentionally blank.

APPENDIX G-4:
PRIMARY FREIGHT NETWORK (PFN) COMMENT LETTER

To help strategically direct resources toward improving freight movement, MAP-21 calls for the Secretary of the United States Department of Transportation (USDOT) to designate a Primary Freight Network (PFN) consisting of up to 27,000 miles of existing interstate and other highways, with a possible future addition of 3,000 miles. In a November 18, 2013 Federal Register Notice, the Federal Highway Administration identified a conceptual version of a comprehensive, connected roadway throughout the nation considered necessary to efficiently transport goods and invited comments on "all aspects" of this designation.

Proposed PFN designation shortcomings prompted an urgency to respond with recommended modifications. California Freight Advisory Committee comments were integrated into the following official State response letter submitted by the Secretary of the California State Transportation Agency to the Secretary of the USDOT. At the time of CFMP publication, no response to this letter was received and an official PFN designation had not been announced.

CALIFORNIA STATE TRANSPORTATION AGENCY

Edmund G. Brown Jr.
Governor

Brian P. Kelly
Secretary

915 Capitol Mall, Suite 350B
Sacramento, CA 95814
916-323-5400
www.calsta.ca.gov

February 14, 2014

Docket Management Facility
U.S. Department of Transportation
1200 New Jersey Avenue, SE, W12-140
Washington, D.C. 20590-0001

RE: Federal Highway Administration (FHWA), [Docket No. FHWA-2013-0050]; Designation of the Primary Freight Network

Dear Sir or Madam:

Thank you for the opportunity to comment on the proposed Primary Freight Network (PFN) and for extending the comment period to enable more extensive consultations with our freight stakeholders. Identifying the nation's primary freight corridors is an important step in providing more resources to improving the United States (U.S.) freight system and our international competitiveness. I commend the work done by the U.S. Department of Transportation (USDOT) given the constrained circumstances provided under the Moving Ahead for Progress in the 21st Century Act (MAP-21).

California is the nation's international trade leader in terms of value and quantity of goods that are handled by its seaports, airports, railroads, and roadways. It is essential to California's future that we ensure the continued strength of the State's freight industry, and the larger national economy it supports, in ways that are more efficient and that minimize impacts to communities and the environment. The USDOT's freight program can help to accomplish this goal in California and other states. Despite the statutory limitations governing the extent of the proposed PFN, the USDOT has envisioned a rational highway network that can serve as the foundation for the eventual designation of a more expansive PFN that fully represents California's and the nation's full multi-modal freight system.

Although this letter represents the views of the State of California, the State has had extensive consultations with its diverse, 62-member California Freight Advisory Committee (CFAC) regarding the proposed PFN. Additionally, many of our CFAC member organizations submitted their own comments to the Federal Register to convey their particular needs and interests. Given the enormous scale of California's freight industry, it is important that regional and local issues are fully considered. In reviewing the entire set of comments submitted by California's freight stakeholders, the USDOT will find an overall consistency in the identification of the major needs of the PFN, including:

- Inclusion of all freight modes – not just highways – as part of the PFN.
- Creation of a national freight funding program.
- Description of how the PFN will guide policy at USDOT and other federal agencies.
- Substantial expansion of the proposed 27,000 centerline-mile PFN.
- Flexibility to adjust the PFN within the states based on state and local knowledge.
- Closure of critical first- and last-mile gaps in the PFN.
- Recognition of environmental and community impact mitigation as an eligible project funding category and as part of the overall freight program.

In addition, I would like to provide the following comments on funding and the timing for updates to the PFN:

- The PFN focuses attention on the nation's most important freight highway routes, thereby increasing the likelihood that additional funding will be directed to these vital corridors through a new, dedicated national freight funding program. Absent a new freight funding program, the designation of the PFN may have little impact, as there is insufficient funding capacity within existing transportation programs to support additional demands. Substantial and sustainable funding will be critical to the success of the national freight program.

- There is some concern that updating the PFN on a ten-year cycle is inadequate; therefore, I recommend at least a minimum five-year update cycle. With the metropolitan transportation planning process based on a four-year cycle, and freight and rail plans updated on five-year cycles, it is impractical to have the PFN updated only every ten years. Global trade is dynamic and will certainly experience significant change much more frequently than a ten-year update cycle can address. The update process should also include the ability for states to amend their designated network between update cycles as changing circumstances necessitate.

The Request for Comments listed five areas to address. Responses to each are detailed below.

(1) Specific route deletions, additions, or modifications to the draft initial designation of the PFN:

Expansion of the PFN is necessary to create a unified national highway freight network rather than a set of disconnected regional networks. It is not possible to create a truly national PFN under the 27,000 centerline-mile restriction.

California's portion of the proposed PFN has numerous gaps and missing segments that, if closed, would create a coherent, continuous, linked freight network within the State. Key among these missing and vital network segments are highways and local roads that make up the "first- and last-mile" connections to seaports, cargo airports, intermodal

yards, and commercial border ports of entry. It is essential that the PFN not abruptly terminate a few miles from these critical freight facilities, which the proposed PFN often does.

In addition, states should be granted authority to reallocate PFN miles within their state. Due to the limitations of national data sets used to designate the PFN, the USDOT has insufficient local knowledge to identify which PFN reallocations are the most important and strategic for a given locale. As such, I recommend that states be authorized to effect any of the following reallocations of PFN miles:

1. A portion of a proposed PFN route to another portion of that same route.
2. A portion of a proposed PFN route to a different proposed PFN route.
3. A portion of a proposed PFN route to a more critical non-PFN route that may have been overlooked during the initial PFN designation process, so long as the replacement segment has been determined by the state to be of higher priority.

Furthermore, states would be required to provide a technically supported justification for any reallocation and the total PFN centerline miles for a state would not change. Final approval for reallocations would be made by the USDOT.

(2) The methodology for achieving a 27,000-mile final designation:

I applaud the USDOT's utilization of a data-supported approach to identifying routes under this restriction. California's portion of the proposed PFN is largely consistent with the State's own analysis and largely represents California's highest-volume and most important highway freight routes, which are also critical routes serving the entire country.

If, however, adjustments are made to the methodology, the adjustments should consider freight routes that have high seasonal peak truck traffic, such as in the often overlooked agricultural and extractive industry regions. Averaged over an entire year, many of these critical routes do not reach the PFN threshold, but still accommodate high numbers of trucks during the planting, harvesting, extraction, and processing seasons. This is particularly true for California's Central Valley, the Central Coast, and the North State, each of which are nationally and internationally significant exporters of agricultural, forest, and mineral products. For example, the Central Coast's Salinas Valley, often referred to as the "salad bowl of the nation," does not have an extension of the PFN that reaches the Salinas Valley under the proposed 27,000- or conceptual 41,518-mile PFN; this omission should be remedied.

(3) How the National Freight Network (NFN) and its components could be used by freight stakeholders in the future:

As previously noted, absent a new freight funding program, the designation of the PFN may have little practical application, as there is no funding capacity within existing transportation programs to absorb new freight program needs. Further, the freight program must be funded in a way that creates a reasonable level of certainty that funding will be available when freight projects are ready for construction. This assurance is particularly important when private funding is being devoted to freight projects through public-private partnerships. Moreover, new funding opportunities must not eliminate current freight funding options.

In addition, designation of the NFN and PFN highlights the need to address community and environmental impacts along freight corridors at the time projects are initially proposed. Impacts from diesel emissions and freight activities are well-documented and particularly concentrated along the highest-volume freight corridors and hubs. Within any funding program that is targeted to serve freight, addressing air quality and public health impacts in the project selection process must be a priority. Freight projects also must address greenhouse gas (GHG) emissions.

I recommend that funding be made available to projects within 1,000 feet of a PFN route, and that it addresses and prioritizes air quality and public health benefits. Such prioritization has been successfully implemented through public-private collaboration, via both regulatory and voluntary means, to reduce environmental and public health impacts throughout California, as demonstrated by the use of more-efficient and lower-polluting engines, fuels, and operations strategies. These actions dramatically reduced diesel particulates and other pollutants emitted by the State's freight industry. Expanding such efforts to also apply to the NFN and PFN would be an appropriate and needed initiative.

(4) How the NFN may fit into a multimodal National Freight System:

MAP-21's highway-centric NFN is inadequate to meet the needs of the complex, dynamic intermodal national freight system. The NFN highway component is a good beginning, but the other freight modes must be added before the NFN can be considered a complete, integrated freight network. The NFN should be expanded to include the nation's major maritime ports and navigation channels, transcontinental railroad mainlines, major intermodal facilities, major air cargo airports, and major commercial border ports of entry. It is important that the connections to such facilities are on the PFN and not relegated to the more extensive NFN. I urge the USDOT to consult with states, regional agencies, and local freight interest prior to expanding the NFN to be multimodal.

(5) Suggestions for an urban-area route designation process:

I appreciate that the USDOT is specifically requesting input regarding the designation of urban-area freight routes. The tremendous amount of urban-based transloading, consolidation, packaging, warehousing, final assembly, manufacturing, and other freight-

related activities does not occur directly on the PFN, but these activities take place in facilities located near the PFN that are accessed by local roads. Thus, increased demand placed on these local roads and the needs of surrounding communities require that designation decisions be made at the local level.

Without knowing the implications of an urban-area route designation, it is challenging to recommend a unified national approach. Many local roads in California handle truck volumes that rival the volumes of most national PFN routes. Help is needed for communities where such roads exist, such as improving the routes and mitigating related impacts so the costs of accommodating the nation's international trade does not disproportionately burden low income communities. Therefore, I recommend that states be given the ability to work with their regional and local partners to designate urban-area freight routes. These routes should be eligible for enhanced pavement preservation, operational improvement, and impact-mitigation funding.

Although this initial effort to establish a national freight program and designate a national freight network does not address all issues that need attention, it is an important turning point for the nation's transportation program. The efficient movement of freight is essential to the United States' international competitiveness, and addressing the impacts that freight has on communities and the environment is essential to the nation's sustainability.

Sincerely,

BRIAN P. KELLY
Secretary

APPENDIX H: STATUTORY AUTHORITY

H-1: Federal Regulations

H-1-1: Moving Ahead for Progress in the 21st Century Freight Provisions

H-1-2: United States Code of Federal Regulations

H-2: State Regulations

H-2-1: Assembly Bill 14 - Statutory Authority for Freight Planning

H-2-2: Senate Bill 391

H-2-3: Senate Bill 1228

This page is intentionally blank.

APPENDIX H-1-1:
MAP-21 FREIGHT PROVISIONS

SEC. 1115. NATIONAL FREIGHT POLICY.
(a) IN GENERAL.—Chapter 1 of title 23, United States Code, is amended by adding at the end the following:
''§ 167. National freight policy
''(a) IN GENERAL.—It is the policy of the United States to improve the condition and performance of the national freight network to ensure that the national freight network provides the foundation for the United States to compete in the global economy and achieve each goal described in subsection (b).
''(b) GOALS.—The goals of the national freight policy are—
''(1) to invest in infrastructure improvements and to implement operational improvements that—
''(A) strengthen the contribution of the national freight network to the economic competitiveness of the United States;
''(B) reduce congestion; and
''(C) increase productivity, particularly for domestic industries and businesses that create high-value jobs;
''(2) to improve the safety, security, and resilience of freight transportation;
''(3) to improve the state of good repair of the national freight network;
''(4) to use advanced technology to improve the safety and efficiency of the national freight network;
''(5) to incorporate concepts of performance, innovation, competition, and accountability into the operation and maintenance of the national freight network; and
''(6) to improve the economic efficiency of the national freight network.
''(7) to reduce the environmental impacts of freight movement on the national freight network;
''(c) ESTABLISHMENT OF A NATIONAL FREIGHT NETWORK.—
''(1) IN GENERAL.—The Secretary shall establish a national freight network in accordance with this section to assist States in strategically directing resources toward improved system performance for efficient movement of freight on highways, including national highway system, freight intermodal connectors and aerotropolis transportation systems.
''(2) NETWORK COMPONENTS.—The national freight network shall consist of—
''(A) the primary freight network, as designated by the Secretary under subsection (d) (referred to in this section as the 'primary freight network') as most critical to the movement of freight;
''(B) the portions of the Interstate System not designated as part of the primary freight network; and
''(C) critical rural freight corridors established under subsection (e).
''(d) DESIGNATION OF PRIMARY FREIGHT NETWORK.—
''(1) INITIAL DESIGNATION OF PRIMARY FREIGHT NETWORK.—
''(A) DESIGNATION.—Not later than 1 year after the date of enactment of this section, the Secretary shall designate a primary freight network—
''(i) based on an inventory of national freight volume conducted by the Administrator of the Federal Highway Administration, in consultation with stakeholders, including system users, transport providers, and States; and
''(ii) that shall be comprised of not more than 27,000 centerline miles of existing roadways that are most critical to the movement of freight.
''(B) FACTORS FOR DESIGNATION.—In designating the primary freight network, the Secretary shall consider—
''(i) the origins and destinations of freight movement in the United States;

''(ii) the total freight tonnage and value of freight moved by highways;
''(iii) the percentage of annual average daily truck traffic in the annual average daily traffic on principal arterials;
''(iv) the annual average daily truck traffic on principal arterials;
''(v) land and maritime ports of entry;
''(vi) access to energy exploration, development, installation, or production areas;
''(vii) population centers; and
''(viii) network connectivity.
''(2) ADDITIONAL MILES ON PRIMARY FREIGHT NETWORK.— In addition to the miles initially designated under paragraph
(1), the Secretary may increase the number of miles designated as part of the primary freight network by not more than 3,000 additional centerline miles of roadways (which may include existing or planned roads) critical to future efficient movement of goods on the primary freight network.
''(3) REDESIGNATION OF PRIMARY FREIGHT NETWORK.—Effective beginning 10 years after the designation of the primary freight network and every 10 years thereafter, using the designation factors described in paragraph (1), the Secretary shall redesignate the primary freight network (including additional mileage described in paragraph (2)).
''(e) CRITICAL RURAL FREIGHT CORRIDORS.—A State may designate a road within the borders of the State as a critical rural freight corridor if the road—
''(1) is a rural principal arterial roadway and has a minimum of 25 percent of the annual average daily traffic of the road measured in passenger vehicle equivalent units from trucks (FHWA vehicle class 8 to 13);
''(2) provides access to energy exploration, development, installation, or production areas;
''(3) connects the primary freight network, a roadway described in paragraph (1) or (2), or Interstate System to facilities that handle more than—
''(A) 50,000 20-foot equivalent units per year; or
''(B) 500,000 tons per year of bulk commodities.
''(f) NATIONAL FREIGHT STRATEGIC PLAN.—
''(1) INITIAL DEVELOPMENT OF NATIONAL FREIGHT STRATEGIC PLAN.—Not later than 3 years after the date of enactment of this section, the Secretary shall, in consultation with State departments of transportation and other appropriate public and private transportation stakeholders, develop and post on the Department of Transportation public website a national freight strategic plan that shall include—
''(A) an assessment of the condition and performance of the national freight network;
''(B) an identification of highway bottlenecks on the national freight network that create significant freight congestion problems, based on a quantitative methodology developed by the Secretary, which shall, at a minimum, include—
''(i) information from the Freight Analysis Network of the Federal Highway Administration; and
''(ii) to the maximum extent practicable, an estimate of the cost of addressing each bottleneck and any operational improvements that could be implemented;
''(C) forecasts of freight volumes for the 20-year period beginning in the year during which the plan is issued;
''(D) an identification of major trade gateways and national freight corridors that connect major population centers, trade gateways, and other major freight generators for current and forecasted traffic and freight volumes, the identification of which shall be revised, as appropriate, in subsequent plans;
''(E) an assessment of statutory, regulatory, technological, institutional, financial, and other barriers to improved freight transportation performance (including opportunities for overcoming the barriers);
''(F) an identification of routes providing access to energy exploration, development, installation, or production areas;
''(G) best practices for improving the performance of the national freight network;
''(H) best practices to mitigate the impacts of freight movement on communities;
''(I) a process for addressing multistate projects and encouraging jurisdictions to collaborate; and

‘‘(J) strategies to improve freight intermodal connectivity.
‘‘(2) UPDATES TO NATIONAL FREIGHT STRATEGIC PLAN.—Not later than 5 years after the date of completion of the first national freight strategic plan under paragraph (1), and every 5 years thereafter, the Secretary shall update and repost on the Department of Transportation public website a revised national freight strategic plan.
‘‘(g) FREIGHT TRANSPORTATION CONDITIONS AND PERFORMANCE REPORTS.—Not later than 2 years after the date of enactment of this section, and biennially thereafter, the Secretary shall prepare a report that contains a description of the conditions and performance of the national freight network in the United States.
‘‘(h) TRANSPORTATION INVESTMENT DATA AND PLANNING TOOLS.—
‘‘(1) IN GENERAL.—Not later than 1 year after the date of enactment of this section, the Secretary shall—
‘‘(A) begin development of new tools and improvement of existing tools or improve existing tools to support an outcome-oriented, performance-based approach to evaluate proposed freight-related and other transportation projects, including—
‘‘(i) methodologies for systematic analysis of benefits and costs;
‘‘(ii) tools for ensuring that the evaluation of freight-related and other transportation projects could consider safety, economic competitiveness, environmental sustainability, and system condition in the project selection process; and
‘‘(iii) other elements to assist in effective transportation planning;
‘‘(B) identify transportation-related model data elements to support a broad range of evaluation methods and techniques to assist in making transportation investment decisions; and
‘‘(C) at a minimum, in consultation with other relevant Federal agencies, consider any improvements to existing freight flow data collection efforts that could reduce identified freight data gaps and deficiencies and help improve forecasts of freight transportation demand.
‘‘(2) CONSULTATION.—The Secretary shall consult with Federal, State, and other stakeholders to develop, improve, and implement the tools and collect the data in paragraph (1).
‘‘(i) DEFINITION OF AEROTROPOLIS TRANSPORTATION SYSTEM.— In this section, the term ‘aerotropolis transportation system’ means a planned and coordinated multimodal freight and passenger transportation network that, as determined by the Secretary, provides efficient, cost-effective, sustainable, and intermodal connectivity to a defined region of economic significance centered around a major airport.’’.
(b) CONFORMING AMENDMENT.—The analysis for chapter 1 of title 23, United States Code, is amended by adding at the end the following:
‘‘167. National freight program.’’.

SEC. 1116. PRIORITIZATION OF PROJECTS TO IMPROVE FREIGHT MOVEMENT.
(a) IN GENERAL.—Notwithstanding section 120 of title 23,United States Code, the Secretary may increase the Federal share payable for any project to 95 percent for projects on the Interstate System and 90 percent for any other project if the Secretary certifies that the project meets the requirements of this section.
(b) INCREASED FUNDING.—To be eligible for the increased Federal funding share under this section, a project shall—
(1) demonstrate the improvement made by the project to the efficient movement of freight, including making progress towards meeting performance targets for freight movement established under section 150(d) of title 23, United States Code; and
(2) be identified in a State freight plan developed pursuant to section 1118.
(c) ELIGIBLE PROJECTS.—Eligible projects to improve the movement of freight under this section may include, but are not limited to—

(1) construction, reconstruction, rehabilitation, and operational improvements directly relating to improving freight movement;
(2) intelligent transportation systems and other technology to improve the flow of freight;
(3) efforts to reduce the environmental impacts of freight movement on the primary freight network;
(4) railway-highway grade separation;
(5) geometric improvements to interchanges and ramps.
(6) truck-only lanes;
(7) climbing and runaway truck lanes;
(8) truck parking facilities eligible for funding under section 1401;
(9) real-time traffic, truck parking, roadway condition, and multimodal transportation information systems;
(10) improvements to freight intermodal connectors; and
(11) improvements to truck bottlenecks.

SEC. 1117. STATE FREIGHT ADVISORY COMMITTEES.
(a) IN GENERAL.—The Secretary shall encourage each State to establish a freight advisory committee consisting of a representative cross-section of public and private sector freight stakeholders, including representatives of ports, shippers, carriers, freight-related associations, the freight industry workforce, the transportation department of the State, and local governments.
(b) ROLE OF COMMITTEE.—A freight advisory committee of a State described in subsection (a) shall—
(1) advise the State on freight-related priorities, issues, projects, and funding needs;(2) serve as a forum for discussion for State transportation decisions affecting freight mobility;
(3) communicate and coordinate regional priorities with other organizations;
(4) promote the sharing of information between the private and public sectors on freight issues; and
(5) participate in the development of the freight plan of the
State described in section 1118.

SEC. 1118. STATE FREIGHT PLANS.
(a) IN GENERAL.—The Secretary shall encourage each State to develop a freight plan that provides a comprehensive plan for the immediate and long-range planning activities and investments of the State with respect to freight.
(b) PLAN CONTENTS.—A freight plan described in subsection
(a) shall include, at a minimum—
(1) an identification of significant freight system trends, needs, and issues with respect to the State;
(2) a description of the freight policies, strategies, and performance measures that will guide the freight-related transportation investment decisions of the State;
(3) a description of how the plan will improve the ability of the State to meet the national freight goals established under section 167 of title 23, United States Code;
(4) evidence of consideration of innovative technologies and operational strategies, including intelligent transportation systems, that improve the safety and efficiency of freight movement;
(5) in the case of routes on which travel by heavy vehicles (including mining, agricultural, energy cargo or equipment, and timber vehicles) is projected to substantially deteriorate the condition of roadways, a description of improvements that may be required to reduce or impede the deterioration; and
(6) an inventory of facilities with freight mobility issues, such as truck bottlenecks, within the State, and a description of the strategies the State is employing to address those freight mobility issues.
(c) RELATIONSHIP TO LONG-RANGE PLAN.—A freight plan described in subsection (a) may be developed separate from or incorporated into the statewide strategic long-range transportation plan required by section 135 of title 23, United States Code.

Subtitle D—Highway Safety
SEC. 1401. JASON'S LAW.
(a) IN GENERAL.—It is the sense of Congress that it is a national priority to address projects under this section for the shortage of long-term parking for commercial motor vehicles on the National Highway System to improve the safety of motorized and non-motorized users and for commercial motor vehicle operators.
(b) ELIGIBLE PROJECTS.—Eligible projects under this section are those that—
(1) serve the National Highway System; and
(2) may include the following:
(A) Constructing safety rest areas (as defined in section 120(c) of title 23, United States Code) that include parking for commercial motor vehicles.
(B) Constructing commercial motor vehicle parking facilities adjacent to commercial truck stops and travel plazas.
(C) Opening existing facilities to commercial motor vehicle parking, including inspection and weigh stations and park-and-ride facilities.
(D) Promoting the availability of publicly or privately provided commercial motor vehicle parking on the National Highway System using intelligent transportation systems and other means.
(E) Constructing turnouts along the National Highway System for commercial motor vehicles.
(F) Making capital improvements to public commercial motor vehicle parking facilities currently closed on a seasonal basis to allow the facilities to remain open year-round.
(G) Improving the geometric design of interchanges on the National Highway System to improve
(c) SURVEY AND COMPARATIVE ASSESSMENT.—
(1) IN GENERAL.—Not later than 18 months after the date of enactment of this Act, the Secretary, in consultation with relevant State motor carrier safety personnel, shall conduct a survey of each State—
(A) to evaluate the capability of the State to provide adequate parking and rest facilities for commercial motor vehicles engaged in interstate transportation;
(B) to assess the volume of commercial motor vehicle traffic in the State; and
(C) to develop a system of metrics to measure the adequacy of commercial motor vehicle parking facilities in the State.
(2) RESULTS.—The results of the survey under paragraph
(1) shall be made available to the public on the website of the Department of Transportation.
(3) PERIODIC UPDATES.—The Secretary shall periodically update the survey under this subsection.

DIVISION C—TRANSPORTATION SAFETY AND SURFACE TRANSPORTATION POLICY
TITLE I—MOTOR VEHICLE AND HIGHWAY SAFETY IMPROVEMENT ACT OF 2012

Subtitle H—Safe Highways and Infrastructure Preservation
SEC. 32801. COMPREHENSIVE TRUCK SIZE AND WEIGHT LIMITS STUDY.
(a) TRUCK SIZE AND WEIGHT LIMITS STUDY.—Not later than 45 days after the date of enactment of this Act, the Secretary, in consultation with each relevant State and other applicable Federal agencies, shall commence a comprehensive truck size and weight limits study. The study shall—
(1) provide data on accident frequency and evaluate factors related to accident risk of vehicles that operate with size and weight limits that are in excess of the Federal law and regulations in each State that allows vehicles to operate with size and weight limits that are in excess of the Federal law and regulations, or to operate under a Federal exemption or grandfather right, in comparison to vehicles that do not operate in excess of Federal law and regulations (other than vehicles with exemptions or grandfather rights);

(2) evaluate the impacts to the infrastructure in each State that allows a vehicle to operate with size and weight limits that are in excess of the Federal law and regulations, or to operate under a Federal exemption or grandfather right, in comparison to vehicles that do not operate in excess of Federal law and regulations (other than vehicles with exemptions or grandfather rights), including—
(A) the cost and benefits of the impacts in dollars;
(B) the percentage of trucks operating in excess of the Federal size and weight limits; and
(C) the ability of each State to recover the cost for the impacts, or the benefits incurred;
(3) evaluate the frequency of violations in excess of the Federal size and weight law and regulations, the cost of the enforcement of the law and regulations, and the effectiveness of the enforcement methods;
(4) assess the impacts that vehicles that operate with size and weight limits in excess of the Federal law and regulations, or that operate under a Federal exemption or grandfather right, in comparison to vehicles that do not operate in excess of Federal law and regulations (other than vehicles with exemptions or grandfather rights), have on bridges, including the impacts resulting from the number of bridge loadings;
(5) compare and contrast the potential safety and infrastructure impacts of the current Federal law and regulations regarding truck size and weight limits in relation to—
(A) six-axle and other alternative configurations of tractor-trailers; and
(B) where available, safety records of foreign nations with truck size and weight limits and tractor-trailer configurations that differ from the Federal law and regulations; and
(6) estimate—
(A) the extent to which freight would likely be diverted from other surface transportation modes to principal arterial routes and National Highway System intermodal connectors if alternative truck configuration is allowed to operate and the effect that any such diversion would have on other modes of transportation;
(B) the effect that any such diversion would have on public safety, infrastructure, cost responsibilities, fuel efficiency, freight transportation costs, and the environment;
(C) the effect on the transportation network of the United States that allowing alternative truck configuration to operate would have; and
(D) whether allowing alternative truck configuration to operate would result in an increase or decrease in the total number of trucks operating on principal arterial routes and National Highway System intermodal connectors; and
(7) identify all Federal rules and regulations impacted by changes in truck size and weight limits.
(b) REPORT.—Not later than 2 years after the date that the study is commenced under subsection (a), the Secretary shall submit a final report on the study, including all findings and recommendations, to the Committee on Commerce, Science, and Transportation and the Committee on Environment and Public Works of the Senate and the Committee on Transportation and Infrastructure of the House of Representatives.

SEC. 32802. COMPILATION OF EXISTING STATE TRUCK SIZE AND WEIGHT LIMIT LAWS.
(a) IN GENERAL.—Not later than 90 days after the date of enactment of this Act, the Secretary, in consultation with the States, shall begin to compile—
(1) a list for each State, as applicable, that describes each route of the National Highway System that allows a vehicle to operate in excess of the Federal truck size and weight limits that—
(A) was authorized under State law on or before the date of enactment of this Act; and
(B) was in actual and lawful operation on a regular or periodic basis (including seasonal operations) on or before the date of enactment of this Act;
(2) a list for each State, as applicable, that describes—
(A) the size and weight limitations applicable to each segment of the National Highway System in that State as listed under paragraph (1);

(B) each combination that exceeds the Interstate weight limit, but that the Department of Transportation, other Federal agency, or a State agency has determined on or before the date of enactment of this Act, could be or could have been lawfully operated in the State; and
(C) each combination that exceeds the Interstate weight limit, but that the Secretary determines could have been lawfully operated on a non-Interstate segment of the National Highway System in the State on or before the date of enactment of this Act; and
(3) a list of each State law that designates or allows designation of size and weight limitations in excess of Federal law and regulations on routes of the National Highway System, including nondivisible loads.
(b) SPECIFICATIONS.—The Secretary, in consultation with the States, shall specify whether the determinations under paragraphs (1) and (2) of subsection (a) were made by the Department of Transportation, other Federal agency, or a State agency.
(c) REPORT.—Not later than 2 years after the date of enactment of this Act, the Secretary shall submit a final report of the compilation under subsection (a) to the Committee on Commerce, Science, and Transportation and the Committee on Environment and Public Works of the Senate and the Committee on Transportation and Infrastructure of the House of Representatives.

This page is intentionally blank.

APPENDIX H-1-2: U.S. CODE OF FEDERAL REGULATIONS

TITLE 23—HIGHWAYS

§ 111. Agreements relating to use of and access to rights-of-way—Interstate System

(a) In General.— All agreements between the Secretary and the State transportation department for the construction of projects on the Interstate System shall contain a clause providing that the State will not add any points of access to, or exit from, the project in addition to those approved by the Secretary in the plans for such project, without the prior approval of the Secretary. Such agreements shall also contain a clause providing that the State will not permit automotive service stations or other commercial establishments for serving motor vehicle users to be constructed or located on the rights-of-way of the Interstate System. Such agreements may, however, authorize a State or political subdivision thereof to use or permit the use of the airspace above and below the established grade line of the highway pavement for such purposes as will not impair the full use and safety of the highway, as will not require or permit vehicular access to such space directly from such established grade line of the highway, or otherwise interfere in any way with the free flow of traffic on the Interstate System. Nothing in this section, or in any agreement entered into under this section, shall require the discontinuance, obstruction, or removal of any establishment for serving motor vehicle users on any highway which has been, or is hereafter, designated as a highway or route on the Interstate System

(1) if such establishment

(A) was in existence before January 1, 1960,

(B) is owned by a State, and

(C) is operated through concessionaries or otherwise, and

(2) if all access to, and exits from, such establishment conform to the standards established for such a highway under this title.

(b) Vending Machines.— Notwithstanding subsection (a), any State may permit the placement of vending machines in rest and recreation areas, and in safety rest areas, constructed or located on rights-of-way of the Interstate System in such State. Such vending machines may only dispense such food, drink, and other articles as the State transportation department determines are appropriate and desirable. Such vending machines may only be operated by the State. In permitting the placement of vending machines, the State shall give priority to vending machines which are operated through the State licensing agency designated pursuant to section 2(a)(5) of the Act of June 20, 1936, commonly known as the "Randolph-Sheppard Act" (20 U.S.C. 107a (a)(5)). The costs of installation, operation, and maintenance of vending machines shall not be eligible for Federal assistance under this title.

(c) Motorist Call Boxes.—

(1) In general.— Notwithstanding subsection (a), a State may permit the placement of motorist call boxes on rights-of-way of the National Highway System. Such motorist call boxes may include the identification and sponsorship logos of such call boxes.

(2) Sponsorship logos.—

(A) Approval by state and local agencies.— All call box installations displaying sponsorship logos under this subsection shall be approved by the highway agencies having jurisdiction of the highway on which they are located.

(B) Size on box.— A sponsorship logo may be placed on the call box in a dimension not to exceed the size of the call box or a total dimension in excess of 12 inches by 18 inches.

(C) Size on identification sign.— Sponsorship logos in a dimension not to exceed 12 inches by 30 inches may be displayed on a call box identification sign affixed to the call box post.
(D) Spacing of signs.— Sponsorship logos affixed to an identification sign on a call box post may be located on the rights-of-way at intervals not more frequently than 1 per every 5 miles.
(E) Distribution throughout state.— Within a State, at least 20 percent of the call boxes displaying sponsorship logos shall be located on highways outside of urbanized areas with a population greater than 50,000.
(3) Nonsafety hazards.— The call boxes and their location, posts, foundations, and mountings shall be consistent with requirements of the Manual on Uniform Traffic Control Devices or any requirements deemed necessary by the Secretary to assure that the call boxes shall not be a safety hazard to motorists.

APPENDIX H-2-1: ASSEMBLY BILL 14 – STATUTORY AUTHORITY FOR FREIGHT PLANNING

CHAPTER 223

State Freight Plan

Approved by Governor - September 06, 2013.
Filed with Secretary of State - September 06, 2013.]

Section 13978.8 is added to the Government Code, to read:

13978.8.

(a) The Transportation Agency shall prepare a state freight plan. The state freight plan shall comply with the relevant provisions of the federal Moving Ahead for Progress in the 21st Century Act (MAP-21), Public Law 112-141. The agency shall develop a state freight plan that provides a comprehensive plan to govern the immediate and long-range planning activities and capital investments of the state with respect to the movement of freight.

(b) (1) The agency shall establish a freight advisory committee consisting of a representative cross section of public and private sector freight stakeholders, including representatives of ports, shippers, carriers, freight-related associations, the freight industry workforce, the California Transportation Commission, the Department of Transportation, the Public Utilities Commission, the State Lands Commission, the State Air Resources Board, regional and local governments, and environmental, safety, and community organizations.

(2) The freight advisory committee shall do all of the following:

(A) Advise the agency on freight-related priorities, issues, projects, and funding needs.

(B) Serve as a forum for discussion for state transportation decisions affecting freight mobility.

(C) Communicate and coordinate regional priorities with other organizations.

(D) Promote the sharing of information between the private and public sectors on freight issues.

(E) Participate in the development of the state freight plan.

(c) The state freight plan shall include, at a minimum, all of the following:

(1) An identification of significant freight system trends, needs, and issues.

(2) A description of the freight policies, strategies, and performance measures that will guide freight-related transportation investment decisions.

(3) A description of how the state freight plan will improve the ability of California to meet the national freight goals established under Section 167 of Title 23 of the United States Code.

(4) Evidence of consideration of innovative technologies and operational strategies, including intelligent transportation systems, that improve the safety and efficiency of freight movement.

(5) In the case of routes on which travel by heavy vehicles, including mining, agricultural, energy cargo or equipment, and timber vehicles, is projected to substantially deteriorate the condition of roadways, a description of improvements that may be required to reduce or impede the deterioration.
(6) An inventory of facilities with freight mobility issues, such as truck bottlenecks within California, and a description of the strategies California is employing to address those freight mobility issues.
(d) Notwithstanding Section 10231.5, the state freight plan shall be submitted to the Legislature, the Governor, the California Transportation Commission, the Public Utilities Commission, and the State Air Resources Board on or before December 31, 2014, and every five years thereafter. The state freight plan shall be submitted pursuant to Section 9795.
(e) The state freight plan required by this section may be developed separately from, or incorporated into, the statewide strategic long-range transportation plan required by Section 135 of Title 23 of the United States Code.
(f) The freight element of the state freight plan may be developed separately from, or incorporated into, the state rail plan prepared by the Department of Transportation pursuant to Section 14036.

APPENDIX H-2-2: SENATE BILL 391

CHAPTER 585
An act to amend Sections 65072 and 65073 of, and to add Sections
14000.6, 65071, 65072.1, and 65072.2 to, the Government Code, relating to transportation planning.
[Approved by Governor October 11, 2009. Filed with Secretary of State October 11, 2009.]

SB 391, Liu. California Transportation Plan.
Existing law requires various transportation planning activities by state and regional agencies, including preparation of sustainable communities strategies by metropolitan planning organizations. Existing law provides for the Department of Transportation to prepare the California Transportation Plan for submission to the Governor by December 1, 1993, as a long-range planning document that incorporates various elements and is consistent with specified expressions of legislative intent. This bill would require the department to update the California Transportation Plan by December 31, 2015, and every 5 years thereafter. The bill would require the plan to address how the state will achieve maximum feasible emissions reductions in order to attain a statewide reduction of greenhouse gas emissions to 1990 levels by 2020 and 80% below 1990 levels by 2050. The bill would require the plan to identify the statewide integrated multimodal transportation system needed to achieve these results. The bill would require the department, by December 31, 2012, to submit to the California Transportation Commission and specified legislative committee chairs an interim report providing specified information regarding sustainable communities strategies and alternative planning strategies, including an assessment of how their implementation will influence the configuration of the statewide integrated multimodal transportation system. The bill would also specify certain subject areas to be considered in the plan for the movement of people and freight. The bill would require the department to consult with and coordinate its planning activities with specified entities and to provide an opportunity for public input. The bill would make additional legislative findings and declarations and require the plan to be consistent with that statement of legislative intent.

The people of the State of California do enact as follows:
SECTION 1. Section 14000.6 is added to the Government Code, to read:
14000.6. The Legislature further finds and declares all of the following:

(a) California has established statewide greenhouse gas emissions targets and requirements to be achieved by 2020 pursuant to the California Global Warming Solutions Act of 2006 (Division 25.5 (commencing with Section 38500) of the Health and Safety Code), which are equivalent to 1990 greenhouse gas emissions in the state. These targets and requirements entail approximately a 25-percent reduction in greenhouse gas emissions from current levels.
(b) Executive Order S-3-05 further identifies a greenhouse gas emissions limit of 80 percent below 1990 levels to be achieved by 2050.
(c) Emissions from the transportation sector account for 38 percent of California's greenhouse gas emissions.
(d) The state lacks a comprehensive, statewide, multimodal planning process that details the transportation system needed in the state to meet objectives of mobility and congestion management consistent with the state's greenhouse gas emission limits and air pollution standards.
(e) Recent increases in gasoline prices resulted in historic increases in ridership on public transportation, including transit, commuter rail, and intercity rail, and in historic reductions in vehicle miles traveled by

private vehicles. Increased demand for public transportation included a 16-percent increase in light rail ridership in Sacramento, a 15.3-percent increase in rail transit ridership in Los Angeles, a 23-percent increase in bus ridership in Orange County, a 14.4-percent increase in transit ridership in San Diego, a 6.3-percent increase in rail transit ridership in Oakland, and a 22.5-percent increase in transit ridership in Stockton. Current public transportation services and facilities are inadequate to meet current and expected future increases in demand.

SEC. 2. Section 65071 is added to the Government Code, to read:
65071. The department shall update the California Transportation Plan consistent with this chapter. The first update shall be completed by December 31, 2015. The plan shall be updated every five years thereafter.
SEC. 3. Section 65072 of the Government Code is amended to read:
65072. The California Transportation Plan shall include all of the following:
(a) A policy element that describes the state's transportation policies and system performance objectives. These policies and objectives shall be consistent with legislative intent described in Sections 14000, 14000.5, 14000.6, and 65088.
(b) A strategies element that shall incorporate the broad system concepts and strategies synthesized from the adopted regional transportation plans prepared pursuant to Section 65080. The California Transportation Plan shall not be project specific.
(c) A recommendations element that includes economic forecasts and recommendations to the Legislature and the Governor to achieve the plan's broad system concepts, strategies, and performance objectives.
SEC. 4. Section 65072.1 is added to the Government Code, to read:
65072.1. The California Transportation Plan shall consider all of the following subject areas for the movement of people and freight:

Ch. 585 — 2 —
(a) Mobility and accessibility.
(b) Integration and connectivity.
(c) Efficient system management and operation.
(d) Existing system preservation.
(e) Safety and security.
(f) Economic development, including productivity and efficiency.
(g) Environmental protection and quality of life.
SEC. 5. Section 65072.2 is added to the Government Code, to read:
65072.2. In developing the California Transportation Plan pursuant to Sections 65072 and 65072.1, the department shall address how the state will achieve maximum feasible emissions reductions in order to attain a statewide reduction of greenhouse gas emissions to 1990 levels by 2020 as required by the California Global Warming Solutions Act of 2006 (Division 25.5 (commencing with Section 38500) of the Health and Safety Code), and 80 percent below 1990 levels by 2050, taking into consideration the use of alternative fuels, new vehicle technology, tailpipe emissions reductions, and expansion of public transit, commuter rail, intercity rail, bicycling, and walking. The plan shall identify the statewide integrated multimodal transportation system needed to achieve these results. The department shall complete an interim report by December 31, 2012, which shall include a list and provide an overview of all sustainable communities strategies and alternative planning strategies prepared pursuant to paragraph (2) of subdivision (b) of Section 65080, and shall assess how implementation of the sustainable communities strategies and alternative planning strategies will influence the configuration of the statewide integrated multimodal transportation system. The department shall submit the interim report

to the California Transportation Commission and to the Chairs of the Senate Committee on Transportation and Housing, the Senate Committee on Environmental Quality, the Senate Committee on Local Government, the Assembly Committee on Transportation, the Assembly Committee on Natural Resources, and the Assembly Committee on Local Government.

SEC. 6. Section 65073 of the Government Code is amended to read:

65073. The department shall consult with, coordinate its activities with, and make a draft of its proposed plan, and each update, available to the California Transportation Commission, the Strategic Growth Council, the State Air Resources Board, the State Energy Resources Conservation and Development Commission, the air quality management districts, public transit operators, and the regional transportation planning agencies for review and comment. The department shall also provide an opportunity for input by the general public. Prior to adopting the plan or update, the department shall make a final draft available to the Legislature and Governor for review and comment. The commission may present the results of its review and comment to the Legislature and the Governor. The Governor shall adopt the plan and submit the plan to the Legislature and the Secretary of the United States Department of Transportation.

This page is intentionally blank.

APPENDIX H-2-3: SENATE BILL 1228

Senate Bill No. 1228

CHAPTER 787
An act to add Chapter 4.8 (commencing with Section 2192) to Division 3 of the Streets and Highways Code, relating to transportation.
[Approved by Governor September 29, 2014. Filed with Secretary of State September 29, 2014.]

SB 1228, Hueso. Trade Corridors Improvement Fund.
Existing law, the Highway Safety, Traffic Reduction, Air Quality, and Port Security Bond Act of 2006, approved by the voters as Proposition 1B at the November 7, 2006, statewide general election, provides for transfer of $2 billion of bond proceeds to the Trade Corridors Improvement Fund, created by the bond act, for infrastructure improvements along federally designated Trade Corridors of National Significance, to be allocated by the California Transportation Commission to eligible projects, as specified.

This bill would continue the Trade Corridors Improvement Fund in existence for the purpose of receipt and expenditure of revenues from sources other than the bond act. The bill would provide for allocation of these revenues, upon appropriation, by the California Transportation Commission for largely similar purposes as the bond act funds, but would specifically reference, as eligible projects, infrastructure improvements that benefit the state's land ports of entry, seaports, and airports. The bill would require the commission to consult specified plans and a specified strategy in determining the projects eligible for funding and to allocate moneys from the fund consistent with a provision of the bond act and specified fund guidelines adopted by the commission.

The bill, to the extent moneys are transferred to the Trade Corridors Improvement Fund from the Greenhouse Gas Reduction Fund, would require projects funded with those moneys to be subject to all of the requirements of existing law applicable to the expenditure of moneys appropriated from the Greenhouse Gas Reduction Fund, including, among other things, furthering the regulatory purposes of the California Global Warming Solutions Act of 2006.

The people of the State of California do enact as follows:
SECTION 1.
The Legislature finds and declares that international trade in California is an increasingly important component of the state's $2 trillion economy. In 2013, California exported $168 billion in products, an increase of more than 4 percent over the amount exported in 2012. California has five major land ports of entry, yielding $535.9 billion in economic activity in 2012. California is also home to 11 seaports on over 1,000 miles of coastline. Seaports generate billions of dollars in economic activity and millions of jobs. Land ports of entry and seaports create busy borders and harbors with heavy industrial commerce. It is imperative that safety issues and pollution generated by trade are mitigated in order to reduce those impacts and to allow additional growth in international trade.

SECTION 2.
Chapter 4.8 (commencing with Section 2192) is added to Division 3 of the Streets and Highways Code, to read:

CHAPTER 4.8. Trade Corridors Improvement Fund

2192.

(a) The Trade Corridors Improvement Fund, created pursuant to subdivision (c) of Section 8879.23 of the Government Code, is hereby continued in existence to receive revenues from sources other than the Highway Safety, Traffic Reduction, Air Quality, and Port Security Bond Act of 2006. This chapter shall govern expenditure of those other revenues.

(b) The moneys in the fund from those other sources shall be available upon appropriation for allocation by the California Transportation Commission for infrastructure improvements in this state on federally designated Trade Corridors of National and Regional Significance, on the Primary Freight Network, and along other corridors that have a high volume of freight movement, as determined by the commission. In determining the projects eligible for funding, the commission shall consult the state Transportation Agency's state freight plan as described in Section 13978.8 of the Government Code, the State Air Resources Board's Sustainable Freight Strategy adopted by Resolution 14-2, and the trade infrastructure and goods movement plan submitted to the commission by the Secretary of Transportation and the Secretary of Environmental Protection Agency. The commission shall also consult trade infrastructure and goods movement plans adopted by regional transportation planning agencies, adopted regional transportation plans required by state and federal law, and the statewide port master plan prepared by the California Marine and Intermodal Transportation System Advisory Council (Cal-MITSAC) pursuant to Section 1730 of the Harbors and Navigation Code, when determining eligible projects for funding. Eligible projects for these funds include, but are not limited to, all of the following:

(1) Highway capacity improvements and operational improvements to more efficiently accommodate the movement of freight, particularly for ingress and egress to and from the state's land ports of entry and seaports, including navigable inland waterways used to transport freight between seaports, land ports of entry, and airports, and to relieve traffic congestion along major trade or goods movement corridors.

(2) Freight rail system improvements to enhance the ability to move goods from seaports, land ports of entry, and airports to warehousing and distribution centers throughout California, including projects that separate rail lines from highway or local road traffic, improve freight rail mobility through mountainous regions, relocate rail switching yards, and other projects that improve the efficiency and capacity of the rail freight system.

(3) Projects to enhance the capacity and efficiency of ports.

(4) Truck corridor improvements, including dedicated truck facilities or truck toll facilities.

(5) Border access improvements that enhance goods movement between California and Mexico and that maximize the state's ability to access coordinated border infrastructure funds made available to the state by federal law.

(6) Surface transportation and connector road improvements to effectively facilitate the movement of goods, particularly for ingress and egress to and from the state's land ports of entry, airports, and seaports, to relieve traffic congestion along major trade or goods movement corridors.

(c) (1) The commission shall allocate funds for trade infrastructure improvements from the fund consistent with Section 8879.52 of the Government Code and the Trade Corridors Improvement Fund (TCIF) Guidelines adopted by the commission on November 27, 2007, or as amended by the commission, and in a manner that (A) addresses the state's most urgent needs, (B) balances the demands of various

land ports of entry, seaports, and airports, (C) provides reasonable geographic balance between the state's regions, and (D) places emphasis on projects that improve trade corridor mobility while reducing emissions of diesel particulate and other pollutant emissions.

(2) In addition, the commission shall also consider the following factors when allocating these funds:

(A) "Velocity," which means the speed by which large cargo would travel from the land port of entry or seaport through the distribution system.

(B) "Throughput," which means the volume of cargo that would move from the land port of entry or seaport through the distribution system.

(C) "Reliability," which means a reasonably consistent and predictable amount of time for cargo to travel from one point to another on any given day or at any given time in California.

(D) "Congestion reduction," which means the reduction in recurrent daily hours of delay to be achieved.

2192.1.
(a) To the extent moneys from the Greenhouse Gas Reduction Fund, attributable to the auction or sale of allowances as part of a market-based compliance mechanism relative to reduction of greenhouse gas emissions, are transferred to the Trade Corridors Improvement Fund, projects funded with those moneys shall be subject to all of the requirements of existing law applicable to the expenditure of moneys appropriated from the Greenhouse Gas Reduction Fund, including, but not limited to, both of the following:

(1) Projects shall further the regulatory purposes of the California Global Warming Solutions Act of 2006 (Division 25.5 (commencing with Section 38500) of the Health and Safety Code), including reducing emissions from greenhouse gases in the state, directing public and private investment toward disadvantaged communities, increasing the diversity of energy sources, or creating opportunities for businesses, public agencies, nonprofits, and other community institutions to participate in and benefit from statewide efforts to reduce emissions of greenhouse gases.

(2) Projects shall be consistent with the guidance developed by the State Air Resources Board pursuant to Section 39715 of the Health and Safety Code.

(b) All allocations of funds made by the commission pursuant to this section shall be made in a manner consistent with the criteria expressed in Section 39712 of the Health and Safety Code and with the investment plan developed by the Department of Finance pursuant to Section 39716 of the Health and Safety Code.

2192.2.
The commission shall allocate funds made available by this chapter to projects that have identified and committed supplemental funding from appropriate local, federal, or private sources. The commission shall determine the appropriate amount of supplemental funding each project should have to be eligible for moneys from the fund based on a project-by-project review and an assessment of the project's benefit to the state and the program. Except for border access improvements described in paragraph (5) of subdivision (b) of Section 2192, improvements funded with moneys from the fund shall have supplemental funding that is at least equal to the amount of the contribution from the fund. The commission may give priority for funding to projects with higher levels of committed supplemental funding.

2192.3.
The commission shall include in its annual report to the Legislature, required by Section 14535 of the Government Code, a summary of its activities related to the administration of this chapter. The summary shall, at a minimum, include a description and the location of the projects contained in the program funded by the fund, the amount of funds allocated to each project, the status of each project, and a description of the mobility and air quality improvements the program is achieving.

APPENDIX I: FREIGHT TREND ANALYSIS

I-1: Freight Trend Analysis Introduction

I-2: Farm-to-Market

I-3: California's Central Valley Profile

I-4: Cross-border Issues

I-5: Freight and Sustainability

I-6: Public-Private Partnerships (P3s) in Freight

I-7: Chicago Regional Environmental and Transportation Efficiency Program (CREATE)

I-8: Highway and Rail Intelligent Transportation Systems (ITS)

I-9: Last Mile Delivery/Pick-up Issues

I-10: Postponement

I-11: Air Cargo

I-12: Panama Canal Expansion

I-13: Nicaraguan Inter-Oceanic Canal

I-14: Inland Ports

I-15: Niche Ports and Bulk Commodities

I-16: Vessel Size and Impact on Ports

I-17: Chassis Management

I-18: Private Railroads and Public Agency Challenges

I-19: Railroad Abandonment and Preservation - State Ownership Strategies

I-20: Railroad Safety and Security Trends

I-21: Regional and Short Line Railroads

I-22: Railroad Perspectives on Shared Use

I-23: 3D Printing and Production

This page is intentionally blank.

APPENDIX I-1:
FREIGHT TREND ANALYSIS INTRODUCTION

In preparation for an update of the California Goods Movement Action Plan (GMAP) which was adopted in two phases in 2005 and 2007, Caltrans contracted with the California State University, Long Beach (CSULB) Center for International Trade and Transportation (CITT) to provide project scoping assistance related to the California Freight Mobility Plan (CFMP). The purpose of the scoping study contract was for METRANS, a collaboration of CITT and the University of Southern California, to assist the Caltrans Freight Planning Branch in conducting advance planning such as assembling up-to-date information on key goods movement related trends, gathering stakeholder input and mapping out recommended approaches for the CFMP.

This section provides an overview of key trends, both current and emerging, in goods movement and assesses how these trends may affect demand for freight mobility infrastructure in California as well as the freight planning process. The initial scope of work included a list of 18 potential broad areas for analysis which were then further refined; however, METRANS completed 19. The topics were selected, in part, based on requests for briefings made to the Caltrans Freight Planning Branch by key agency stakeholders. In addition, the Freight Branch of the Office of Freight Planning (OFP) completed three additional trend analyses and is indicated in the list below.

Trend Analysis List

- Farm-to-Market
- California's Central Valley Profile
- Cross-border Issues
- Freight and Sustainability
- Public-Private Partnerships (P3s) in Freight
- Chicago Region Environmental and Transportation Efficiency Program (CREATE)
- Highway and Rail Intelligent Transportation Systems (ITS)
- Last-Mile Delivery/Pick-up Issues
- Postponement
- Air Cargo
- Panama Canal Expansion
- Nicaraguan Inter Ocean Canal (Caltrans)
- Inland Ports
- Niche Port and Bulk Commodities
- Vessel Size and Impact on Ports
- Chassis Management
- Private Railroads and Public Agency Challenges
- Rail Abandonment and Preservation – State Ownership Strategies
- Railroad Safety and Security
- Regional and Short Line Railroads
- Railroad Perspectives on Shared Use
- 3D Printing and Production (Caltrans)

Trend papers contain a trend statement, background on the issue, freight system implications, planning considerations, sources and resources for additional information. They are designed to:

1. Provide a concise overview of the key trends, emerging issues, and background context that Caltrans should consider as the agency prepares the California Freight Mobility Plan and determines the State's role in improving the economy through improvements in the California freight mobility infrastructure.
2. Be used as stand-alone briefing papers for key stakeholders that do not have technical or deep policy knowledge of goods movement and freight mobility at the national, state and regional level.
3. Focus on those areas where Caltrans has a clearly defined role, e.g., in rail and highway planning but not in port operations.

The trend sheets contained in this appendix and are also posted on the Caltrans Freight Mobility Plan website: http://www.dot.ca.gov/hq/tpp/offices/ogm/

APPENDIX I-2: TREND ANALYSIS – FARM-TO-MARKET

Trend Statement

California's agricultural supply chain is a major user of the transportation system network. The State produces nearly one-half of United States (U.S.) grown fruits, nuts, and vegetables and also is a major producer of livestock and livestock products. Farm-to-market goods movement is hampered by a variety of factors[1]. Small, rural roads in California have not been designed to support large trucks, population centers are disconnected from each other and from other regions where the main agricultural production occurs and short-haul rail services are disappearing[2]. Together, these challenge the success of transporting farm goods to market.

Background

The seeds of the farm-to-market road system were planted in the early 1930s when the U.S. Bureau of Public Roads called on America to "get the farmer out of the mud," a slogan that led to a greatly improved and expanded system of paved rural roads. Most often crop production is located near transportation facilities. Therefore, it is imperative that all arterials and major arteries carrying goods to and from crop production locations and the last-mile roads are maintained to support the efficient delivery and shipment of commodities.

The San Joaquin Valley (SJV) is the main contributor to agricultural production in the state and is the main focus of the limited research on farm-to-market goods movement within California. The San Joaquin Valley, also known as the Central Valley (CV), produces a very large share of California's exports, especially agricultural products. Beyond the Central Valley, the eastern Sierras, Sacramento Valley, Imperial Valley (east of San Diego County), and the Central Coast also contribute to farm-to-market goods movements. In the Central Valley, goods movement is a significant contributor to poor air and water quality. Increased local growth will create a demand for more goods movement, increase congestion and hasten the degradation of the roadways in the SJV.[3]

In the Sacramento Valley, most of the agricultural production takes place in the Northern Sacramento Valley and, in fact, agriculture is the primary source of economic vitality for most Northern Sacramento Valley counties. Sacramento Valley's agricultural is similar to the San Joaquin Valley. Almonds and walnuts are of greater importance north of the Delta, and rice, which is not practicable in the drier San Joaquin Valley, is a major crop. The town of Corning, also known as the Olive City, produces olives for oil extraction and for consumer consumption. It is also home to the Bell Carter Olive Company, which is the world's largest ripe olive cannery. Sunsweet Growers Incorporated is headquartered in Yuba City. It is a growers' cooperative and the world's largest handler of dried tree fruits including cranberries, apricots, and prunes."[4] The Sacramento Valley controls more than two-thirds of the worldwide prune market with over 400 growers in California.

[1] It should be noted that a very significant limitation is the lack of research and dedicated study devoted to farm-to-market goods movements.
[2] See Trend Analysis: Railroad Abandonment and Preservation – State Ownership Strategies for more information.
[3] http://www.sjvcogs.org/pdfs/2012/2012-03-26%20draft%20Task%20six%20draft.pdf
[4] http://www.sunsweet.com/about/index.asp

In Imperial Valley, local farmers produce more than 100 different commodities, including bamboo, sugar cane, flax, corn, artichokes, fish, goats, honey, cilantro, water lilies and more. Imperial Valley agriculture production in 2011 generated an estimated $1,175,000,000 in personal income for California families, and an estimated $5.3 billion in total economic impact.

The Central Coast region, a five-county region (Santa Cruz, San Benito, Monterey, San Luis Obispo, and Santa Barbara) is a major producer of broccoli, lettuce and strawberries. Wine grapes and nursery products are also important agricultural products. The majority of the major crop production locations are clustered near U.S. 101 – particularly in the Salinas Valley. Other major clusters are located around Santa Maria, and east of Paso Robles near State Route (SR) 46.

The Staggers Rail Act (1980) which deregulated the rail industry has allowed rail road companies to disinvest in less profitable, inefficient railroads and consolidate railroads resulting in agricultural commodities being more dependent on trucking.

- The U.S. Department of Agriculture (USDA) claims that "*it increasingly appears as if the real challenges facing farmers in the future will not be in producing crops for domestic and export markets – U.S. farmers are the world's most productive. Instead, the real challenge for U.S. agriculture will be whether the transportation services and infrastructure will exist to market what is produced effectively."*[5]

As a result, trucking is a critical mode for the first, last and sometimes "in-between" miles. Trucking generally provides the last link in the transportation chain, carrying all types of commodities from intermediate destinations, such as seaports, rail terminals and distribution facilities to their final destinations. It also means that there is a need for improved truck parking facilities, both for long haul truckers and near coolers.

To date, comprehensive studies focused on farm-to-market issues are limited and are focused on the Central Valley with the exception of SR 395 in the eastern Sierras and on goods movement-related border crossings in Imperial County.

Freight System Implications

Farm-to-market goods movement activities are limited by inadequate infrastructure, congestion and disconnected population centers. Roadways in most agricultural regions are not designed to accommodate large trucks. These lower quality roads decrease the efficiency of all types of goods movement because they are too narrow for consistently safe passage, exhibit high levels of disrepair (slowing vehicular movement) and often do not allow for passing (slow trucks therefore create congestion easily). According to the San Joaquin Interregional Goods Movement Plan (August, 2013), "Both [population growth and increased mean incomes] will contribute to greater freight demand [and] higher volumes of freight vying for space on the region's system." Cambridge Systematics Inc. calculates that "roughly 85 percent of this tonnage…is anticipated to be carried by truck" (2012). This growth in population and freight tonnage will likely translate into ever-increasing congestion on the

[5] U.S. Department of Agriculture. *Agricultural Transportation Challenges for the 21st Century: A Framework for Discussion. (*USDA: Transportation and Marketing Programs, and Agricultural Marketing Service, 2000. Available at http://www.ams.usda.gov/tmd/summit/contents.htm

roadways and continued degradation of farm-to-market goods movement activities if there is not significant transportation infrastructure interventions.

Agencies in the Central Valley are attempting to address these issues through the San Joaquin Valley Interregional Goods Movement Plan (August 2013) which covers the following topics:

- In depth analysis of existing conditions as they relate to freight
- Analysis of the importance freight plays in the valley economy
- Ongoing stakeholder outreach activities
- Goods movement data reporting – including in-depth reports for specific key valley industries
- Analysis of growth in freight demand
- Evaluation of community environmental and economic freight impacts
- Identification of policy and project interventions
- A list of funding sources available

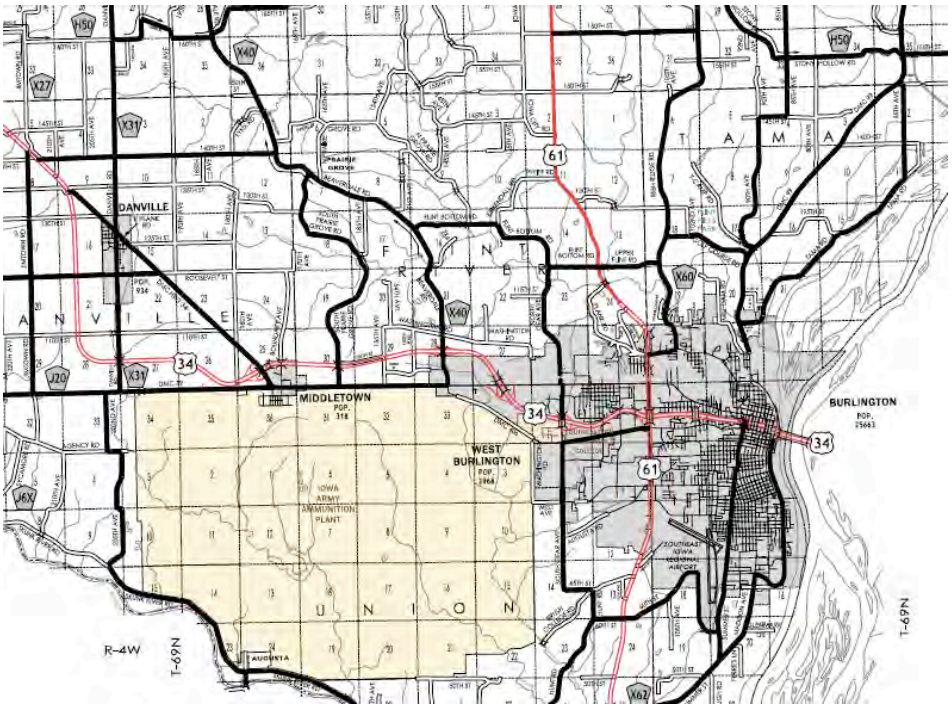
Planning Considerations

Much of the current effort to improve conditions in the San Joaquin Valley relate to transportation infrastructure and goods movement activities and planning (see the resources section for links to planning documents/initiatives). Beyond California, other states are creating their own networks of farm-to-market roadways for rural regions. Texas, Iowa and Missouri all have examples of such infrastructure (Figure 1). In Texas, there are 40,985 miles of farm-to-market roadways[6]. These road networks are designed to directly connect agriculturally productive regions with population centers so that produce can be delivered to consumers efficiently.

When creating a farm-to-market network, states must consider designing and modifying roadways to accommodate trucks that meet Surface Transportation Assistance Act (STAA) standards although funding is not always available for these kinds of upgrades. As stated by the Transportation Research Board (TRB), "these roads are the first links in the transportation network that bring products of farm to market, minerals and timber from remote areas to processing plants, and provide access to schools and medical facilities in rural areas"[7] and their importance should be recognized. Larger trucks that traverse small rural road networks cause significant damage to the infrastructure and increase the potential for conflicts with passenger vehicles. States and the federal government should also consider the seasonality of agricultural commodities because the harvest period varies by agricultural product and so need and capacity should be designed and built to meet the ebb and flow of harvest seasons. Alternatives to trucking, such as short haul railroads[8] have the potential to provide consistent links between producers and consumers but have met with limited success[9]

[6] http://www.aaroads.com/texas/
[7] TRB, TRB Low-Volume Roads Literature. http://www.trb.org/lowvolumeroadsconference/lvr10literature.aspx
[8] Defined here as freight rail service that provides inter-regional goods movement services.
[9] For more information see The California Inter-Regional Intermodal System (CIRIS) Plan and the Northern California Inland Port/Short Haul Rail Project Plan.

Figure 1: Farm-To-Market Roads - Iowa



Dark black lines delineate farm-to-market roads that lead into Des Moines, Iowa.

Source: http://www.iowadot.gov/systems_planning/farm2Market.html

Resources

Bedsworth, Louise Wells. (2004). Clearing the Air in the San Joaquin Valley: Developing an Action Plan for Regulators, Legislators and the Public. Union of Concerned Scientists. Retrieved on June 13, 2012. Available at: http://www.ucsusa.org/assets/documents/clean_vehicles/central_valley_final-new.pdf

Cambridge Systematics, Inc. (2012a). San Joaquin Valley Interregional Goods Movement Plan: DRAFT Task 6: The Community, Environmental, and Economic Impacts of Freight Movement. Retrieved May 29, 2012. Available at: http://www.sjvcogs.org/pdfs/2012/2012-03-26%20draft%20Task%20six%20draft.pdf

Cambridge Systematics, Inc. (2012b). San Joaquin Valley Interregional Goods Movement Plan: Goods Movement Issues. Retrieved May 29, 2012. Available at: http://www.sjvcogs.org/pdfs/2012/2012-04-02%20PP%20gm%20issues.pdf

Farm-to-Market Road Systems: http://www.sacog.org/rucs/wiki/index.php/Goods_Movement_in_Rural_Areas#Farm-to-Market_Road_Systems

Groundswell SJV: http://groundswellsjv.org.

Iowa Farm-To-Market Roads: http://www.iowadot.gov/systems_planning/farm2Market.html

San Joaquin Valley Interregional Goods Movement Plan: http://www.sjvcogs.org/goods.html

Northern California's Inland Port/Short Haul Rail Project Plan: http://www.crowsbizpark.biz/Northern%20California%20Inland%20Port%20Short%20Haul%20Rail%20Project%20-%20TCIF%20Application%20%282%29.pdf

Smart Valley Places: http://www.smartvalleyplace.org

STAA Truck Routes: http://www.msa2.saccounty.net/transportation/Pages/TruckRoutes-STAA.aspx

The California Inter-Regional Intermodal System (CIRIS) Plan: http://www.sjcog.org/docs/pdf/Regional%20Planning/Final%20CIRIS%20Implementation%20Plan.pdf

The Rural-Urban Connections Strategy (RUCS): http://www.sacog.org/rucs/

The Valley Blueprint: http://www.valleyblueprint.org

This page is intentionally blank.

APPENDIX I-3: TREND ANALYSIS – CALIFORNIA'S CENTRAL VALLEY PROFILE

Trend Statement

Air quality and roadway safety continue to decrease while traffic congestion and population increase throughout California's Central Valley (Valley). There are many planning efforts dedicated to tackling these issues. Among them, the San Joaquin Valley (SJV) Regional Planning Agencies Policy Council recently completed the San Joaquin Valley Interregional Goods Movement Plan (August 2013)[1] in order to address the Valley's existing conditions and needs as they pertain to freight. Other planning efforts include the San Joaquin Valley Blueprint Roadmap Guidance Framework (2011), Groundswell SJV, and the blue-print planning Smart Valley Places.

Background

The Central Valley of California, also known as the San Joaquin Valley, is made up of eight counties (Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus and Tulare). The SJV is home to a variety of transportation facilities for moving goods ranging from Interstate and state highways, Class I and short line railroad facilities, intermodal terminals, inland ports and waterways, air cargo facilities, and other infrastructure that supports the movement of goods. Current conditions in the Valley contribute to trucks (therefore, goods) being slowed or diverted by poor road conditions and congestion. The air and water quality is poor, due in large part to goods movement activities. There are numerous and severe violations of environmental justice principles that need to be addressed. Despite current conditions, goods movement will answer to increased demand generated by forecasted growth in the Valley, while (if left unchecked) contributing to already poor environmental conditions and increasing the degradation of the roadways in the SJV.[2]

Freight System Implications

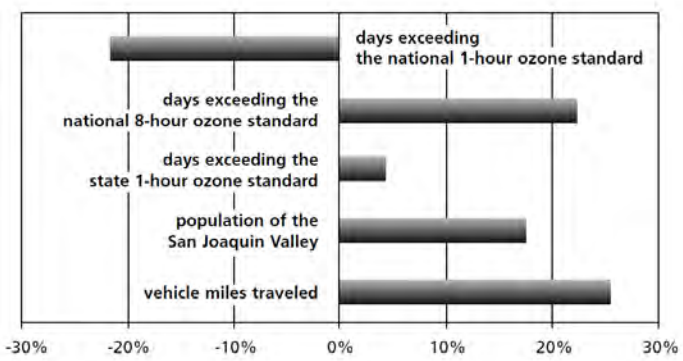
Roadways that are not designed to accommodate large trucks will continue to decrease the efficiency of goods movement in the Valley. Air and water quality issues may harm future growth prospects for the region by making it less desirable. Environmental justice violations contribute to low levels of public health and increased public costs for health care and associated expenditures. Population growth, which drives increases in freight traffic and congestion (through heightened vehicle miles traveled (VMT) is continuing to climb). Figure 1 depicts the changes that occurred in the San Joaquin Valley between 1990 and 2003. It shows that population and vehicle miles travelled have increased dramatically while the number of days and hours exceeding ozone standards has also increased.

According to the San Joaquin Interregional Goods Movement Plan, "Both [population growth and increased mean incomes] will contribute to greater freight demand [and] higher volumes of freight vying for space on the region's system." The growing population will also "exacerbate existing land use conflicts – as populations swell and encroach on goods movement land uses." Furthermore the SJV will experience greater freight volume "from 500 million tons in 2007 to over 800 million tons by 2040, an

[1] http://www.sjvcogs.org/goods.html
[2] http://www.sjvcogs.org/pdfs/2012/2012-03-26%20draft%20Task%20six%20draft.pdf

increase of over two thirds [and] roughly 85% of this tonnage… is anticipated to be carried by truck." (Cambridge Systematics, Inc. 2012a, pp. 2-6 – 2-8). Roadways that are not designed to serve the current demand will continue to see exponential growth in population and traffic and continue to degrade, threatening users in terms of safety and productivity.

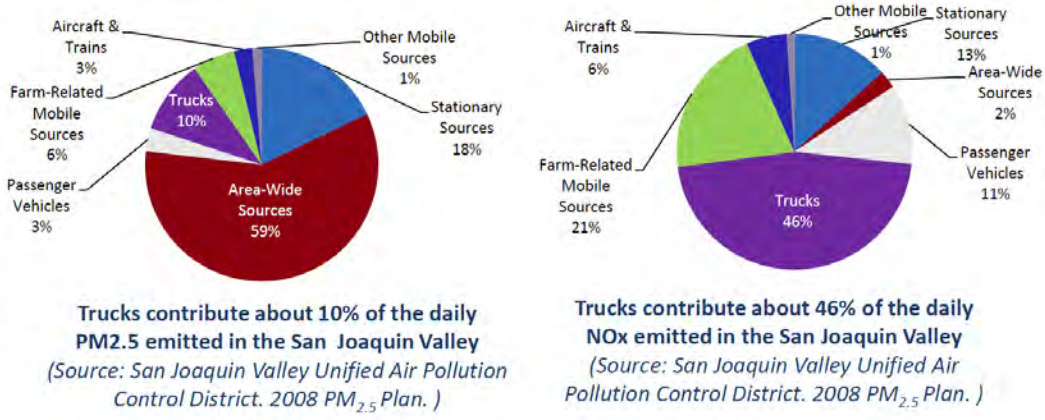
Figure 1: Changes in the San Joaquin Valley, 1990-2003



Source: Bedworth, 2004, p. 11

Figure 2 shows that trucks (freight) and passengers vehicles contribute significantly to pollution levels in the Valley. With the growth discussed above, this problem will continue to worsen without innovative planning.

Figure 2: Percent Pollution per type of Emitter



Source: Cambridge Systematics, Inc. 2012b, p. 3

The eight SJV metropolitan transportation agencies and Caltrans are addressing these issues identified through their San Joaquin Interregional Goods Movement Plan[1]. Topics covered in the final plan include:

- In depth analysis of existing conditions as they relate to freight
- Analysis of the importance freight plays in the Valley economy
- Ongoing stakeholder outreach activities
- Goods movement data reporting – including in depth reports for specific key Valley industries
- Analysis of growth in freight demand
- Evaluation of community environmental and economic freight impacts

- Identification of policy and project interventions
- A list of funding sources available

Planning Considerations

Efforts to enhance air quality, increase quality of life and encourage economic development and prosperity in the SJV are underway. Much of the current effort to improve conditions in the Valley relates to transportation infrastructure and goods movement activities. Beyond the goods movement plan, mentioned above, the efforts of the various plans and strategies mentioned in the trend statement are contributing to a reduction in emissions and increased air quality, large scale regional land use planning and additional research regarding the effects of freight on the Valley.

- The San Joaquin Valley Blueprint Roadmap is "a vision for the future of the San Joaquin Valley, in which less land is consumed for development, more resources are preserved for future generations, distinctive communities are enhanced, and more travel choices are available"[3]
- Groundswell SJV purpose is to will help encourage the kind of growth and development that strengthens the economy, improves health, conserves resources, causes less pollution, demands fewer tax dollars and better serves the region's diverse population."[4]
- Smart Valley Places (coordinated by the California Partnership for the San Joaquin Valley, etc.) is creating "a single integrated plan for regional growth that will guide the San Joaquin Valley for the next 20 years and even beyond"[5]

Resources

Bedsworth, Louise Wells. (2004). Clearing the Air in the San Joaquin Valley: Developing an Action Plan for Regulators, Legislators and the Public. Union of Concerned Scientists. Retrieved on June 13, 2012. Available at: http://www.ucsusa.org/assets/documents/clean_vehicles/central_valley_final-new.pdf

Glossary of Freight Terms: http://fmpglossary.wikispaces.com/

San Joaquin Valley Interregional Goods Movement Plan, San Joaquin Valley Regional Planning Agencies, (August 2013): http://www.sjvcogs.org/goods.html

Smart Valley Places: http://www.smartvalleyplaces.org/

San Joaquin Valley Blueprint Roadmap, Joint initiative with San Joaquin Valley Councils of Governments, San Joaquin Valley Air Pollution Control District and the Great Valley Center. (September, 2010), Retrieved December 16, 2013: http://www.valleyblueprint.org

[3] http://www.valleyblueprint.org/history-need.html
[4] http://groundswellsjv.org/about-us/statement-of-intent-groundswell/
[5] http://www.smartvalleyplaces.org/project/

This page is intentionally blank.

APPENDIX I-4: TREND ANALYSIS – CROSS-BORDER ISSUES

Trend Statement

The California-Mexico International Border region is paramount to the State of California. Mexico is California's first export market at $62.3 billion in total trade. Economic trade through California gateways has strained the State Highway System, which carries the majority of freight. Border transportation infrastructure is inadequate for current and projected growth in binational trade. Poor border infrastructure and border crossing delays have generated economic, health, and environmental impacts. The rising economic trade between the United States (U.S.) and Mexico does not show any signs of leveling off.

Background

The U.S. continues to benefit from the 1994 North American Free Trade Agreement (NAFTA.) NAFTA has boosted cross border trade, economic growth, and employment. Nearly one-third of U.S. merchandise exports go to Canada and Mexico. The dynamism of the NAFTA economic trading bloc is reflected in Mexico's growth among all foreign markets for U.S. exports, by growing from 2011 to 2012 by $18 billion[1]. In 2012, California reached an all time high total trade value with Mexico of over $62.3 billion, making Mexico California's largest export market[2]. The upward economic trade between the U.S. and Mexico does not show any signs of leveling off.[3]

Off-shoring's costs are rising; operation, bureaucracy, regulatory environment, and tax administration are driving manufacturing companies to shift their attention to near-shoring's many advantages. Near-shoring is a trend in manufacturing that is becoming more prevalent and stronger. Companies are seeing the multiple benefits of near-shoring: cost savings, improved speed and access to the U.S. market, and better intellectual property protection. Multinational firms also see Mexico as an attractive destination, as demonstrated by the strong push of the aerospace, automobile, consumer products, electronics, and medical device industries into Mexican manufacturing.

Freight System Implications

Freight movement by truck dominates the overall cross border trade through California-Baja California Ports of Entry (POEs). Trucks will continue to handle almost entirely the total volume of goods in the region[4]. Goods movement between California and Mexico is also distinguished by short-cross border drayage, where Mexican trucks are limited to commercial zones around U.S. border towns and cities (the commercial zones range from about 3 to 25 miles inside the U.S.). After U.S.-Mexico negotiations, in April 2011 the Obama Administration announced a new pilot program, the U.S.-Mexico Cross-Border Long-Haul Trucking Pilot Program (Program), to allow long-haul Mexican trucks further into the U.S. The

[1] http://www.trade.gov/mas/ian/build/groups/public/@tg_ian/documents/webcontent/tg_ian_002065.pdf
[2] http://www.census.gov/foreign-trade/statistics/state/data/index.html
[3] San Diego Association of Governments, *San Diego and Imperial Valley Freight Gateway Study*, March 2010. http://www.sandag.org/uploads/publicationid/publicationid_1479_10924.pdf
[4] Ibid.

purpose of the program was to fulfill NAFTA's requirements and reduce the cost of truck transportation between the two countries, thereby making trade more efficient[5]. Between October 14, 2011, and October 10, 2014, the Federal Motor Carrier Safety Administration (FMCSA) conducted the Program to evaluate the ability of Mexico-domiciled motor carriers to operate safely in the U.S. beyond the municipalities and commercial zones along the US-Mexico border. However, a FMSCA Advisory Committee was concerned that there was insufficient data due to limited participation (only 13 Mexican carriers participated) collected to analyze the safety of Mexican carriers. Upon the Program's end, the Mexican carriers that participated were granted standard operating authority to engage in long-haul operations outside of the border zone

The border region is expected to grow significantly. According to the California-Baja California 2014 Border Master Plan Update, the combined population of San Diego and Imperial Counties and Baja California is forecast to increase by more than four million people to a total of 10.6 million by 2040. The additional residents in the border region, and the foreseeable growth in international trade between California and Mexico, will increase cross border travel demand in the region and continue to add pressure to POEs and connecting roads. Adequate infrastructure capacity will be critical to decrease traffic congestion, facilitate international trade, and improve the quality of life for residents in the border region. It is essential that the State of California plans and prepares for the projected growth in economic trade, population, and cross border movement of people and goods.

Planning Considerations

Binational cross border collaboration has been essential to California. The California Department of Transportation (Caltrans) representing the State of California has partnered with federal, state, regional, and local agencies on both sides of the border to improve mobility at California's international border. An example of this border collaboration is the first U.S.-Mexico Border Master Plan (BMP). The goal of the 2008 California-Baja California BMP[6] is to integrate state, federal, and local input to develop binational criteria for prioritizing POE and transportation projects. Caltrans continues to serve as the co-lead agency along with the Baja California Secretariat of Infrastructure and Urban Development (SIDUE). A soon to be completed 2014 BMP update will include low-cost operational improvements, which provide immediate relief to border delays and develop a framework for a future transportation computer model to conduct POE sensitivity analyses.

Cross border collaboration has not been without challenges. To facilitate collaboration, the State of California is partnering with other agencies that work at the border to create a mechanism and lead entity for strategic planning, project delivery, and funding to address regional mobility needs at California's border communities.

California's border region faces significant challenges and demands. POE facilities and border transportation routes are severely congested, cross border delays at POEs generate significant air quality impacts to the region[7], and NAFTA did not provide funding streams for POE projects or improvements to cross border connecting transportation facilities. Furthermore, the current federal transportation bill,

[5] http://www.fas.org/sgp/crs/misc/R41821.pdf
[6] http://www.dot.ca.gov/dist11/departments/planning/pdfs/systplan/10-California-BajaCaliforniaBorderMasterPlanSeptember2008.pdf
[7] Barzee, Suzanne Louise, *Greenhouse gas emissions due to vehicle delays at the San Diego-Tijuana border crossings*, San Diego State University, Dissertation, 2010.

Moving Ahead for Progress in the 21st Century (MAP-21), folded the border financing program into a larger program, leaving border projects to compete for funding with other projects from other regions. Although, additional federal investment recently benefited cross border transportation, special federal project appropriations are not expected to continue. Two examples are the funding of phase 3 of the San Ysidro POE expansion project and inclusion of phase 1 of the Calexico West POE expansion project in the proposed 2015 federal budget. Due to the current federal fiscal environment, the State of California needs to continue to explore opportunities for cross border collaboration to address these funding challenges.

Some of the areas that will benefit from further collaboration are the funding of transportation and POE related projects. One funding method of collaboration is Public-Private Partnerships (P3s). The advantages of P3s are the potential ability to accelerate development, improve efficiency through incentives and innovation, gain access to private capital, and allow public agencies to focus on their strengths. The key attraction of P3s is to secure private financing or investment to match limited public funds or to provide a funding bridge until public funding is available. Yet, P3s for border projects have challenges. Private investors involved in a P3 require an adequate rate of return and investor certainty.

Another area of collaboration that border stakeholders will be addressing is how POEs cross border flows impact California's border communities. Border communities are not always the direct beneficiaries of the strong relationship between California and Mexico. Moreover, these communities are heavily impacted by traffic congestion, poor air quality, and a disproportionate demand on their public infrastructure.

Technology solutions are also becoming an important tool to expedite and facilitate the safe and secure movement of goods and people through the U.S. and Mexico's POEs, as exemplified by the need to automate, measure, and disseminates U.S. and Mexico's cross border wait time data. Cross border collaboration is paramount in testing and evaluating the best wait time measurement instruments and technologies.

International Border Studies program contacts:
Sergio Pallares, (619) 688-3610, sergio.pallares@dot.ca.gov
Jose I. Marquez-Chavez, (619) 688-3193, jose.marquez@dot.ca.gov

Resources

Barzee, Suzanne Louise, *Greenhouse gas emissions due to vehicle delays at the San Diego-Tijuana border crossings*, San Diego State University, Dissertation, 2010.
http://www.sandag.org/index.asp?projectid=441&fuseaction=projects.detail

Caltrans, SANDAG, *Economic Impacts of Wait Times at the California-Mexico Border 2009 Update*.
http://www.dot.ca.gov/dist11/departments/planning/pdfs/systplan/ImpactsOfBorderDelayFinalReport_January2010.pdf

San Diego Association of Governments, *San Diego and Imperial Valley Freight Gateway Study*, March 2010.

Caltrans, District 11, *California – Baja California Border Master Plan*, 2008. http://www.dot.ca.gov/dist11/departments/planning/pdfs/systplan/10-California-BajaCaliforniaBorderMasterPlanSeptember2008.pdf

APPENDIX I-5: TREND ANALYSIS – FREIGHT AND SUSTAINABILITY

Trend Statement

The sustainability movement incorporates many environmental, regulatory, architectural, planning, design and technology-driven efforts. These may take the form of livability and smart growth principles, cap-and-trade regulations, land use and zoning codes, and technology-based standards as in the case of fuel efficiency standards for vehicles. Very often, these efforts do not recognize the relationship between freight and sustainability. In fact, they may assume that the two are incompatible. However, excluding freight from the planning process makes creating livable and sustainable communities more difficult. Like other uses that are considered to be integral to sustainable living (including open space, quality residential environments and transit), freight needs dedicated urban spaces, like those for loading and unloading, to avoid negatively impacting the quality of life for residents and businesses alike.

Background

In 2009, the Obama administration proposed a new, integrated sustainability model that tied infrastructure investments, especially transportation investments, to housing, land use and the environment. Subsequently the United States (U.S.) Department of Housing and Urban Development (HUD), U.S. Department of Transportation (DOT), and the U.S. Environmental Protection Agency (EPA) formed a Partnership for Sustainable Communities to coordinate inter-agency efforts and developed six principles of livability to guide federal funding programs, policies, and legislation. The principles[1] include:

- Providing more transportation choices
- Promoting equitable, affordable housing
- Enhancing economic competitiveness
- Supporting existing communities
- Coordinating and leveraging federal policies and investment
- Valuing communities and neighborhoods

While enhancing economic competitiveness may include the safe and efficient flow of goods, the focus of the livability principle is to "improve economic competitiveness through reliable and timely access to employment centers, educational opportunities, services and other basic needs by workers, as well as expanded business access to markets." The public investments principle references strategies like transit-oriented development, mixed-use developments and land recycling, not increasing capacity for freight movements. Similarly, smart growth principles have coalesced around mixed use development, compact building design, walkable communities, preservation of open space, and the availability of a range of transportation options.[2]

[1] Partnership for Sustainability Livability Principles: http://portal.hud.gov/hudportal/HUD?src=/program_offices/sustainable_housing_communities/Six_Livability_Principles

[2] http://www.epa.gov/dced/about_sg.htm#principles

At the state level, the California Air Resources Board (ARB) adopted a statewide cap-and-trade program in 2011, which is a market-based approach to reducing carbon emissions. Under the program, industries are allowed to trade carbon credits in an attempt to meet state mandates to bring back carbon pollution to 1990 levels by 2020. Cap-and–trade is the result of a comprehensive set of policy measures developed at the state level designed to reduce greenhouse gas (GHG) emissions. California Assembly Bill (AB) 32 (Nunez), the Global Warming Solutions Act of 2006 – established the regulatory and market mechanisms that make cap-and-trade possible.

In the wake of AB 32, the legislature adopted – and the governor signed- Senate Bill (SB) 375 (Steinberg), the Sustainable Communities and Climate Protection Act of 2008, which requires California's 18 metropolitan planning organizations to align regional transportation, housing and land use plans and to prepare a Sustainable Communities Strategy (SCS) to reduce the amount of vehicle miles travelled in the region. The SCS process is coordinated with the regional transportation planning (RTP) process.

Freight System Implications

While SB 375 does not target the trade and transportation sector, the likely impact on goods movement is great. As was the case with national livability and sustainability principles, at the more local level where the SCS will be developed, freight is rarely part of the vocabulary of urban sustainability. Smart growth and sustainable environments may in fact pose challenges for freight movements. Compact building design and a concentration of activity generate freight and pedestrian conflicts, slow the movement of freight, and result in congestion, pollution, noise, excess energy consumption, and greater accident risks for pedestrians, bicyclists, and passenger cars. They may also require more frequent and concentrated deliveries and pickups. Denser urban environments like those considered desirable in newly revitalized urban cores also generate significant trips tied to service delivery (trash pickup, maintenance services, etc.) but with limited parking and loading facilities and competition for scarce road, curb and sidewalk space. Cities may respond by limiting truck size or access, impeding freight movements.

Planning Considerations

Toolkits for sustainable development[3] rarely incorporate freight. In fact, traffic calming solutions like roundabouts and pedestrian-friendly environments with limited (or prohibited) vehicle access actually constrain freight movements or displace traffic to other and in some cases less direct and efficient routes. Inadequate loading and parking facilities result in illegal double parking which in turn increases local street congestion and increases travel times for both passenger vehicles and trucks.

Zoning and planning standards for new residential and commercial developments may provide an opportunity to create new parking and loading spaces that accommodate freight. Redevelopments or infill developments may, on the other hand, create new problems. In infill developments, freight-related land uses, such as warehouses and railyards, may already exist. The implementation of a desired smart growth or sustainable plan can cause encroachment on freight land uses and can introduce new conflicts where none existed.

[3] Examples include the National Association of City Transportation Officials Urban Street Design Guide (http://www.nyc.gov/html/dot/downloads/pdf/2012-nacto-urban-street-design-guide.pdf) and the New York City Street Design Manual (http://www.nyc.gov/html/dot/html/pedestrians/streetdesignmanual.shtml).

Resources

AB 32: Global Warming Solutions Act: http://www.arb.ca.gov/cc/ab32/ab32.htm

Brookings Institution Metropolitan Planning for Sustainable Growth: http://www.brookings.edu/events/2009/10/13-metropolitan-planning

National Association of City Transportation Officials Urban Street Design Guide: (http://www.nyc.gov/html/dot/downloads/pdf/2012-nacto-urban-street-design-guide.pdf)

New York City Street Design Manual: (http://www.nyc.gov/html/dot/html/pedestrians/streetdesignmanual.shtml)

Partnership for Sustainability Livability Principles: http://portal.hud.gov/hudportal/HUD?src=/program_offices/sustainable_housing_communities/Six_Livability_Principles

SB 375: Sustainable Communities Strategy: http://www.arb.ca.gov/cc/sb375/sb375.htm

Smart Growth Principles: http://www.epa.gov/dced/about_sg.htm#principles

This page is intentionally blank.

APPENDIX I-6: TREND ANALYSIS – PUBLIC-PRIVATE PARTNERSHIPS (P3S) IN FREIGHT

Trend Statement

While there are few Public-Private Partnerships (P3s) in the United States (U.S.) and even fewer freight related P3s, there is a growing interest in using alternative forms of financing for future freight projects. Dedicated P3 offices allow for specialization in P3 project development that could potentially include freight projects.

Background

P3s are contractual agreements formed between a public sponsor and a private sector entity that allow for greater private sector participation in the delivery and financing of transportation projects. Public sponsors are turning to P3s as other sources of revenue decline.

While public sponsors may work jointly with private entities on freight projects (this is especially common on rail projects like Southern California's recently completed Colton Crossing grade separation), a P3 involves more than a public sponsor working with a private owner. In a true public-private partnership, the public sponsor assigns some responsibility to a private firm. P3s also involve some sort of third-party financing, usually a combination of equity and debt, as well as ownership transfer (if only temporarily) from a public owner to a private entity.

Delaware's rehabilitation of Shellpot Bridge, a historic railroad bridge, is most often cited as an example of a freight P3. While the state did work with private owners to assume control of and rebuild the bridge, there was no private financing of any kind (i.e. "Wall Street" was uninvolved).

Freight System Implications

At their core, P3s are about responsibility transfer. When a public sponsor asks for bids to design (D) and build (B) a bridge, the agreement that comes from the bidding process is known as a DB. DB is the most basic form of P3 and these kinds of projects are now often referred to as being "traditionally financed." In order for a project to be a true P3 some other responsibility for the facility needs to be transferred, e.g. financing (F), operations (O), and/or maintenance (M).

At their best, P3s have concrete benefits that accrue to the public sponsor. For example, a P3 contract might specify that all cost overruns are to be paid by the private firm. At their worst, private investors lose their investment in a bankruptcy such as State Route-125, South Bay Expressway in San Diego County now operated by San Diego Association of Governments, and public sponsors are forced to bailout a project. For example, if the forecasted use of a facility was higher than the actual usage for a facility built as a P3, the user-fee revenue may be insufficient to service the debt.

The most often cited benefits of P3 are that private firms, 1) are more efficient than government and are better equipped to deliver projects faster and 2) have access to capital unavailable to governments which allows projects to be "built today." A traditionally-financed project may have to be delayed pending future revenues.

Private firms that invest in P3 are solely interested in turning a profit. There are two ways that facilities built as P3s can repay their initial capital cost. One is to attach a revenue source (such as a user fee or a toll) to the new facility. The other is from payments (usually deferred until the facility is open and operating) known as availability payments. In some ways, projects that directly benefit commercial vehicles may be more suited to P3s than those that primarily benefit passenger vehicles. Shippers may be more willing to accept a toll if the expected benefits of a project outweigh the pecuniary cost of the fee. P3s are typically used in situations where there is requisite project scale and complexity, both in terms of sheer dollar value and the difficulty of the project's engineering and implementation.

Case Study

The Port of Miami tunnel is an example of a DBFOM project. An estimated 16,000 vehicles travel to and from the port through downtown Miami streets, and trucks account for 28 percent of this traffic. Downtown congestion restricts port growth, increases port user costs and causes safety concerns. The solution is a four lane, toll-free, underwater tunnel connecting the port to adjacent freeways I-395 and I-95, bypassing downtown Miami surface streets.

Construction began in May of 2010, and the tunnel opened to the public in 2014 at an estimated capital cost of $668.5 million. At this cost and with the risk associated with drilling a tunnel, this project was appropriate for a P3. A 35-year concession agreement was executed among Miami Access Tunnel Concessionaire LLC, Bouygues Travaux Publics and the State of Florida.

The P3 benefits Miami because the city does not have to pay any costs upfront; a private consortium is paying the cost of construction. The private partner had every incentive to open the facility on-time (or early) since they would not have been aid until trucks were actually driving through the tunnel, i.e. when the facility is *available*. The public sponsors will make annual availability payments, subject to conditions, such as the firm completing regular maintenance.

International Examples

While there is few freight P3s in the U.S., there are other examples from outside the country:

- Bremen Intermodal Facility - Bremen, Germany
- Maputo Port Renovations - Mozambique
- Port of Aqaba Expansion - Jordan
- Port of Colombo Expansion - Sri Lanka

Planning Considerations

There have been very few P3s of any kind in the U.S., but freight P3s are especially rare. Freight projects may become more suitable for P3s as users become more willing to accept tolls in exchange for tangible benefits, including time savings. P3s are typically not suitable for small projects. The places that do the most P3s have dedicated P3 offices and offer investors a wide range of investment opportunities, not just transportation projects (as is often the case in the U.S.). Offices in British Columbia and Puerto Rico are often pointed to as excellent examples.

The risk with freight P3s is there may not be the requisite usage of a dedicated freight facility to pay the cost. The forecasted usage of Atlanta's proposed truck lanes was insufficient to generate enough revenue to cover the cost of constructing the lanes.

Despite the potential benefits, P3s involve complex negotiations with private firms and sometimes protracted contract negotiations. California has had problems with P3s in the past, namely the bankruptcy of SR-125, which was a creation of a toll roll for the southern portion of the route (i.e. the South Bay Expressway). Therefore, it is crucial that public sponsors look at this innovative form of financing with caution and scrutiny.

Resources

AECOM Consult Team (2007) *Case Studies of Transportation Public-Private Partnerships in the United States*. A report prepared for Office of Policy and Governmental Affairs, Federal Highway Administration.

AECOM Consult Team (2007) *User Guidebook on Implementing Public-Private Partnerships for Transportation Infrastructure Projects in the United States*. A report prepared for Office of Policy and Governmental Affairs, Federal Highway Administration.

Alvarez, David (2010) Benefits of the Public-Private Partnerships Legislation in Puerto Rico. Presentation. Retrieved: September 17, 2011. Available at: http://www.app.gobierno.pr/wp-content/uploads/2010/05/Benefits-of-the-Public-Private_Partnerships_Legislation_PuertoRico.pdf

Fischer, Katrin, Andrea Jungbecker and Hans Wilhelm Alfen (2006) The Emergence of PPP Task Forces and Their Influence on Project Delivery in Germany. *International Journal of Project Management*. Volume 24 pp. 539-547.

Gaffey, David W. (2010) Outsourcing Infrastructure: Expanding the Use of Public-Private Partnerships in The United States. *Public Contract Law Journal.* Volume 39 pp. 351-373.

Giuliano, Genevieve (2011) Public Private Partnerships in California. Phase One: Reports #1 and 2. Retrieved: June 21, 2013. Available at: http://www.metrans.org/research/research-other.php.

Iacobacci, Mario (2010) Dispelling the Myths: A Pan-Canadian Assessment of Public-Private Partnerships for Infrastructure Investments. *The Conference Board of Canada Report*. Ottawa, ON.

Port of Miami overview: http://www.portofmiamitunnel.com/project-overview/project-overview-1/

Yescombe, E.R. (2007). *Public-Private Partnerships: Principles of Policy and Finance*. Published by Butterworth-Heinemann, Elsevier.

This page is intentionally blank.

APPENDIX I-7: TREND ANALYSIS – CHICAGO REGION ENVIRONMENTAL AND TRANSPORTATION EFFICIENCY PROGRAM (CREATE)

Trend Statement

The CREATE program in Chicago provides a useful program development case study for improving the efficiency and global competitiveness of the California freight and passenger railroad network. By organizing more than 70 projects under an integrated public/private program, CREATE achieved the status of national significance. And by delivering on a diverse list of program goals to improve mobility, efficiency and the quality of life in the Chicago region, the CREATE projects have attracted more than $1.2 billion from diverse public and private sources in less than a decade.

Background

The nation's primary goods movement corridor extends 3,000 miles between Southern California and the New York/New Jersey metropolitan area via Chicago. This east–west corridor connects the nation's three largest metropolitan areas and its two largest port complexes. It handles much of the nation's intermodal rail traffic and is a vital link in land bridge freight services between Asia and the Northeast/Mid-Atlantic region. Six of the seven largest Class 1 railroads serve the region: the eastern railroads, Norfolk Southern (NS) and CSX; the western railroads, BNSF Railway (BNSF) and Union Pacific (UP); and the two Canadian railroads, Canadian Pacific Railway (CPR) and Canadian National (CN).

Chicago today remains the busiest rail hub in the United States (U.S.). Each day, nearly 1,300 trains pass through the region (500 freight and 760 passenger trains). Chicago handles one-fourth of the nation's freight rail traffic, each day handling 37,500 railcars. In addition to being a national hub for freight trains, Chicago is the Midwest hub for passenger rail. Nearly all of Amtrak's long-distance and intercity passenger trains in the Midwest terminate at downtown Chicago's Union Station. Commuter rail service provider Metra (commuter rail in metropolitan Chicago) operates more than 700 weekday commuter trains on a network (eight times the passenger volume accommodated on shared tracks in Southern California).

Recognizing the growing urgency of the region's rail capacity needs, the federal Surface Transportation Board convened a task force in 2003 made up of representatives from the railroad industry, State of Illinois and City of Chicago. The task force developed CREATE, a first-of-its-kind partnership between U.S. Department of Transportation (DOT), the State of Illinois, City of Chicago, Metra, Amtrak, and the nation's freight railroads.

CREATE partners identified an integrated program of 70 projects critically needed to increase the efficiency of the region's passenger and freight rail infrastructure and enhance the quality of life for Chicago-area residents. The diverse program includes 25 road/rail grade separations, six passenger/freight rail grade separations, railroad projects to improve rail infrastructure and upgrade

technologies, a viaduct improvement program, grade crossing safety enhancements, and rail operations and visibility improvements. Forty-five of the seventy projects are completed or under active development and over $1.2 billion of the needed $3 billion has been secured from federal, state, local and railroad sources in less than a decade. The project has received $110.4 million in Transportation Investment Generating Economic Recovery (TIGER), a supplementary discretionary grant program part of the American Recovery and Reinvestment Act, funds through 2012.

Freight System Implications

Chicago has become the largest U.S. rail freight chokepoint. A train that may take as little as 48 hours to travel the 2,200 miles from Los Angeles to Chicago spends an average of 30 hours traversing the Chicago region.

The growing demand for passenger rail service combined with increasing freight volumes and roadway congestion make operating timely and reliable commuter and freight rail service over a shared rail network increasingly challenging. Metra's radial lines cross freight rail lines at grade in several locations, including the heavily traveled Indiana Harbor Belt Railroad (IHB) and the Belt Railway of Chicago (BRC), which is a frequent cause for delays to both passenger and freight trains.

Planning Considerations

Freight rail trade (by value) with Chicago could increase, in part, due to rail network capacity and fluidity improvements across the country. Major initiatives include: construction of the Alameda Corridor East (ACE) grade separations in Southern California; triple-tracking of the UP in Nebraska; double-tracking of the CSX east of Chicago; and significantly upgraded NS intermodal terminals in Harrisburg and Bethlehem, Pennsylvania. National trucking along Interstate Routes 15, 70, 76 and 80 is forecasted to operate at generally acceptable levels of service over much of its length, although its forecast to operate at levels of service E and F as it passes through major metropolitan areas — Southern California, Denver, Chicago, Cleveland, and New York/New Jersey. This relatively good highway level of service is due at least in part to the fact that freight in this corridor is already heavily served on rail, rather than trucks.

However, the crossing through Chicago has traditionally been a barrier in rail transportation with significant delay in the interchange between western and eastern Class I railroads, either in yards or through the unloading and trucking of trailers across town.

If the CREATE projects are implemented, the major constraints to growth in this service appear to be the capacity of, and truck access to, major intermodal terminals. If CREATE projects are not completed, there could be a shift of more than 20-million tons from rail to truck in year 2020 which would add 2.3 billion truck vehicle-miles-of-travel.

Although CREATE's success might be more difficult to replicate in the current economic climate, the alignment of federal, state and local leadership with multiple railroads under a unified program could guide railroad development private/public partnerships in California. The CREATE program's compelling aggregation of impacts and benefits provide an example of the way that California could package its individual freight projects into Southern California and Northern California/Central Valley programs that will clearly demonstrate national significance and attract national private and public funding.

Resources

CREATE home page: www.createprogram.org

APPENDIX I-8: TREND ANALYSIS – HIGHWAY AND RAIL INTELLIGENT TRANSPORTATION SYSTEMS (ITS)

Trend Statement

California faces significant transportation capacity challenges to meet current goods movement demand and to expand the state's central role in the US expansion of global trade. Historically, the state has focused its Intelligent Transportation System (ITS) initiatives on Traffic Management Systems and Traveler Information Systems. Regional initiatives are emerging to extend ITS to demand management and real-time trip routing. Growing congestion on the rails and parallel highways is forcing California to consider ITS that better integrate highway and rail networks. The State has an opportunity to more aggressively lead ITS network initiatives throughout the state through private-public partnerships and by providing regulations and funding of open-standards technology and data source integration. This leadership role is important since statewide environmental and sustainability policies rely on the continued development of reliable and cost-effective demand management and system management tools that can be implemented seamlessly across modes throughout the state.

Background

ITS has become one of the ubiquitous enablers of global trade. For railroads there is a benefit to rail projects that are integrated with highway investments as part of a national freight policy. Railroads serving West Coast ports learned that the international transportation system can become congested when the rail and highway networks and intermodal connectors don't keep pace with the growth in freight. In response, multi-modal business-related proprietary systems have been implemented for global logistics, security of goods, and resource allocation and management. However, proprietary ITS technologies and proprietary data that provide a potential competitive advantage have created barriers to sharing that have slowed industry-wide implementation.

Public sector initiatives have typically focused on standards development and demonstration studies. The private sector views many of these public initiatives as unfunded governmental mandates that do little to improve safety of their operations and require capital and operating investments that likely would not have been justified on a cost-effectiveness basis absent federal regulation. To date, public agencies have not been able to provide sufficient incentives to attract industry-wide partnerships with the private shippers, truckers or rail operators. Without strategic leadership and investment at the federal and state level, it is likely that incompatible, proprietary niche solutions will continue to dominate the market. As a consequence, significant public sector sustainability, energy conservation, and congestion reduction goals will continue to be difficult to achieve.

Freight System Implications

The trucking industry is currently coping with a range of regulations that apply ITS to safety. The industry is being forced to document "total" costs and benefits of the required adoption of electronic on-board logging devices for compliance with federal hours of service tracking requirements. The same is true of

training and educating costs tied to the requirements of the Federal Motor Carrier Safety Administration's 2010 Compliance, Safety, Accountability program. Beyond regulatory compliance, the industry is seeking to improve existing real-time routing and scheduling information to help trucks avoid congested areas and peak travel periods. In addition to real-time information that includes incidents and work zones, the American Transportation Research Institute (ATRI), the American Trucking Associations' (ATA) not-for-profit research organization, published the 2011 Freight Performance Measures Congestion Monitoring Report that details congestion severity at 250 freight-significant locations.[1] ATRI is also mapping Large Truck Rollovers using spatial data analysis to identify and propose mitigations at high frequency rollover locations. ATRI's first phase produced a database of locations which covers 31 states (not including California). The organization also is studying the efficacy, use, benefits and risks of standalone global positioning system (GPS) navigation units for commercial motor vehicles (CMV). ATRI also surveys the trucking industry annually to update a Top -10 list of issues and strategies. Onboard Truck Technologies first surfaced in 2007 as a top ten issue; it has fluctuated since among the lowest three positions in the Top 10 annual survey to as of 2013, ranking fifth. The impetus for opportunities arises from onboard safety technology benefits, while concerns generally stem from efforts by the U.S. and Canada to mandate the use of both Electronic Logging Devices (ELDs) for Hours of Service compliance and speed limiters/governors for speed management.

Resources for railroad ITS business initiatives are also being stretched by recent federal rail safety regulations. Although railroads spend more than $300 million per year on their fully-integrated sophisticated business systems to support their global business and operations, recent regulations related to improve railroad safety have required significant re-direction of freight and passenger rail capital programs and budgets. For example, the federal Rail Safety Improvement Act of 2008 requires railroads to implement positive train control (PTC) on their equipment and main lines that carry passenger trains and/or poison inhalation hazard (PIH) commodities by December 31, 2015. Compliance will cost the railroads across North America an estimated $9.5-$13.2 billion.[2] UP and BNSF railroads are each spending more than $335-$350 million per year to comply. Metrolink is spending $211 million in Southern California to install PTC by 2014.[3] Coaster, Sprinter, Amtrak and Short Line locomotives that operate on the Southern California main railroad lines will also have to be equipped. In 2011, the GAO issued a report that noted PTC would only address 30 percent of train accidents. And in 2012, the AAR initiated a legislative campaign to reduce the 63,000 track miles of the national system and 15,000 miles of the regional PTC network and extend the deadline.[4]

Typical public sector highway ITS programs include traffic management centers, closed circuit TV, permanent and portable dynamic message signs and video detection systems with fiber optic cable or cellular communications networks, synchronized signals using adaptive signal control, emergency vehicle and transit signal priority systems, reversible lanes, high occupancy vehicles/high occupancy toll lanes, ramp meters, traveler information via highway advisory radio, 511 automated voice recognition and the internet, and traffic control/incident management systems. Recent technology innovations

[1] American Transportation Research Institute (ATA) 2011 survey – http://atri-online.org/2011/10/17/critical-issues-in-the-trucking-industry-2011/

[2] HNTB Positive Train Control White Paper, http://news.hntb.com/images/bulk_media_upload/docs/FINAL_PositiveTrainControl_2_0711_(2)_0.pdf

[3] Metrolink May 2013 PTC factsheet, http://www.metrolinktrains.com/content/media/03/files/2013%2005%20PTC%20Fact%20Sheet_Updated%20June%202013.pdf

[4] American Association of Railroads PTC factsheet https://www.aar.org/safety/Pages/Positive-Train-Control.aspx

include: real-time adaptive signal control, photo detection to replace loop detectors embedded in the roadway, active Doppler radar sensors to detect highway delays and BlueTooth travel time and delay reporting using data from mobile devices and moving vehicles. Yet integration of these systems has eluded the state and regional agencies that are implementing the systems since integration of these systems to improve accuracy and timeliness of the data for the end user has customarily been beyond the scope of the individual ITS initiatives. To fulfill requirements in Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), FHWA issued a Final Rule in November 2010 to establish the Real-Time System Management Information Program. The rule contains minimum requirements for states to make information on traffic and travel conditions available through real-time information programs and to share this information. Funding the operation and maintenance of installed systems is also a significant challenge for over-stretched state and local agencies.

Planning Considerations

Transportation planning for metropolitan areas has traditionally focused on building and maintaining basic infrastructure to ensure adequate roadway capacity. Strategically using ITS requires agencies to shift focus from planning construction and maintenance of roadways to planning the operations of the surface transportation system. ITS deployment has not always been well integrated with other transportation strategies and programs. Lack of quantifiable information about benefits can put ITS projects at a disadvantage compared with other types of hardscape transportation projects, which have more easily quantified benefits. In addition to developing a workforce skilled in ITS, transportation agencies also need leaders who support ITS.

Despite the challenges, the U.S. Department of Transportation (USDOT) is continuing research on ways to integrate new technologies with existing systems to improve safety and efficiency. For example, in the Freight Advanced Traveler Information System (FRATIS)[5] Concept of Operations study FHWA is developing two freight-specific application regional "bundles." The first will include all of the traveler information, dynamic routing, and performance monitoring elements. A second application bundle will combine container load matching and freight information exchange systems to fully optimize drayage operations.

The Idaho Transportation Department's 511 Trucker Information Service was featured in FHWA's July 2013 Talking Freight Webinar.[6] The service includes phone, low and high bandwidth web-based information. Truckers have access to road closures, road conditions, commercial restrictions, temporary axle load limits; locations of truck escape ramps, rural road camera views and weather conditions. Truckers can save specific routes to personalized accounts that are linked to real time notifications. The same site is used by the state for oversized and overweight load permitting.

The Regional Integration of Intelligent Transportation Systems (RIITS)[7] project, an upgrade of the countywide traveler information system being developed by L.A. Metro, Caltrans and other agencies throughout L.A. County, provides another example of the integration challenge. The project will use the following diverse data sources: Caltrans Quickmap, Caltrans Lane Closure System, California Highway Information Network (1800 427-ROAD) telephone line for road closures, detours, weather conditions (which Caltrans may replace with a statewide 511 system), TIP Network (Traffic Information People –

[5]Freight Advanced Traveler Information System (FRATIS), http://www.camsys.com/kb_experts_ITS_mobility.htm
[6]Idaho 511 Trucker Travel Information, http://511.idaho.gov/
http://www.fhwa.dot.gov/planning/freight_planning/talking_freight/july_2013/index.cfm
[7]Regional Integration of Intelligent Transportation Systems, http://www.riits.net/

traffic reporters), Traffic411.com, Metro.net website, 511, media and private sector service providers (Google, SigAlert, Traffic.com, etc), changeable message signs, Highway Advisory Radio (HAR), NexTrip, Facebook, Twitter, YouTube, and Caltrans freeway cameras. Metro is also developing the Archived Data Management System data warehouse to enable development of multi-modal products that mirror the USDOT's Intelligent Transportation Systems strategic plan to support the federal connected vehicle initiative and other related services to improve safety and mobility.

The Gateway Cities Council of Governments (GCCOG), a joint powers authority of local jurisdictions adjacent to the San Pedro Ports, is undertaking an ambitious freight-specific ITS integration program. The GCCOG Goods Movement Technology Plan[8] developed a concept of operations and a business plan to be completed by December 2013 containing the following highway-related elements: freeway detection, arterial travel time reporting, queue detection at port gates, truck data collection, truck fleet communications, scheduling systems, performance monitoring, truck parking management, truck platooning, autonomous freight vehicles, truck enforcement, traveler information sharing, emergency notification, weather, and accidents / detours.

Resources

FHWA Freight Advanced Traveler Information System: www.fhwa.dot.gov/freightplanning/talking.htm

Gateway Cities COG Goods Movement Technology Plan Elements: http://gatewaycog.org/publications/Gateway_Cities_Tech_Plan_overview_710%20PC%205-31-12.pdf

LA Metro's Improved Information System Initial Program Strategy: http://www.metro.net/board/Items/2012/06_June/20120620OPItem59.pdf

American Transportation Research Institute (ATA) 2011Survey: http://atri-online.org/2011/10/17/critical-issues-in-the-trucking-industry-2011/

US GAO March 2012 Report: Intelligent Transportation Systems – Transportation Systems - Improved DOT Collaboration and Communication Could Enhance the Use of Technology to Manage Congestion: http://www.gao.gov/assets/590/589430.pdf

Central Coast ITS Plan - www.ambag.org/programs/met_transp_plann/its.html

Federal Motor Carrier Safety Administration Compliance, Safety, Accountability program - http://csa.fmcsa.dot.gov/about/

"Regulators and railways spar over Positive Train Control," Matt Stroudon, theVerge.com, April 15, 2013: http://www.theverge.com/2013/4/15/4226264/positive-train-control-controversy

[8]Gateway Cities Council of Governments Goods Movement Technology Plan, http://gatewaycog.org/publications/Gateway_Cities_Tech_Plan_overview_710%20PC%205-31-12.pdf

APPENDIX I-9: TREND ANALYSIS – LAST MILE DELIVERY/PICK-UP ISSUES

Trend Statement

There are few experiments in the United States (US) designed to address the problems of shipments to businesses and residents within the urban core. The "last mile" programs that do exist are typically established by, and within, localities' authority, e.g., changes to building codes and parking policies. European cities have more latitude for freight delivery regulation and they have experimented with consolidated delivery centers and low emission zones. The most transferable European experiments are those that are voluntary, such as labeling or certification schemes.

Background

The last mile (or rather miles) represents the final haul of a shipment to its end receiver, be it a shop, a business, a facility, or a residence. Cities also experience first mile(s), as one-third of urban truck traffic is the picking up of goods. Trucks are the dominant freight carrier in urban areas; however, most urban areas are not designed for delivery and pick-up. Trucks contribute to noise, air pollution, congestion and take up road space.

Experimentation with various local freight management strategies is far more extensive outside the US. Partially, this is because cities outside the US have more serious problems due to higher density city cores, older building stock (and hence limited parking and loading facilities), and less road capacity (e.g., narrower streets). Downtown San Francisco, and to a lessor extent, the cores of Los Angeles, San Diego, and Sacramento, have some similar issues as their European counterparts. Also, non-US cities have more legal ability to regulate trucks. Changes that effect last mile deliveries and pickups fall into five categories:

- **Labeling or other certification schemes** are generally voluntary and involve creating a list of qualifications or minimum specifications for commercial vehicles. For example, ultra-clean vehicles might receive a green sticker. Some governments may use incentives to get firms to participate, like allowing ultra-quiet vehicles to deliver at night.

- Municipalities frequently use **traffic and parking regulations** to manage urban freight because these tools are clearly within local authority. However, they have a mixed record of success. Local freight demand must be accommodated; hence strategies that *manage* rather than *restrict* freight deliveries tend to be more effective. The San Francisco Municipal Transportation Agency has developed the SF*park* program to increase turnover at curbside parking spaces including "yellow zones," i.e., those reserved for commercial loading.

- Local jurisdictions can use their **land use planning and zoning** authority to set policies and guidelines for incorporating freight deliveries into new developments; for example, they could set requirements for the presence or design of loading docks, and for parking and off-street loading zones.

- **City logistics and consolidation schemes** seek to reduce truck traffic by finding ways to combine pick-ups and deliveries of different shippers or different receivers. They often focus on changing the supply chain, rather than on the final (or initial) step of the chain. Some are successful such as drop/pick-up boxes for online purchases that avoid home deliveries. The more ambitious "urban consolidation centers" typically require heavy subsidies and are not popular with firms.

- **Off-hours deliveries** seek to shift truck activity out of the peak traffic periods and hence reduce congestion and emissions. This is an obvious way to reduce truck-related congestion; yet, few examples of off-hours delivery programs exist. Change (in the hours of operation) is required for both the freight providers and (even more importantly) the receivers. Coordination is therefore difficult.

Freight System Implications

Policies in this country have focused more on gateway and pass-through traffic, such as extended hours at ports. However, last mile issues are relevant. The ability to pick-up and drop-off cargo in the off-peak at a port depends upon the cooperation of warehouses and distribution centers throughout the supply chain. Often these facilities are located in urban areas. Incompatible local land use regulations with regard to off-peak deliveries, evening and weekend loading and parking restrictions, etc. can have a negative impact on attempts to shift traffic at the port to the off-peak.

The same conditions that allow for local regulation of trucking beyond zoning and parking in Europe and elsewhere do not exist in the US with the possible exception of New York City; but because freight will follow the path of least resistance, policies on vehicle access and weight will have an impact on freight flows across and through urban areas. There is a distinct lack of information on best practices and model regulations in this area.

Planning Considerations

Among the last-mile strategies, labeling and certification programs, land use planning (in the longer term), and off-hours deliveries are the most effective strategies. However, off-hours delivery programs are less transferable due to the many changes they require across the supply chain. Traffic and parking regulations are less effective, because they do not have an impact on the underlying demand for freight moves.

Resources

Dablanc, L., and Rakotonarivo, D. (2010). The impacts of logistics sprawl: How does the location of parcel transport terminals affect the energy efficiency of goods' movements in Paris and what can we do about it? Procedia - Social and Behavioral Sciences. Volume 2, Issue 3, 2010. Pages 6087-6096. Retrieved January 25, 2012. Available at: http://www.sciencedirect.com/science/article/pii/S1877042810010748.

Dablanc, L., and Ross, C. (2012) Atlanta: A Mega Logistics Center in the Piedmont Atlantic Megaregion (PAM). Transportation Research Board Annual Meeting, January 22-26, Washington DC, USA. Dablanc, L., Diziain, D. and Levifve, H. (2011) New urban freight issues for the Paris region: results of recent consultation processes with business organizations. European transport research review, 3, pp. 47-57.

Dack, J. (2010) Delivery and Servicing Plans, presentation at SUGAR seminar, London, UK, December, www.sugarlogistics.eu/index.php?option=com_docman&task=doc_view&gid=76&tmpl=component&format=raw&Itemid=55.

Giuliano, G., O'Brien, T., Dablanc, L. and Holliday, K. (2013) Synthesis of Freight Research in Urban Transportation Planning. National Cooperative Freight Research Program (NCFRP) Report No. 23. Available at http://onlinepubs.trb.org/onlinepubs/ncfrp/ncfrp_rpt_023.pdf.

Holguin-Veras, J. (2008) Necessary conditions for off-hour deliveries and the effectiveness of urban freight road pricing and alternative financial policies in competitive markets, Transportation Research Part A: Policy and Practice, 42(2), pp. 392-413

San Francisco Municipal Transportation Agency (SFMTA). (2012). How it works – SFpark. Retrieved, April 18, 2012. Available at: http://sfpark.org/how-it-works/.

Transport for London. Fleet Operator Recognition Scheme.
FORS. http://www.tfl.gov.uk/corporate/projectsandschemes/24418.aspx

Automated self service package pickups, in
Germany: http://www.dhl.de/en/paket/privatkunden/packstation.html; in the
US: http://www.arlnow.com/2012/07/06/amazon-offering-locker-delivery-in-arlington/ .

This page is intentionally blank.

APPENDIX I-10: TREND ANALYSIS – POSTPONEMENT

Trend Statement

The notion of geographic, or logistics, postponement involves building and stocking a full-line inventory at one or a limited number of strategic locations close to final markets. This practice reduces the anticipatory risk of inventory deployment and allows for product customization while retaining manufacturing economy of scale. It also improves routing flexibility for transloading.

Background

In the face of a more competitive retail environment, where time to market and cost have never been more important, the ability to customize products and guarantee delivery based on customer demand is essential. Traditionally, anticipatory arrangements require inventories to be produced to final product state and deployed on the basis of business forecasts and planning. With postponement of final manufacturing, distribution and order fulfillment until the receipt of a customer order, the likelihood of erroneous manufacturing and deployment is reduced and the possibility of returns is minimized.

Geographic postponement can improve transloading efficiency. Shippers can assure availability of products because critical and high-cost inventories are maintained in a central facility or near major transloading centers. They can also delay decisions about which mode of transport to use based on time to market and cost.

Freight System Implications

The adoption of geographic postponement strategies has important implications for the freight system as a whole. Facilitated by increased logistical system capability to process, transmit and deliver order requirements with a high degree of accuracy and speed, postponement strategies are able to reduce the need for advanced deployment of inventory. Because postponement introduces more flexibility to transloading, and transportation in general, the supply chain also becomes more flexible. There is less pressure to follow a strict schedule; routing and planning associated with transloading, distribution and forwarding become more flexible as well.

Postponement also reduces risk of volume and variety mix by delaying finalization of products. It improves the variety of a product line (economy of scope) by allowing more customization through flexible manufacturing. It improves lead times as manufacturers can now offer more accurate response to customer orders within the order cycle time. In terms of overall supply chain approach, postponement reduces complexity in operations while adding flexibility. Shipping smaller batches will increase transport costs but since supply chains are more interested in total costs, those costs will likely be offset by a reduction in inventory carrying costs. However, there is some amount of demand uncertainty, substantial product proliferation and a need to quickly respond to the cycle time of producing products.

One of leading online retailer company operating in the United States is utilizing aspects of different postponement strategies to compete with traditional retailers. Amazon is building fulfillment centers on the outskirts of New York, Los Angeles and San Francisco. This move by Amazon has important business implications: the corporation is positioning itself for expanded same-day and next-day service options to the nation's largest markets. In order to expand its same-day services in Baltimore, Boston, Chicago, Indianapolis, Las Vegas, New York, Philadelphia, Phoenix, Seattle and Washington, Amazon added more than 30 fulfillment centers over the last two years. The e-commerce giant even withdrew from its well-documented battle against sales tax collection in certain states, including California, in 2012. With additional fulfillment centers in key strategic locations, Amazon is ready to respond to customer orders by initiating its logistical processes on demand. In addition, Walmart is continuing to build on-line fulfillment centers and to use their unique position to facilitate customers shopping on-line, mobile (cell phone) and in stores. They are also utilizing their stores to ship online orders directly to customers. Large retailers are also creating online automatic replenishment programs – all changing consumers shopping patterns and, in turn, putting a greater demand on the logistics network.

Planning Considerations

To ensure the wide-spread adoption of postponement strategies, cooperation between shippers and firms using transportation services is necessary. For shippers that means factoring postponement steps into transit time estimates. For the public sector, postponement means a changing demand for facilities near major urban cores as well as an increase in truck trips to private residences and commercial enterprises and from fulfillment centers.

Resources

Bowersox, Donald J., David J. Closs, and M. Bixby. Cooper. *Supply Chain Logistics Management*. Boston, MA: McGraw-Hill/Irwin, 2007. Print.

"Overnight Sensation – How the e-tailing revolution is revolutionizing traditional sales and logistics strategies." *Journal of Commerce*, 9/17/2012.

Deborah Catalano Ruriani, "Transloading to Maximize Cost Savings." *Inbound Logistics,* 11/2012.

APPENDIX I-11: TREND ANALYSIS – AIR CARGO

Trend Statement

Due to many factors, air cargo movements will continue to rebound slowly from setbacks of the recent global financial crisis.

Background

Declines in air cargo movements were experienced throughout the world after the recent global financial crisis. Air cargo forecasts completed between 2008 and 2012 painted a negative picture of air cargo growth and prosperity[1]. Currently, air cargo is making a rebound, but unrest in the Middle East, financial issues hampering Europe, complex security requirements, environmental regulations, and a need for greater collaboration within the industry are still holding air cargo back. American Shipper predicts that in December 2017, "the five largest international markets will be the United States, China, Germany, Hong Kong and United Arab Emirates." However, fuel prices will continue to fluctuate and lack predictability thereby impacting the demand for air cargo services.

Freight System Implications

As the most expensive mode of goods movement, air cargo is particularly sensitive to supply and demand alterations and global financial/political trends. It is likely that air cargo will show the effects of a diminished economy or other negative impacts on goods movement ahead of other modes because of the high price of air cargo service. Therefore, its trends should be closely followed and used as an indicator for the freight industry as a whole. It is unlikely that a decline in air cargo will place undue freight burden on other modes (because the air cargo share is so small); however, it will likely signal an increase in freight costs in every mode.

One of the greatest air cargo growth opportunities in California is for agricultural producers to transport their goods for export via air. Agricultural air cargo represents a substantial portion of goods movement. "California's airborne agricultural exports in 2004 totaled $659 million, an increase of nearly 60 percent since 2000."[2] Maritime shipping is becoming increasingly unreliable for value-added goods movement (such as fragile produce products), worldwide demand for such goods is increasing rapidly, and more liberal import/export laws are opening new markets for California producers. As international passenger and cargo rates increase, a currently strained California transportation infrastructure will be increasingly burdened. Los Angeles International Airport (LAX) and San Francisco International Airport (SFO) together handle close to 100 percent of all airborne imports into California and more than 90 percent of all airborne exports from the state. Both airports face severe constraints on their ability to handle significantly greater levels of additional cargo. LAX has little room for expansion and faces very stiff political opposition from neighboring communities to any increase in flight operations. SFO suffers from high rates of weather-induced flight delays and diversions and has been slow to upgrade its air

[1] International Air Freight 2008-2013, Turbulence Ahead
[2] The Role of Air Cargo in California's Agricultural Export Trade

cargo handling capabilities. Highway access to both facilities is increasingly congested, posing a particular problem for shipments of perishable commodities.[3]

Planning Considerations

Independent of the need for financial sector improvements on a global scale, there are a number of smaller initiatives that can be undertaken to streamline air cargo activities and improve profit margins for carriers (encouraging growth in the sector and continued services).

- Facilitate risk-focused Transportation Security Administration (TSA) air cargo screening
  - More efficient/effective for supply chain security.
- Facilitate greater opportunity for inter-industry collaboration.
  - "Relationships are critical in air cargo because robust networks and partnerships help keep the supply chain moving despite economic fluctuations. In 2012, we need to continue building the relationships between shippers, forwarders and carriers that can enhance efforts in efficiency, security and business growth."[4]
- Technological innovation should be embraced and, where prudent, incentivized to facilitate air cargo providers as well as draw their business to California.
- Encourage a focus on air-cargo based trade with Latin America – "The Latin America-to-U.S. lane, dominated by climate-controlled perishables, is holding up well."[5]
- Currently, airport development and planning is disjointed and lacks communication between airports and regions.
  - "The continuing shift toward making transportation investment decisions from an intermodal perspective will require increased attention to the broader context of airport development."[6]
  - Increased coordination between airports and regions will achieve greater efficiency within the system while correcting large scale issues.
- As planes grow larger airport facilities must maintain pace, therefore both financing strategies and land acquisition will play a pivotal role in future air cargo success.
  - "Airport capacity and funding will continue to constrain the expansion of air travel. New aircraft types, while stimulating the demand for air travel, also will require expensive improvements, especially for the major airports. Creative funding approaches, such as private venture capital, will be needed to supplement established financial sources. Airports will continue to raise as much of their revenues as possible from non-aeronautical sources, such as parking and retail operations or passenger facility charges."[6]

Resources

Air Cargo Challenges and Trends
PowerPoint: http://www.faa.gov/news/conferences_events/aviation_forecast_2010/agenda/media/CF%20Richard%20Norris.pdf

[3] Ibid
[4] Air Cargo in 2012 – Opportunities and Challenges
[5] International Air Freight 2008-2013, Turbulence Ahead
[6] Aviation System Planning – Addressing Airport Infrastructure Needs

Air Cargo in 2012 – Opportunities and Challenges: http://aircargoinsights.com/expert-insights/air-cargo-in-2012-opportunities-and-challenges/

Aviation System Planning – Addressing Airport Infrastructure Needs: http://onlinepubs.trb.org/onlinepubs/millennium/00009.pdf

Brighter Days Ahead – 2012 Cargo Forecast: http://www.aircargoworld.com/Air-Cargo-News/2011/10/brighter-days-ahead-2012-cargo-forecast/312859

Glossary of Freight Terms: http://fmpglossary.wikispaces.com/

International Air Freight 2008-2013, Turbulence Ahead: http://www.americanshipper.com/newweb/TF/Seabury_Advisory_FNL3.pdf

Passenger and All Cargo Statistics: https://www.faa.gov/airports/planning_capacity/passenger_allcargo_stats/

The Role of Air Cargo in California's Agricultural Export Trade: http://www.ams.usda.gov/AMSv1.0/getfile?dDocName=STELDEV3020127

Transportation Best Practices/Trends: Building Air Cargo Relationships: http://www.logisticsmgmt.com/view/transportation_best_practices_trends_building_air_cargo_relationships/airfreight

World Cargo Air Forecast 2012-2011: http://www.boeing.com/commercial/cargo/index.html

This page is intentionally blank.

APPENDIX I-12: TREND ANALYSIS – PANAMA CANAL EXPANSION

Trend Statement

The Panama Canal connects the Atlantic Ocean to the Pacific Ocean via the Caribbean Sea. As trade demand and ocean shipping vessels continue to grow in size, both ports and canals are adapting in order to accommodate larger volumes and bigger ships. The existing Panama Canal (Canal) is currently undergoing a significant expansion, as competition from a proposed Nicaragua Canal and Coast Rica Canal looms. Economic implications for North American supply chains, including impacts to California ports, are still undetermined. However, the Port of Los Angeles and the Port of Long Beach are anticipated to be impacted by cargo traffic diverting to United States (U.S.) East and Gulf Coast ports.

Construction of the Panama Canal Extension

Source: Canal de Panama

Background

Almost 40 percent of U.S. sea vessel imports from Asia call at the ports of Los Angeles and Long Beach (POLA/LB)[1]. Most of these goods are transported in twenty-foot equivalent unit (TEU) containers that are unloaded from ships onto trains or trucks to eventually reach their final destinations. Shippers could use Central America's Panama Canal passage to serve Gulf and East Coast markets as an alternative to unloading along the Western Coast (or traveling the extra 8,000 miles around Cape Horn).

Since the Panama Canal first opened in 1914, it has been a significant piece in the global trade network – now serving over 140 maritime trade routes and more than 80 countries. The Canal, which can

[1] "3 Reasons Panama Canal Won't Divert Imports from West to East Ports." *Universal Cargo Management*, March 2013. http://www.universalcargo.com/blog/bid/95228/3-Reasons-Panama-Canal-Expansion-Won-t-Divert-Imports-from-West-to-East-Coast

accommodate vessels with a carrying capacity of about 5,000 TEUs, facilitates trade between the Americas, Asia, Europe, and the Caribbean, handling some of the heaviest cargo flows in the world. Use of the Canal is an economical shipping option between the western coasts of South and Central America and the U.S. East and Gulf coasts, as well as an all-water routing alternative for Asian trade. Almost five percent of global maritime freight passes through the Canal each year[2].

The idea of expansion resulted from growing global trade concern over the Canal's ability to handle the increasing number of vessels in a reliable, cost effective, and time-efficient manner. Capacity issues became even more apparent as a growing portion of "the global containership fleet reached a size beyond the capacity of the Panama Canal, which came to be known as 'post-Panamax' containerships[3]." Estimated to be complete in early 2016, the expansion project is expected to double current capacity. The four-part project includes: building two new lock systems (creating a new lane of traffic for the larger vessels); deepening both canal entrances; deepening the Culebra (Gaillard) cut (allowing ships travelling in opposite directions to cross at the same time); and expanding Gatun Lake (increasing the lock system water supply). These modifications will allow longer, deeper, and wider vessels with a carrying capacity of up to 13,000 TEUs[4] to traverse. The Panama Canal Authority estimates that these projects will allow for approximately 12 to 14 larger ships per day to move through the new locks, in addition to the existing locks[5]. The Authority has also "made a provision for a 4th set of locks for even larger ships, should the market mature to that point[6]."

Certain to compete with the Panama Canal, is the 170 mile Nicaraguan Inter-Oceanic Canal Project. This canal will accommodate larger vessels than the expanded Panama Canal and is 500 miles further North thus reducing transit times between the U. S. West, Gulf, and East Coasts. *See the Nicaragua Canal trend sheet for more information.*

Freight System Implications

Although not all canal impacts are known, there is much speculation about what the canal projects would mean for the global freight network. The ability to accommodate larger ships with more TEUs may lead to reduced shipping costs if it is less expensive to transport TEUs further eastward via ocean, than to transfer them onto rail or trucks from West Coast ports. According to the *Factors Impacting the North American Freight Distribution in View of the Panama Canal Expansion,* "If cost is the dominant factor, it is likely that the all-water route will be preferred for cargo bound to the East Coast. The expansion of the Panama Canal will likely modify this factor by making the routing option cheaper." If this is true, shippers will shift traffic from the West Coast to the Canal if savings are conclusive – the amount of diversion is the unknown. If a measurable percentage of imports are in fact diverted to the

[2] Panama Canal Authority. "2009 Annual Report." http://www.acp.gob.pa/eng/general/reporte-anual/2009/pdf/InformePDFingles.pdf

[3] "Panama Canal Expansion Study - Phase I Report: Developments in Trade and National and Global Economies." *U.S. Department of Transportation Maritime Administration*, November 2013. http://www.trb.org/MarineTransportation1/Blurbs/169976.aspx

[4] "Panama Canal Expansion Study - Phase I Report: Developments in Trade and National and Global Economies." *U.S. Department of Transportation Maritime Administration*, November 2013. http://www.trb.org/MarineTransportation1/Blurbs/169976.aspx

[5] ibid

[6] Tirschwell, Peter. "Panama Canal Exec Slams Nicaraguan Canal Idea." *Journal of Commerce*, February 2014. https://www.joc.com/maritime-news/international-freight-shipping/panama-canal-exec-slams-nicaraguan-canal-idea_20140203.html

Gulf/East Coast, there would be significant repercussions to the Southern California economy, including but not limited to the ports, trucking industry, rail services, as well as the warehousing industry.

There are several factors why the Canal expansion may prove undisruptive to Southern California ports. Shipping to East or Gulf Coast ports from Asia through the Panama Canal would take longer than shipping through the POLA/LB. U.S. imports from Asia to the West Coast transit about 13 days via water and 6 days via intermodal transit (e.g., rail, truck), a total of 19 days. In comparison, imports from Asia that travel the all-water route through the Panama Canal transit approximately 22 days[7]. In addition to the shorter transit time, the POLA/LB are further developed than the East Coast and Gulf ports, having deep berths and channels with the capability of handling the larger ships, the infrastructure for handling the volume of imports, and effective pollution reduction measures[8]. The cost of moving a ship through the Panama Canal has tripled over the past five years to around $450,000 per passage for a vessel carrying 4,500 containers. Many companies are finding that it is cheaper and faster to ship to California and then transiting goods overland by train. Finally, there is reliability-associated risk when changing logistics of importing goods from one port to another.

Current, construction and financial issues have been resolved but have delayed completion. The Canal is estimated to be completed in early 2016.

Canal De Panama
http://micanaldepanama.com/expansion/

Planning Considerations

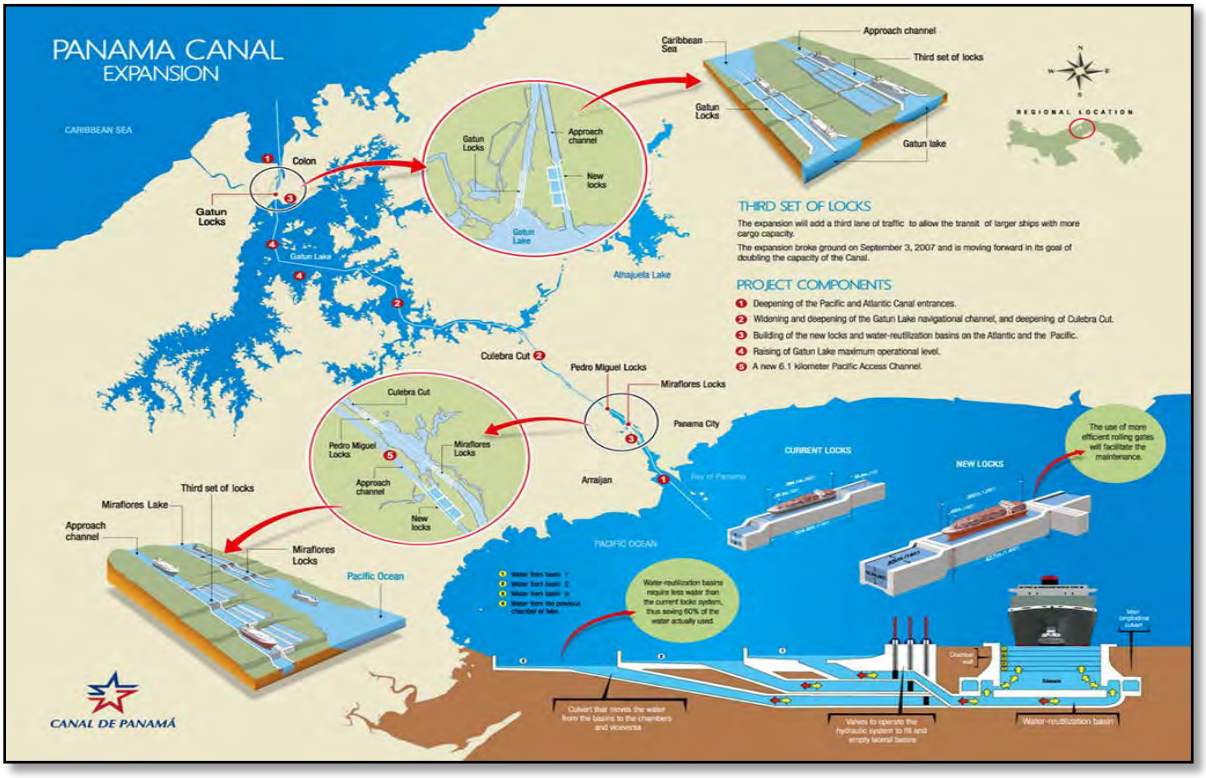
West Coast ports need to be capable of accommodating increasingly larger vessels and accompanying loads if they that want to remain competitive with Central America canal shipping options. This adaptation includes the need for more skilled labor and truck drivers to handle the increased volume of goods needing transport at peak periods. Productivity also needs to be stepped up. Ports that can accommodate and efficiently handle containers at a low cost will be favored.

California must remain mindful that Gulf and East Coast ports are ardently preparing for the anticipated influx of ocean-going freight with rail, intermodal, and other improvements. In order to maintain a competitive market edge, the ports of Los Angeles and Long Beach are constantly adapting to changes and can already accommodate the world's largest 18,000 TEU capacity "Triple E" vessels. In addition, both BNSF Railway and Union Pacific Railroad have upgraded their respective transcontinental corridors from the West Coast. With strong, well-connected rail and highway networks, as well as on-dock rail system and equipment able to handle large ships and loads, California ports are currently in a good position to efficiently move goods off of ships for transport to their destinations. However, the State must continue to keep a watchful eye on the market and upcoming potential threats to competition such as the Nicaragua Canal.

[7] Rodrigue, Dr. Jean-Paul. Factors Impacting the North American Freight Distribution in View of the Panama Canal Expansion. *The Van Horne Institute*. 2010. http://www.vanhorne.info/files/vanhorne/Panama%20Canal%20Expansion%20Study,%20Final%20Report.pdf

[8] "3 Reasons Panama Canal Won't Divert Imports from West to East Ports." *Universal Cargo Management*, March 2013. http://www.universalcargo.com/blog/bid/95228/3-Reasons-Panama-Canal-Expansion-Won-t-Divert-Imports-from-West-to-East-Coast

Panama Canal Expansion Project



Source: Canal de Panama

Resources

"3 Reasons Panama Canal Won't Divert Imports from West to East Ports." *Universal Cargo Management*, March 2013. http://www.universalcargo.com/blog/bid/95228/3-Reasons-Panama-Canal-Expansion-Won-t-Divert-Imports-from-West-to-East-Coast

Panama Canal Authority. "2009 Annual Report." http://www.acp.gob.pa/eng/general/reporte-anual/2009/pdf/InformePDFingles.pdf

"Panama Canal Expansion: Changing the Channel." *Inbound Logistics*, December 2013. http://www.inboundlogistics.com/cms/article/panama-canal-expansion-changing-the-channel/

"Panama Canal Expansion Study - Phase I Report: Developments in Trade and National and Global Economies." *U.S. Department of Transportation Maritime Administration*, November 2013. http://www.trb.org/MarineTransportation1/Blurbs/169976.aspx

Rodrigue, Dr. Jean-Paul. Factors Impacting the North American Freight Distribution in View of the Panama Canal Expansion. *The Van Horne Institute*. 2010. http://www.vanhorne.info/files/vanhorne/Panama%20Canal%20Expansion%20Study,%20Final%20Report.pdf

"Smaller, slower more expensive: Panama Canal losing shipping to other routes." *Longshore and Shipping News*, January 14, 2014. http://www.longshoreshippingnews.com/2014/01/smaller-slower-more-expensive-panama-canal-losing-shipping-to-other-routes/

Tirschwell, Peter. "Panama Canal Exec Slams Nicaraguan Canal Idea." *Journal of Commerce*, February 2014.
https://www.joc.com/maritime-news/international-freight-shipping/panama-canal-exec-slams-nicaraguan-canal-idea_20140203.html

This page is intentionally blank.

APPENDIX I-13: TREND ANALYSIS – NICARAGUAN INTER-OCEANIC CANAL

Trend Statement

Plans are underway for a construction of a new shipping passageway in Nicaragua that will rival the Panama Canal. The Nicaraguan government has granted a 100 year concession to HK Nicaragua Canal Development (HKND) Investment Company, a Chinese firm to explore development and construction of a 90 foot deep, 173 mile long canal, through Nicaragua. While this canal is roughly three times longer than the Panama Canal, it is 500 miles further north and will offer the shortest shipping route from Asia and many United States (U.S.) East Coast ports. Cost estimates for the project range from $40 billion to $60 billion. The entire project is estimated to take up to 11 years to finish. As well as the waterway, the draft agreement between Nicaragua and a HKND includes provisions for two free trade zones, an airport and a freight railway, unrestrained and tax-free rights over vast tracts of land, and the right to operate and manage the canal for up to 100 years before turning it over to Nicaragua. Until that time, Nicaragua would have a controlling interest in the canal and receive income from it.

Nicaragua Canal Proposed Route

Source: Journal of Commerce, July 28, 2014

The one-hundred year old Panama Canal (PC) is going through an expansion project adding two new sets of locks, one on the Pacific side and the other on the Atlantic side, to accommodate maximum vessel size of 13,000 twenty-foot equivalent units (TEUs). The new third lane of locks is scheduled to be completed in 2014. The new, bigger locks will help reduce locking time, thereby reducing traffic congestion and travel time for ships crossing the Atlantic into the Pacific Ocean and vice versa. The locks

will not be able to accommodate the new, larger ships such as the Triple E[1] class of ships that have the capacity to handle 18,000 TEUs. The ships are too wide to get through the locks. However, the Panama Canal Authority has plans for expansion of the canal so that they can route the mega-ships through the passageway. The larger ships ability to move through restricted waterways, such as the current Panama Canal, makes it difficult for them to traverse the globe. Rather, they must stay within certain regions where they are able to maneuver and to be served by larger ports and infrastructure.

These larger vessels, often referred to as Post-Panamax, will likely operate only in the Asia-Europe trade, since they are able to navigate the Suez Canal to the Mediterranean Sea. A new, larger canal such as the Nicaraguan Canal could gain an economic advantage by accommodating such vessels.

Background

The discussion of construction of a transoceanic canal had been previously proposed periodically in the 1500s (Spanish), 1800s (Napoleon III) and in the late 19th century to the 21st century - before the Panama Canal. Although initially supported by President McKinley, it never went beyond plans and studies. The project while costly will create additional revenue for the Panamanian economy and provide future economic prosperity, supporters say.

Some say there is enough trade to warrant a second canal on the continent. Jason Bittner, director of the Center for Urban Transportation Research at the University of Southern Florida, said the demand will probably be there by the time the Nicaragua project is finished. It is estimated to take 11 years. “I don’t anticipate there being any reduced demand in trade between the global trading partners, so East Asia and the eastern United States will continue to have significant trade,” Bittner said. “f you make this large public sector investment, it will be used, as long as it’s priced properly, as long as the Panama Canal isn’t significantly undercutting it.”

Bigger benefits are expected in the wider economy. Paul Oquist, secretary of public policies of the presidency of the republic, said the Great Interoceanic canal will allow Nicaragua's GDP to double and employment to triple by 2018.

Freight System Implications

The implications to the existing freight systems in California are the possibility of reduced freight volumes, and fewer vessel callings when these ships are put into service globally, but more specifically, if they are not able to call at California ports. The ports will need to improve their infrastructure or lose out on serving these new, mega ships. However, since the Los Angeles region is one of the largest consumer markets in North America, there will still be significant freight moving to that region and the San Francisco Bay Area as well. It will most likely mean some freight diversion to the Gulf and East Coast ports, how much is unclear.

Planning Considerations

The planning considerations for a project of this scale are significant. The Nicaraguan government has pledged to expropriate all land along the chosen route. It is unlikely with a project of this size that land purchases will be at market rate. The chosen route along with the other considerations given to HDNK, is

[1] The name “Triple E” comes from the new class of ships design principle – “Economy of scale, energy efficient, and environmentally friendly.”

likely to displace indigenous groups, communities, land owners, and business owners. Details of the possible route have yet to be disclosed, though it is thought likely that it will run through Lake Nicaragua, the most important source of freshwater in the country and major source of drinking water and irrigation, and home to rare freshwater sharks and numerous other species and through a tropical forest. The area also encompasses one of the largest coral reefs in the Americas and is home to endangered marine species. It is also an area of volcanic and seismic activity. The list of concerns is long: hurricanes, earthquakes, salt-filtration into Lake Nicaragua, volcanic and seismic activity, degradation of the environment, denude shorelines of rivers leading inland from the new ports, invasive species from container bilge water, and sedimentation.

The operator has hired one of the world's leading consultancies, Environmental Resources Management, to conduct impact assessments. According to HKND Group's website "HKND Group has committed to develop the project in a manner that conforms with international best practices, delivers significant benefits to Nicaragua and its people, generates local job growth and economic development, honors the local population and heritage of the country, and serves the best interests of Central America and, indeed, the world." There is no public documentation about the project or impacts being shared with the public; therefore, it is difficult to ascertain the route and its associated environmental and socio-economic impacts.

It is also unknown how high the toll will be for the Nicaraguan Canal; but, it is likely that the tolls will be high for capital recovery. The Panama Canal can charge a lesser toll amount since there is less capital investment.

Nicaragua is pursuing this project because they believe the economic benefits and jobs outweigh the costs. Nicaragua is the second-poorest nation in the Americas (North, Central and South America). In a February 20, 2014 article in the Daily Times, it was estimated that the gross domestic product will go up 11 percent per year and create "almost a million jobs during construction and the initial years of operation." It remains unclear whether the funding is coming indirectly from China. (HDNK has never handled a project of this size.)

In addition to the export of manufactured goods from Asia to America, it is expected that U.S. exports to Asia will increase as well. This will include coal exports from the east coast of North America as well as new LNG exports from the U.S. Gulf. These commodity trades will benefit by the construction of a new Nicaragua Canal.

Trade between Latin America and Asia is also expected to grow in the next few years. This trade mainly includes bulk commodities such as iron ore, coal, and other mineral deposits, as well as wood, cereal crops, salt and ever increasing crude oil exports.

Resources

HKND Group, The Nicaragua Canal and Development Project, http://hknd-group.com/the-project/, retrieved June 29, 2014.

Maritime Connector, Panamax and New Panamax, http://maritime-connector.com/wiki/panamax/, retrieved June 29, 2014.

Nicaragua Advances Plans for New Interocean Canal, Journal of Commerce, June 10, 2013.

Nicaragua Approves Building Its Own Canal, NY Times, June 13, 2013.

Nicaragua country profile, BBC
News, http://news.bbc.co.uk/2/hi/americas/country_profiles/1225218.stm, retrieved June 29, 2014

Nicaragua Fast-tracks Huge Canal Project, USA Today, June 7, 2013.

Nicaragua Waterway to Dwarf Panama Canal, The Guardian, June 12, 2013.

Nicaragua Canal
http://www.globalsecurity.org/military/world/centam/nicaragua-canal.htm

HKND Group Nicaragua Canal
http://hknd-group.com/portal.php?mod=list&catid=35

APPENDIX I-14: TREND ANALYSIS – INLAND PORTS

Trend Statement

Since the early 2000's, there has been a renewed interest by supply chain stakeholders in developing inland ports as a means of improving the competitiveness and efficiency of trade hubs like seaports and border crossings. Inland ports can also provide flexibility, access and additional capacity to rail networks. However, developing new inland ports often requires complex, collaborative private and public partnerships. Success depends upon a thorough analysis of the proposed inland port's potential costs and benefits to key stakeholders.

Background

There is no single definition of an inland port, although most include the presence of multi-modal and multi-purpose activities often tied to the activities of a trade gateway:

- "An inland port is a site located away from traditional land, air and coastal borders" that carries out the same functions of a seaport "with the vision to facilitate and process international trade through strategic investment in multi-modal transportation assets and by promoting value added services as goods move through the supply chain."[1]

- "A rail or a barge terminal that is linked to a maritime terminal with regular inland transport services. An inland port has a level of integration with the maritime terminal and supports a more efficient access to the inland market both for inbound and outbound traffic. This implies an array of related logistical activities linked with the terminal, such as distribution centers, depots for containers and chassis, warehouses and logistical service providers."[2]

Inland ports may play a key role in the transfer of full or transfer of empty containers to railcars. For planners and elected officials at the local level, inland ports are sometimes viewed as an opportunity to move cargo processing and distribution away from congested areas.

The closure of military bases in the 1990's and projections of dramatic growth in containerization in the early 2000's prompted freight carriers and public agencies to explore strategies to reduce approaching port congestion by adding new cost-effective inland ports to their supply chains. At about the same time, public agencies were seeking transportation strategies to lower truck emissions by reducing vehicle miles travelled.

[1]Christensen Associates (2013) "Inland Ports," the University of Texas Center for Transportation Research, Grow & Bruening, P.C. for Transportation Research Board of the National Academies. http://www.envisionfreight.com/modes/default.aspx%3Fid=inland_ports.html.

[2]Rodrigue, J-P. "Inland Ports / Dry Ports." The Geography of Transport Systems, 3rd edition., Dept. of Global Studies & Geography , Hofstra University, New York, USA . 2013. http://www.google.com/url?sa=t&rct=j&q=&esrc=s&frm=1&source=web&cd=2&cad=rja&sqi=2&ved=0CDcQFjAB&url=http%3A%2F%2Fpeople.hofstra.edu%2Fgeotrans%2Feng%2Fch4en%2Fappl4en%2Fch4a4en.html&ei=-MazUtjKIMbloASclYHoDQ&usg=AFQjCNHzhld4Xm2KdUuK3AXcMwVSYY2soQ&sig2=eSZKmEgayMQV8ArEig0cjA&bvm=bv.58187178,d.cGU

Although there are numerous intermodal terminals across the nation, there are less than a dozen that function on the scale of a port. These include Houston, Chicago, Kansas City, Saint Louis, Atlanta, Memphis, Columbus and Charlotte. Newer inland ports have been created in Greer, South Carolina, Front Royal, Virginia, and Alliance, Texas. Some former terminals, such as Joliet/Elwood, Illinois, have grown in size and level of service integration to be considered inland ports.

California has several inland terminals that might be considered inland ports including: Sacramento, Stockton, Fresno, Lathrop and San Bernardino.[3] A 2008 study of the potential for rail shuttle service to a potential new inland port in the Inland Empire of Southern California concluded that, though the project was technically feasible and would produce a small amount of vehicle miles traveled reductions, it was not justified for a variety of institutional issues and could not compete with more pressing freight-related investment options.[4]

Freight System Implications

Some inland port facilities are located outside of urban areas to be near manufacturing and distribution centers; others are located adjacent to large urban areas to take advantage of pre-existing networks of suppliers and customers. Successful inland ports tend to have the following characteristics however: 1) an adequate catchment area (market proximity to at least 3 million people within 200 miles[5]); 2) availability of suitable land at relatively affordable prices for warehousing, distribution and transloading facilities and related services (such as truck and chassis repair); reliable and competitive rail service with a direct Class 1 railroad link to a major port; 3) good access to a highway network; and 4) abundant reasonably priced labor compared to coastal areas.[6]

In addition, key conditions must be met for inland ports to be viable, particularly for facility users. These include: 1) coastal on-dock and near-dock terminals that are unable to accommodate the growth in container volumes; 2) costs related to truck travel time and vehicle miles traveled are significantly reduced; 3) truck emissions are significantly reduced; 4) there is an acceptable impact on national railroad delivery times; and 5) the inland port is located where there are minimal potential conflicts with other land uses so that congestion community, and environmental impacts are insignificant or able to be mitigated. An inland port may also add value to the supply chain by: 1) being designated a free-trade zone; 2) having large volumes of unloaded empty containers; 3) having a clear governance structure; 4) having a state and local government climate that is enthusiastic about inland port development and willing to offer strong incentives to participants; and 5) ensuring the logistics costs savings significantly offset the costs of locating operations further from the coastal ports.

[3] "California State Rail Plan," Caltrans. 2013. http://californiastaterailplan.dot.ca.gov/

[4] The Tioga Group, Inc., Railroad Industries, Inc., Iteris (2008)"Inland Port Feasibility Study, Project No. 06-023, Final Report." Prepared for the Southern California Association of Governments, August, 2008. http://www.google.com/url?sa=t&rct=j&q=&esrc=s&frm=1&source=web&cd=42&ved=0CDAQFjABOCg&url=http%3A%2F%2Fwww.tiogagroup.com%2Fdocs%2FTioga_Grp_SCAGInlandPortReport.pdf&ei=sSOzUvj3J5DmoASboIGQCQ&usg=AFQjCNEjRTN7YGVaki3J_Lxwyw1ez7mutA&sig2=ISRCObO8zDjSZvXHehbUIA

[5] Jones Lang LaSalle IP, Inc., (2011) Perspectives on the Global Supply Chain: Emergency of Inland Ports. http://www.us.jll.com/united-states/en-us/emergence-of-inland-port

[6] IBI Group (2006) "Inland Container Terminal Analysis Final Report." http://www.th.gov.bc.ca/PacificGateway/documents/061215_Inland_Container_Terminal_Analysis.pdf

Planning Considerations

The primary planning goal in developing a new inland port is to ensure there is a strong and sustainable economic benefit from the capital investment in which the total logistics costs (capital, fuel, labor, transit time) are lower, and flexibility and reliability are significantly higher than expanding in the vicinity of the coastal port area would be. Inland port strategies that do not improve regional truck flows are not likely to find support.[7] Another planning concern is the uncertainty of future growth in trade volumes. Investment in new capacity simply to relieve current congestion may be risky if that volume is not sustained or shifts to other locations.[8]

Resources

Inland Rivers, Ports, and Terminals, Inc., an association. 1635 W. First St., Granite City, IL 62040. www.ipt.net

[7] Rahimi, M., Asef-Vaziri, A. Harrison, R. (2011) "Integrating Inland Ports into the Intermodal Goods Movement System for Ports of Los Angeles and Long Beach. METRANS Transportation Center Report No. 07-01. http://ntl.bts.gov/lib/42000/42500/42540/07-01-Final-Report.pdf

[8] "The waves of containerization: shifts in global maritime transportation." (2013) Presentation made by Jean-Paul Rodrigue, Hofstra University, NY. http://www.youtube.com/watch?v=KGROHv1AcLY

This page is intentionally blank.

APPENDIX I-15: TREND ANALYSIS – NICHE PORTS AND BULK COMMODITIES

Trend Statement

Niche ports and bulk commodities are intrinsically linked. Commodities place specific demands on a port complex, and niche ports have either developed to serve a specific customer base or are typically agile enough to adapt their facilities to suit specific needs. However, because of their close connection to and dependence on specific commodities, the economic well-being of these ports rises and falls along with the specific niche market they serve. Containerization of bulk materials may offer a method of diversifying their services and lessen the demand on key commodity-based sectors.

Background

Niche ports often specialize in specific goods movement operations that are not the focus of larger facilities that move containerized goods. Niche ports may specialize in agricultural products, automobiles, machinery, bulk materials and other products that do not fit within the containerization model. Based on their physical characteristics, location, facilities and equipment, niche ports focus on specific cargo and make strategic decisions to invest in assets that will support and suit their targeted markets. Of the 11 California ports that operate publicly, eight are considered smaller ports. Some ports prefer to be referred to as a specialty port. However, the following ports fall within this classification: Hueneme, Humboldt Bay, Redwood City, Richmond, West Sacramento, San Diego, San Francisco, and Stockton[1]. The Port of Benicia (Benicia), although not a public port, falls within this category. Benicia is owned and operated by AMPORTS, one of North America's largest auto processors. With specialization of port activities comes a substantial level of risk. When the industry that is being served suffers a decline in business, demand for port services declines, causing a reduction in the need for labor and lower levels of revenue generated by the ports themselves. Niche ports are forced to employ innovative business models and constantly alter their practices to account for ever-changing economic conditions (Logistics Management 2009; White 2009).

Freight System Implications

Niche ports provide vital services to industry and the national economy. The Port of South Louisiana handles approximately 50 percent of bulk grains produced in the entire U.S. Midwest for export and 15 percent of total US exports (by volume).[2] Its importance to the Nation was never more apparent than when the port was closed in 2005 by Hurricane Katrina. Due to the specialty nature of its facilities and the inability to quickly transfer its services to another port, an entire industry could have suffered significant losses and left product stranded had the port not opened in time for fall harvest. Another example of this trend was the slowdown in vehicle purchases that occurred in 2008 and 2009, which dramatically slowed growth rates at the Port of Hueneme in Ventura County. Hueneme lost $1 million in revenue in 2009 after realizing profits of $1.3 million the year before (White 2009).

The various risks for niche ports include:

[1] http://www.dot.ca.gov/hq/tpp/offices/ogm/seaports.html
[2] http://www.dot.ca.gov/hq/tpp/offices/ogm/seaports.html

- Commodities often flow through niche ports because of dedicated infrastructure.
    - Entire industries can depend upon one niche port complex; therefore, efforts to protect the livelihood of the industry will also maintain the port's viability.
    - Alternatively, a declining niche industry creates financial stress for niche ports.
- Detrimental economic implications are magnified at niche ports because of their lack of a diverse client base.
- Urban encroachment through land use variances limits the development options of all ports, however small ports may be particularly vulnerable. They have an already limited market share that cannot be broadened through expansion if encroachment occurs.
    - The ports of Redwood City and San Diego have faced development pressures in recent years. In San Diego, the Tenth Avenue Marine Terminal was the focus of multi-use development plans that included a new stadium, an arena, and a bay front park.[3] Encroachment of residential housing [4] threatens a working waterfront.

Planning Considerations

If the demand for bulk commodities continues to rise, the ports that focus on such goods movement activities will need investments to stay competitive (Burnson 2011). Access to rail is a main concern for many of these locations. Containerization of bulk commodities is increasingly an option but demands logistics efforts devoted to repositioning and maximizing container locations, updating loading techniques and equipment (containerized bulk products often work best in containers that are stored vertically, avoiding leakage at door seams) and a re-working of concepts related to weight distribution and standardization of container size so that bulk materials do not have to be transloaded. Transloading is a process involving the transfer of goods from marine containers into larger, domestic containers.

- Bulk materials are often transported via train; therefore, niche ports (or any port with a dedicated focus on bulk materials movement) generally need reliable heavy rail access to remain competitive (Burnson 2011).
- Containerization of commodities may lead to the expansion of bulk movements into more varied markets because containers can be offloaded at ports that do not have specific bulk commodity facilities.[5]
    - However, this may also lead to slightly diminished use of typical bulk materials movement strategies as containerization increases in popularity, ease of use and reliability.
    - Not all goods, such as grain or iron ore, will fit within the containerization model. These could become the focus of future niche port operations if other commodities become increasingly containerized.
    - Containerization of commodities warrants significantly more study. There is currently limited understanding of how to achieve the highest level of benefit from such techniques.

[3] http://aapa.files.cms-plus.com/SeminarPresentations/07_Comm_Dodge_Dick.pdf; http://www.workingwaterfrontgroup.org/wwg-issues-back-off-no-stadium-at-the-terminal/; http://www.workingwaterfrontgroup.org/wwg-issues-saving-san-diegos-marine-terminals/#.
[4] http://www.utsandiego.com/news/2013/sep/11/tp-shipbuilders-see-grave-threat-from-zoning/all/?print
[5] http://people.hofstra.edu/geotrans/eng/ch3en/appl3en/ch3a2en.html#

- Commodities containerization will be challenged by the seasonality of some goods, such as agricultural products, which may not warrant new investments in infrastructure.

Resources

American Association of Port Authorities: http://www.aapa-ports.org/home.cfm.

Burnson, Patrick (2011). State of Bulk and Breakbulk Ports: Back to Basics. *Logistics Management*. Volume 50, no. 7, pp. 60-64.

California Association of Ports Authorities Blog: http://blog.californiaports.org/.

Logistics Management (2009). Shifting Tides. *Logistics Management*. May 2009, p. 49.

McSwain, Dan. (2013). Shipbuilder see grave threat from zoning. *Union Tribune* 11 September, 2013. http://www.utsandiego.com/news/2013/sep/11/tp-shipbuilders-see-grave-threat-from-zoning/all/?print

Rodrigue, J.P. and Notteboom, T. The Containerization of Commodities (ch. 3, The Geography of Transport Systems). http://people.hofstra.edu/geotrans/eng/ch3en/appl3en/ch3a2en.html#
Seaports: http://www.dot.ca.gov/hq/tpp/offices/ogm/seaports.html.

White, Ronald D. (2009). A Perfect Storm Hits Tiny Port of Hueneme; The Niche Facility Suffers as Carmakers Struggle. *The Los Angeles Times*. 28 October, 2009, B1.

This page is intentionally blank.

APPENDIX I-16: TREND ANALYSIS – VESSEL SIZE AND IMPACT ON PORTS

Trend Statement

Ocean carriers are responding to cost pressures by ordering larger, more efficient vessels and coordinating with competitors in vessel sharing agreements and alliances. The trend toward larger vessels, up to the 18,000 twenty-foot equivalent (TEU) class, will have dramatic implications for ports that compete to service them as well as for the land side warehouse, trucking and rail operations that must accommodate an increase in volumes. Those increased volumes will likely be flowing through a fewer number of larger trade gateways such as those in Southern California.

In addition to 18,000 TEU ships to be deployed in the near term, there are also plans for 19,000 TEU ships. The China Shipping Group and their subsidiary Cosco Shipping Container Line (CSCL) have agreed to take delivery of five of these 19,000 TEU ships which will be phased in by 2015. Also being contemplated are 22,000 to 24,000 TEU ships which Maersk is developing for its future operations, currently they have no plans to order these ships.

Background

Ocean carriers have responded to competitive pressures, particularly in the wake of the economic downturn, by seeking to reduce operational costs. One solution has been to run larger, more efficient ships on major trade lanes. Larger vessels allow for economies of scale (reducing the price per container to ship them) on the oceanic voyage. In addition, new ship designs allow for more fuel efficient operations. The largest of the new vessels are referred to as the Triple E class, which stands for energy, efficiency, and environmental improvements and will carry up to 18,000 TEUs. The ships reach up to 1,300 feet long and 200 feet wide. The Triple E's also have a top speed that is less than earlier generations of ships, reinforcing a recent trend in the industry toward "slow steaming." With slow steaming, carriers reduce vessel speed in order to burn less fuel, thereby reducing emissions, and reducing operating costs. It also allows carriers to manage capacity better when capacity exceeds demand.

Even though the largest vessels have received the greatest attention, ships that carry more than 10,000 TEUs are still large, and have limited options with regard to trade lanes (they are too large for example to transit the Panama Canal) and to ports that can accommodate them. Fifteen percent of the world's container capacity moved on post-Panamax vessels in 2000 and increased to 44 percent by 2011.

The largest container ships serving North America were in the 10,000 TEU range up until 2012 when vessels carrying 12,500 TEUs began calling at the San Pedro Bay ports. In September 2012, the Mediterranean Shipping Company Beatrice arrived at the Port of Long Beach. With a capacity of 13,800 TEUs (1200 feet long, 167 feet wide), it became the largest vessel to call at a North American port.

Freight System Implications

Maersk, one of the world's largest shipping companies, will be taking delivery of ten Triple E vessels by 2015. Most of these will be deployed on Asia-Europe trade lanes[1]. These larger ships are anticipated to cause a "cascade effect with big ships displacing small ships across all ships sizes[2]." Their impacts on the global freight system are widespread; however, the most direct impact is on the port facilities that have to accommodate them:

- Because the large vessels include an extra row of containers and are stacked higher, they demand more specialized cranes to load and unload them.
- The additional loads that the cranes handle place additional pressure on the dockside infrastructure.
- Berths have to be able to handle the impact of the larger vessels.
- The increase in container volume will require more on-dock labor during peak periods when ships call and are unloaded. This creates a similar pressure on supply chain partners - including the trucking and warehousing sectors - that move and process the cargo once it leaves the ports.

For shippers who rely upon a predictable discharge schedule for vessels (and for truckers, warehouses, railroads and others who help shippers move the cargo), larger vessels and slow steaming have injected some uncertainty into the process of moving goods:

- Shipping more containers on fewer, larger vessels will likely have an impact on the redeployment of smaller vessels in trade lanes where the largest ships are not in service. Similarly, the timing and frequency of calls at smaller ports will also be affected.
- Slow steaming means longer sailing schedules. Larger vessels mean potentially longer unloading times at ports. Both are concerns to importers operating on a just-in-time basis.
- The loading and unloading of larger vessels can create peak period demands for equipment use (like chassis or yard equipment), resulting in possible shortages. It also creates peak period demands for labor that inject a certain level of unpredictability into the hiring and scheduling process.
- Shippers will need to manage their supply chain to avoid being caught short on inventory.

Beneficial cargo owners may want to consider risk management whether to ship large volume of containers on a single ship or use additional carriers (or additional ports) to spread out the risk. However, larger vessels do provide an opportunity for ocean carriers to share excess capacity. In 2011, carriers Hapag-Lloyd, APL and Hyundai established the G6 alliance for the Asia to Europe trade lane. In 2014, pending European and American regulatory approval, the world's three largest carriers – Maersk, MSC and CMA CGM – attempted to launch a P3 alliance. Chinese regulators blocked the proposal for a three-way alliance. The alliance would have resulted in vessel sharing agreements covering 15 percent of the world's global containerized fleet, 255 ships with a capacity of 2.6 million TEUs. MSC and Maersk (2M), the world's top two container lines, did agree on a 10-year pact which is for the Asia-Europe, Transatlantic and Transpacific routes and will cover 185 ships. The alliance should help with over capacity and help to stabilize freight rates. The investment of the 2M carriers in larger, more efficient vessels may force competitors to do the same, or at least deploy smaller but newer and more efficient ships that are competitive from an operating cost perspective. It is expected that, post 2M, all of the

[1] King, M. (2013) "Triple E's Domino Effect." *Journal of Commerce.* March 4, 2013, pp. 26-32.
[2] "Big Ships, Big Challenges: The Impact of Mega Container Vessels on U.S. Port Authorities." Dr. Noel Hacegaba, Port of Long Beach, June 30, 2014.

ships being deployed in the trans-Pacific trade lanes, servicing the west coast of the US will be larger than 9,000 TEU vessels. [3]

Planning Considerations

California, particularly the Southern California trade gateway, is in a position to draw traffic from larger (and alliance-run) vessels because of existing capacity. Long Beach's main channel is 76 feet deep and is the longest in North America. This will place pressure on ports and terminal operators to upgrade facilities and develop new terminals designed for the largest vessels. The new alliances are also creating financial uncertainty for port authorities and pitting ports against one another for more favorable rates and other incentives.

This may require new kinds of operations to eliminate peak period congestion when ships are loaded and unloaded and when containers leave the port by either truck or rail. Ports will have to make certain that there are ample containers, equipment, chassis and labor for these surges in operation. Larger ships will take up more time at the port and berth windows will become more limited. For local officials and communities, increasing volumes will create new demand for infrastructure improvements outside of the gate as well.

Resources

King, M. (2013) "Triple E's Domino Effect." Journal of Commerce, March 4, 2013, pp. 26-32.

Leach, P. (2013) "Networking to the Max." Journal of Commerce, June 24, 2013, pp. 36-38.

P3 Network: http://www.maerskline.com/en-us/shipping-services/p3-network

Triple E Class Vessels: http://www.worldslargestship.com/

LA-LB terminals should expect 18,000-TEU ships, expert says, Journal of Commerce, October 1, 2014, Bill Mongelluzzo, http://www.joc.com/port-news/us-ports/port-los-angeles/la-lb-terminals-should-expect-18000-teu-ships-expert-says_20141001.html

New ships, winter to pressure carriers in Asia-Europe trade, Journal of Commerce, October 13, 2014, Bruce Barnard, http://www.joc.com/maritime-news/trade-lanes/asia-europe/new-ships-winter-pressure-carriers-asia-europe-trade_20141013.html

[3] Leach, P. (2013) "Networking to the Max." *Journal of Commerce* June 24, 2013, pp. 36-38.

This page is intentionally blank.

APPENDIX I-17: TREND ANALYSIS – CHASSIS MANAGEMENT

Trend Statement

Changing equipment management practices with regard to chassis affects land use and traffic patterns in and around ports.

Background

Chassis facilitate the movement of intermodal cargo from the ocean vessel to truck and freight rail. Chassis storage has typically occurred at maritime terminals and rail yards. Unlike ocean carriers in other parts of the world, including in Canada, ocean carriers operating in the United States (U.S.) have traditionally owned the chassis and provided it to truckers for their use in transferring containers between the ports and distribution and intermodal facilities as part of local trips (drays). Truckers are then required to reposition the chassis back to the terminal.

This model is a legacy of the early days of containerization, when ocean carriers invested in equipment in order to secure access to markets in the interior of the U.S. The model has worked in California (in Southern California in particular) because available land has allowed terminals to store chassis on site and to place containers "on wheels," instead of stacking them, as a service to customers.

A shift in chassis management practices underway may result in a demand for storage facilities outside of the terminal gates and changes in traffic patterns for local truck trips to and from port facilities.

Stacked Chassis – Lathrop Intermodal Facility

Source: Caltrans, Office of Freight Planning

Freight System Implications

Recent chassis management practices required inefficient repositioning between inland distribution centers, warehouses and ports to return the equipment to its owner. However, this does not prevent truckers from arriving at ports with "foreign" chassis. Thirty-percent of all container transactions of all types remain associated with foreign equipment (Le-Griffin and O'Brien, 2013). In this case, truck drivers are forced to "flip" chassis on the docks at a flip line, replacing the foreign chassis with one belonging to the ocean carrier stored on site. The trucker must then return the foreign chassis to its owner. This necessitates more inefficient movements of equipment inside the terminal involving both chassis and utility trucks (UTRs) while the flip is occurring.

Carriers realized that the current model is not sustainable. At an estimated cost of $8,000 per chassis, there were too many chassis being stored at too high a cost to carriers with not enough space. In other parts of the world, ports are more productive with less land. In order for California ports to compete with these other ports in accommodating greater numbers of containers in the future, California ports need to use port land more efficiently, which implies less chassis storage and more land devoted to staging and stacking containers.

Chassis management practices are also inefficient for truckers if they are required to deliver a container to one terminal and return a chassis to another location.

The recent recession has also encouraged changes in the relationship between the equipment owners and truckers. A large number of idle assets imply high expense and low revenue. As a result, ocean carriers are looking to pass along costs or get out of the chassis business altogether.

In June 2010, Congress passed "Roadability" legislation, which authorizes the Federal Motor Carrier Safety Administration to mandate various fitness tests for chassis. This is expected to result in more standardized equipment, eliminating the need for carriers to compete on the basis of their equipment's reliability. This provided another incentive for ocean carriers to get out of the chassis business.

A number of carriers are pooling their chassis, permitting truckers to use the equipment for multiple trips without repositioning it first. There are many potential benefits of chassis pools. First, they allow more revenue trips and allow carriers to divest themselves of a portion of their equipment fleet, freeing up both capital and land. Also, the adoption of chassis pools rationalizes terminal operations, improves safety and reduces congestion by minimizing in-terminal moves as well as diesel emissions and bare drays.

Ocean shippers operating at the Ports of Los Angeles and Long Beach have developed terminal-wide chassis pools, i.e. pools of chassis belonging to different ocean carriers calling at the same terminal. These include the Los Angeles Basin Pool (LABP) which involves 25,700 units. Major contributors include China Shipping, COSCO, Hanjin, and Yang Ming. Other major chassis pools at the San Pedro Bay Ports include the Grand Alliance Chassis Pool (GACP), which contains 12,500 units and the New World Alliance (NWA) chassis pool, a partnership of MOL, Hyundai and APL.

Other industry models have been tested and adopted by individual ocean carriers: Maersk was the first to make a move toward divestiture. It transferred chassis ownership to a subsidiary, which rents the chassis to motor carriers on a daily basis. Some ocean carriers now require motor carriers to provide their own or rented/leased chassis, then invoice for the cost of chassis rental or roll it into their charge

rate. Some continue providing free chassis for certain high volume customers, but issue a usage fee for other moves. In some cases, an ocean carrier may still provide equipment to the motor carrier believing that control of the equipment allows them to provide superior service to customers, particularly those moving high volumes of containers.

Planning Considerations

Chassis management changes such as increased use of chassis pools, third-party equipment leasing and direct provision by truckers has land use implications both at terminal facilities and outside the gates.

- On docks, fewer chassis mean more land available for stacking containers. The shift to management by third-party, neutral or "gray" chassis providers creates a need for chassis storage facilities for leasing companies, chassis pool operators and trucking companies near the ports and rail yards and at inland locations near distribution centers and warehouses.
- This has the potential to change intra-metropolitan freight flows, creating demand for infrastructure, including new access roads, particularly in the vicinity of the ports.
- Fewer truck movements mean reduced vehicle miles travelled (VMT) and emissions.

As the industry adjusts to these changing practices, insufficient chassis supply and a disjointed system is causing wasted truck trips, slow equipment turnover and congested terminals. The problem is exacerbated by the arrival of larger vessels at ports in Southern California in particular, creating a peak demand for chassis and yard equipment that is not being met under current conditions. Tom Heimergartner, president of Best Transportation in Port Newark, New Jersey, sums it up best – "It's a circular situation – chassis shortages cause delays at terminals, and delays at terminals cause chassis shortages."[1] The delay, in turn, is slowing the shipper supply chains. Container dwell time is rising and harbor truckers are experiencing unusually long turn times because the marine terminals do not have the types and quantities of chassis needed.

While the changes are being driven by the industry, the responsibility for providing facilities to manage pooled or gray equipment falls into a jurisdictional "no man's land." The Ports of Los Angeles and Long Beach and other key stakeholders have formed a Chassis Operations Group to find a more efficient chassis supply model for the nation's largest port complex. In October 2014, the Port of Long Beach announced it was pursuing the development of its own chassis operating group to purchase, maintain and manage chassis and forming a Congestion Relief Team.

In September 2014, the Justice Department antitrust division agreed not to challenge a chassis use agreement between two major container pools to share their intermodal chassis in the ports of Los Angeles and Long Beach. Two enterprises would allow free interchange of chassis between their pools where they operate in the San Pedro Bay harbor.

[1] "Three largest [US ports seek ways to resolve chassis crisis." Joseph Bonney and Bill Mongelluzzo, Journal of Commerce, July 21, 2014.

Resources

Le-Griffin, H. and T. O'Brien (2013) *Impact of Streamlined Chassis Movements and Extended Hours of Operation on Terminal Capacity and Source-Specific Emissions Reduction.* METRANS Transportation Center Research Report 07-08.

Intermodal Association of North America: http://www.intermodal.org

Ocean Carrier Equipment Management Association: http://oceama.org

APPENDIX I-18: TREND ANALYSIS – PRIVATE RAILROADS AND PUBLIC AGENCY CHALLENGES

Trend Statement

A new paradigm for freight and passenger railroad infrastructure and rights-of-way sharing has emerged in urban areas over the past four decades. Public interest has grown in providing a cost-effective commute option to the private automobile, thereby improving mobility, safety, air quality, and easing congestion. The renaissance of publicly-subsidized passenger rail has been hastened by the deregulation of the freight railroads, the need to comply with clean air and sustainability requirements, and the public's willingness to provide permanent subsidies for passenger rail.

Shared use is potentially viable for private freight railroads and public passenger railroads only when both require the expansion and rehabilitation capital needed to retain and expand their services. But the challenges for both services are considerable and managing a private venture in a public setting is much more visible than managing either type of exclusive rail service individually. As a result, complex shared use agreements and operating agreements, public regulatory initiatives and public investments in private freight facilities continue to be cautiously negotiated throughout the country based on mutually recognized needs and benefits.

Background

In the United States (U.S.), freight and passenger rail services were historically owned and operated by the private sector under tight federal regulation to preserve equitable access and the public interest against railroad monopolistic pricing. However, by the 1960's the automobile and airplane had replaced most passenger rail business. Railroads also were pressured by growing competition from long distance trucking firms. By 1960, one-third of the U.S. rail industry was bankrupt or close to failure. The share of railroad intercity freight movements decreased from 75 percent in 1920 to 35 percent by 1975.

Congress responded to the reduced monopolistic threat in two ways that dramatically changed the rules for shared use of railroad infrastructure by passenger and freight trains. In May 1971, the publicly-subsidized National Railroad Passenger Corporation (AMTRAK) was created which allowed private railroads to divest their unprofitable passenger services in exchange for statutory access rights and low access rates for AMTRAK to use the private railroads. Federal deregulation of the railroads in 1976 and 1980 enabled route consolidation, freight service elimination, abandonment of more than 100,000 miles of track, railroad mergers (from 56 Class 1 railroads in 1975 to seven operating in the U.S. today) and the sale of surplus railroad infrastructure to public agencies and short line railroads. The increased efficiencies have allowed railroads to compete with trucks and airlines for freight services even though the railroads lack the public subsidies that support highway and airline systems. To sustain their local freight rail networks, railroads that sold their low volume routes to public agencies entered into complex shared use and operating agreements that allowed freight trains on the new passenger routes and allowed passenger trains to operate on their freight lines. From these early agreements emerged a guiding principle that tied public and private investment to the proportional benefit to the private or public entity.

Deregulation allowed railroads to focus on their key product - strategic long-distance rail corridors linking major global gateways to inland markets- and to become more efficient in order to be more competitive with trucking. The new passenger services within the private railroad networks increased the visibility of rail safety and other public concerns stemming from the recognition of passenger rail transit as a primary objective for air quality, sustainability, and congestion reduction strategies.

Freight System Implications

A public agency that wants to initiate passenger rail should recognize that freight railroads are not obliged to consider public interests and are concerned primarily with the interests of their shareholders and customers. The addition of publicly-subsidized passenger service to their train mix will significantly change their railroad operations, capital investment strategies, and regulatory environment. A public agency has several choices in the rail infrastructure it uses for new passenger service. There is no "best choice" for shared-facility operation of passenger and freight trains. Freight railroads own 41 percent of the shared tracks; transit owns 18 percent, and the rest are jointly owned. An agency wishing to implement passenger rail service can construct a new rail transit line that does not host freight trains, purchase abandoned railroad routes and reactivate rail passenger (and freight) service, access existing freight routes via AMTRAK's statutory rights, or negotiate shared use agreements with each railroad owner on which the passenger trains will operate. Each of the choices involves large and long-lasting capital, operations and maintenance subsidies. Each choice also has significant policy, regulatory and business frameworks and tradeoffs.

The railroads have the choice of expanding their lines or generating capital from the public sector by sharing their mainline tracks and selling branch lines while retaining operating and expansion rights. The freight railroads bring to the negotiating table over-arching concerns for safe operations, guarding against degradation of their freight business, preserving capacity for freight growth, and limiting their liability and legal exposure. Passenger rail service consumes far more railroad resources than it generates to the railroad in revenue and the railroads expect the public agency to fully reimburse for all ongoing costs incurred, plus a profit. In addition, public agencies need to provide an incremental benefit to the railroad, usually in the form of publicly-funded capacity expansion and safety improvements.

The shared use agreements are long-term or perpetual and include detailed provisions for access (route limits, passenger and freight service restrictions and priority, integrated service schedules/slots/maintenance windows), rates (for facility use and incremental maintenance costs of passenger rail service volumes and quality), communications and dispatch arrangements, funding to be provided, and design/construction schedules for the capital projects required before passenger service is initiated or for expansion thresholds. The agreements must also consider industry specific laws (e.g. the Railroad Retirement Act, the Railroad Unemployment Insurance Act, the Railway Labor Act, and the Federal Employers Liability Act), labor agreements, liability sharing and insurance, and ever-evolving regulations affecting the viability and cost of shared services (e.g. the Americans with Disabilities Act, regulations related to rolling stock crashworthiness, and Positive Train Control). Agreements must also incorporate freight railroad design constraints (e.g. the extra lateral and vertical clearance required by freight railroads in anticipation of national defense needs, to preserve the continuity of the national railway network, and to provide higher clearance for the efficiency of double-stacked containers on freight cars).

Planning Considerations

In addition to shared use agreements, railroad projects must be assessed for their proportionate share of public and private benefits to guide the proportionate investment in a project. The justifiable investment allocations can range from a simple calculation of the proportionate number of public and private trains using the facilities to complex arrangements in which additional grade separations, street closures, and at-grade crossing infrastructure improvements are demanded by local public agencies and funded using state or federal transportation funds to expedite a nationally-significant grade separation project.

Because these agreements are long-term or perpetual, planning and negotiating capital improvement and shared use agreements requires experienced and knowledgeable negotiation teams representing all parties so that the many issues involved in the complex agreements can be timely resolved. The teams will likely need expertise in freight railroad engineering, railroad safety and operations, railroad cost estimation and accounting, legal and regulatory matters, liability and risk management, and private sector business drivers and requirements. One of the most difficult planning issues in a shared use agreement is the need for reliable, fast passenger service and competitive freight delivery schedules. With increasing demands for just-in-time service and time-sensitive high value freight service, both passenger and freight operators need to agree on how they will manage day-to-day service and dispatching, maintenance windows and recovery from incidents.

Due to the intensive competitive environment in which freight railroads exist, they expect that the public sector will understand the importance of confidentiality in negotiations. They will not typically release any future business plans and will rely on their own planners and trusted consultants to project future expansion needs.

As national railroads, they also share tracks with other facility owners and operators and are challenged to maintain national inter-operability for the efficient servicing of customers regardless of the rail service provider. Because of the need for interoperable equipment, track, signals and communications, it can take decades for federal regulations such as Positive Train Control and Quiet Zones to be fully implemented.

As a consequence, these evolutionary improvements are typically implemented on top of the current technologies and procedures and the freight railroads will either claim they are public improvements that are not needed to run a safe railroad, or mostly benefit the public. In addition, the railroads may justify implementation timeframes that do not require use of major annual percentages of their scarce capital and maintenance budgets for projects and improvements they consider supplemental to their baseline safety programs and technologies.

The same national interoperability needs and resource concerns guide public discussions surrounding air quality improvements related to locomotives. More than 24,000 locomotives operate on the seven largest U.S. Class 1 railroads. The Environmental Protection Agency (EPA) estimated in 2008 that locomotive and marine diesel engines still accounted for approximately 20 percent of mobile source emissions of low oxides of nitrogen (NOx), and about 25 percent of mobile source diesel PM in the U.S.

On May 6, 2008, the EPA finalized future Tier 3 and Tier 4 exhaust emission standards for new locomotives.[1] The transition from Tier 2 to Tier 3 required a 50 percent reduction in particulate matter (PM) and applies to newly manufactured locomotives starting January 1, 2012. Tier 4 exhaust emission standards for locomotives will take effect in 2015 and will require an additional 70 percent reduction in PM from Tier 3 standards, as well as approximately an 80 percent reduction in NOx. Tier 4 standards will not likely be met by engine design changes alone, but would instead force the transfer into the locomotive sector of exhaust catalyst technology previously developed to control NOx and PM from on-highway and non-road heavy-duty diesel engines.

In addition to EPA regulation, the state of California actively promotes effective measures of reducing emissions within that state's nonattainment zones, or areas that do not meet the National Ambient Air Quality Standards (NAAQS), where emission reduction priorities are the highest. The desire for railroads to help meet California's air quality objectives, plus the approach of future EPA regulations, has resulted in a demand from railroads for manufacturers to develop ultra-low emission locomotives and for the railroads to develop new facilities that have the lowest technically feasible emissions footprints.

Since new EPA emission standards are effective in 2015, the freight railroads are scrambling to purchase new equipment and retrofit current equipment throughout the country. Yet, as an example of the magnitude of the investment challenges, Union Pacific will only be able to purchase 200 new locomotives in 2013 and there are only two domestic freight locomotive manufacturers. General Electric has 70 percent and Caterpillar, which purchased EMD from General Motors after GM's bankruptcy, has 30 percent market share).

Resources

FRA/FTA Joint Statement of Agency Policy Concerning Shared Use of the Tracks of the General Railroad System by Conventional Railroads and Light Rail Transit: http://www.gpo.gov/fdsys/pkg/FR-2000-07-10/pdf/00-17209.pdf

Passenger Rail Sharing Freight Infrastructure: Creating Win-Win Agreements, Center for Transportation Research, University of Texas at Austin. March 2006: ftp://ftp.dot.state.tx.us/pub/txdot-info/rti/psr/0-5022.pdf

Passenger Service on Tracks Owned by the Freight Railroad. January 2004. Association of American Railroads Policy and Economics Department.

Resor, R. and P. Patel. "Allocating Track Maintenance Costs on Shared Rail Facilities." *Transportation Research Report 1785*, (2002): 25-32. www.trforum.org/journal/downloads/2005v44n1.pdf

California Public Utilities Commission: www.cpuc.ca.gov

[1] Emission regulations for locomotives and locomotive engines can be found in the US Code of Federal Regulations, 40 CFR Parts 85, 89 and 92.

Charles A. Spitulnik, Immediate Past Chair, American Public Transit Association, Legal Affairs Committee, and partner, Kaplan, Kirsch & Rockwell, LLP, Washington, DC:
http://www.kaplankirsch.com/charles_a_spitulnik.php

"Ultra-Clean Diesel Locomotive", Southwest Research Institute, Spring 2010
http://www.swri.org/3pubs/ttoday/Spring10/locomotive.htm

This page is intentionally blank.

APPENDIX I-19: TREND ANALYSIS – RAILROAD ABANDONMENT AND PRESERVATION – STATE OWNERSHIP STRATEGIES

Trend Statement

California faces significant transportation capacity challenges to meet current goods movement demand and to expand the state's central role in both national and global trade. Growing congestion on the rails and parallel highways is forcing California to consider preservation of the secondary or branch line rail networks as well as public assistance and support of rail service expansion. Statewide environmental and sustainability policies rely on the continued existence of railroad-based goods movement services as a reliable and cost-effective alternative to the movement of goods on highways.

Background

Many states believe that freight rail service is vital to their economy and have made freight rail service, especially the preservation and retention of lower density branch lines, a significant part of their economic development and transportation programs. Additionally, rail service can act as a catalyst for redeveloping urban corridors and underutilized rail-served brownfields as "integrated logistics centers" – concentrations of rail-served warehousing, distribution, and manufacturing – with efficient rail and truck service. More than 30 states across the nation have recognized the key role that freight rail plays in economic development. Many states have grant programs designed to allow freight railroads, both Class I and short lines, to undertake projects that have both public and private (railroad) benefits that would not be realized without a public – private partnership approach. These projects can be for expanded capacity, thus reducing congestion and improving environmental impacts, or for rehabilitation of short line tracks in order to maintain and support competitive and environmentally friendly freight services that otherwise would have to depend on only highway truck traffic for their freight movements.

Examples of some of the more successful public-private partnership (P3s) grant programs that facilitate investment in rail freight infrastructure include the ConnectOregon program in Oregon, the Strategic Intermodal System in Florida, the Rail Transportation Assistance Program in Pennsylvania, and the Passenger and Freight Rail Assistance Program in New York. Washington State Department of Transportation has grant program, the Freight Rail Assistance Program and a loan program, the Freight Rail Investment Bank program. All of these programs focus on a series of common themes: to work with privately held freight railroads to realize long term infrastructure improvements to improve access, to provide environment and competitive options for communities in the state, and to ensure a structured competitive approach so that projects with the highest public benefits are funded, and to match financial requirements of the railroads for funding the projects.

Applying a P3 grant approach with existing railroads can yield greater success than the state taking ownership of freight rail lines, or providing direct operating subsidies for freight railroads. It provides an incentive for efficient management of the railroads by private industry, while supporting long term investments in California infrastructure improvements. It will not burden the state with the expense and complexity of owning and managing freight railroads.

In California, the Section 190 Grade Separation program is typically funded at $15 million per year and distributed among 3 to 4 projects each fiscal year. The funds are provided to local agencies to grade-separate at-grade crossings or to improve grade-separated crossing. The California Public Utilities Commission has jurisdiction over the safety of highway-rail crossings in California.

The 2013 California State Rail Plan (the Rail Plan) recognizes goods movement by rail as an important tool for addressing highway congestion. This document details the state's investment strategy for passenger rail on a corridor-by-corridor basis and summarizes the state's freight rail needs by the type of railroads (Class 1, regional, and short line).

Deferred Maintenance on Short Line Railroads

Many of the California short line railroads were previously owned and operated by Class I railroads. Often these lines received little or no routine maintenance before disposition by the larger railroads, due to the low volumes and revenues this lines provided the larger railroads. This resulted in many short line routes facing significant deferred maintenance on their lines. This deferred maintenance is often reflected in the need for new for new rail and crossties, and for upgraded bridge structures.

In order to use these obsolete rails, crossties and bridges safely, short line railroads must place weight limits on many short lines in California. These weight limits mean customers served on these lines cannot ship or receive rail cars that are the standard used by the Class I rail network across the country. Unable to utilize rail shipments to the typical network capacity, these customers are placed at a competitive disadvantage. In 2014, over 60 percent of short line railroads across the country own and operate rail cars below the Class I railroad standard weight limit, putting them, at times, at a competitive disadvantage with trucks, and thereby adding to congestion on our roadways along with the associated corresponding negative externalities.[i]

Freight System Implications

For the last thirty years Class I Railroads - the five United States (U.S.)-based line haul freight rail companies with operating revenue of greater than $398.7 million as of 2010 - have been focused on improving service productivity, reliability, and return on their investments. To improve productivity and profitability and maximize available capacity, the railroads have invested in double-stack cars, larger hopper and tank cars, and higher boxcars and auto-rack cars, which in turn require investment in high-clearance tunnels, higher weight-capacity track, and stronger bridges. The elevated cost of these improvements has prohibited the railroads from upgrading any but the highest volume and most profitable lines. To become more efficient, they also have consolidated their services into critical high-density, higher-profit corridors, and have curtailed or eliminated their services in lower volume markets. They have focused growth on long-distance trans-continental trips with longer trains carrying containerized goods from ports to the hinterlands. They have shifted regional and short haul rail trips to regional and short line railroads which have purchased the lines or entered into service agreements with the Class Is to provide rail service that is not cost-effective for the Class Is. Many of these smaller railroads have been aggregated into national holding companies that are subject to the same shareholder pressures as the Class Is. The December 2012 consolidation of RailAmerica by Genesee and Wyoming Railroad combined the two largest short line and regional rail operators in North America. The combined company now operates 112 railroads in 37 U.S. states, Australia, the Netherlands and Belgium. Their operations include more than 15,000 miles of owned and leased track with an additional 2,500 miles under track access arrangements.

The most critical rail corridors in California are the Interstate (I)-5 Corridor between San Diego and Stockton, the I-80 Corridor between the San Joaquin Valley and Oakland, and the Southern California East/West Corridor (I-10 and State Route 60) from the San Pedro Bay Ports to the Inland Empire. The Highway Performance Monitoring System (HPMS) projects 2020 highway traffic on I-5 will be at level of service E and F for virtually the entire distance in California between San Diego and the San Francisco Bay. The deteriorating condition of I-5 makes it even more imperative to consider strategies to improve the ability of the rail system to absorb freight traffic; the primary issue is length of haul. The distance at which the economics become favorable for the large railroads is approximately 500 miles. Without a public subsidy or public-private partnership, short haul freight is not economically feasible for Class I railroads."

In 2006, the San Joaquin Council of Governments completed the California Inter-Regional Intermodal System (CIRIS) study which explored the feasibility of new intermodal short line services between Bakersfield, Fresno, Stockton and Oakland. The study also noted the potential for short line service between the San Pedro Bay Ports and the Inland Empire. The CIRIS study reported that participation by Class I railroads - either as an operator or as a host for operation by someone else - would be contingent on public funding for increased capacity. This is not unlike passenger rail service in California, whose expansion has been facilitated by strategic state investments in additional track capacity, signaling, and other measures to expand total rail capacity. Unsubsidized short-haul rail shuttles in the 75-150 mile range are not likely to be commercially viable or attractive business propositions for the railroads. Furthermore, developing and operating intermodal facilities is unlikely to be a profitable stand-alone venture. Both will require public investment or other forms of financial support to succeed in a competitive environment.

In order to make the economics work for short haul intermodal rail service the Rail Plan noted the following elements must be present:

- An ongoing public investment may be necessary to maintain, market and operate the service. To be attractive to the railroads, the service must offer a comparable profit margin, augment long-distance capacity, or achieve some balance between profit and capacity.
- There must be inland intermodal freight and transload facilities that can be easily accessed and served by rail and trucks, close to where shippers have existing operations.
- Operation of night trains for shippers is crucial; it would allow for extended cutoff times and make it easier to load trains.

A multi-jurisdictional or comprehensive public-private agreement for rail freight projects in California could have great advantages to both parties and facilitate progress on many pending issues. If importers and exporters must rely on increasingly congested freeways to move their goods, both their ability to compete and the state's ability to grow will be jeopardized. If that occurs, these shippers will locate elsewhere. Short haul intermodal rail service can provide a solution that benefits the goods movement industry, and provides public benefits such as congestion mitigation, safety, fuel savings, reduced emissions and roadway preservation. In order to maintain and strengthen the position and contributions the freight rail system makes to California, the regions and the nation, the State must be an active partner with the private sector and other government entities in the funding of major freight rail improvements.

Planning Considerations

In the absence of a statewide focus on the shrinking and deteriorating rail network throughout California, abandonment of potentially essential rail links in the statewide secondary rail network may be viewed as a local matter with little statewide mobility or environmental consequence compared to the local benefits of rails-to-trails conversion. The possible expanded and/or future use of abandoned rail segments and rail corridors will require an inventory of inactive and underutilized segments.

There are many resources available should California choose to take a lead planning role in developing freight rail capacity. Examples of successful publicly-owned short haul intermodal services include Northwest Container Services (NWCS) Short Haul Intermodal Train Service and Virginia Inland Port. In 2010, the State of Oregon completed a study of state rail ownership programs in Oklahoma, Wisconsin, Washington, and New Mexico. These states represent four different state ownership models and are in various stages of funding maturity. Each case study summarizes several aspects of ownership including: administration, program funding, benefit analysis, operations, maintenance, and stakeholder involvement.

More generally, the state should evaluate and consider the possibility of establishing a P3 program for rail freight infrastructure investments. Such a program, possibly modeled on the successful programs discussed above in Oregon, Washington, Pennsylvania, Florida and New York, could both generate long term mobility and environmental public benefits, and help improvement and sustain the light density short line freight railroad network throughout the state.

Resources

California Department of Transportation (2008) *California State Rail Plan 2007-08 to 2017-18.* Retrieved: June 21, 2013. Available at: http://149.136.20.80/rail/dor/assets/File/SRP07_-_FINAL_Apprvd.pdf

Jalene Forbis, California Short Line Railroad Association: cslra@hotmail.com

Jerry Vest, Genesee and Wyoming, Inc.: http://www.gwrr.com/

NWCS Short Haul Intermodal Train Service overview: http://www.nwcontainer.com/qualifications.htm

Oregon Department of Transportation – Rail Division (2008) *Oregon Rail Study Appendix J: State Ownership of Rail Assets*. Retrieved: June 21, 2013. Available at: http://www.oregon.gov/ODOT/RAIL/docs/Rail_Study/Appendix_J_State_Ownership_of_Rail_Assets.pdf?ga=t

Tioga Group, Inc., Railroad Industries, Inc., Cambridge Systematics, Inc. (2003) Inland *Port Feasibility Study Final Report*. A report prepared for the San Joaquin Council of Governments. Retrieved: June 21, 2013. Available at: http://www.tiogagroup.com/docs/Tioga_Grp_CIRIS_2003.pdf

Tom Messer, RL Banks and Associates: cmesser@rlbadc.com

Virginia Inland Port overview: http://www.portofvirginia.com/facilities/virginia-inland-port-vip/

Washington Department of Transportation, State Rail Grant and Loan Programs:
http://www.wsdot.wa.gov/Freight/Rail/GrantandLoanPrograms.htm

[i] Short Line and Regional Railroad Facts and Figures, 2014 Edition, pg. 31

This page is intentionally blank.

APPENDIX I-20: TREND ANALYSIS – RAILROAD SAFETY AND SECURITY

Trend Statement

Railroad safety and security initiatives are focusing on safer train operations, crash avoidance and crashworthiness of equipment. Key safety strategies include new grade separations on high-volume routes in urban areas, implementation of Positive Train Control and Quiet Zones, consolidated routing of hazardous materials, new operator rules, safety-related tanker and passenger car design improvements, and aggressive law enforcement and educational programs to reduce illegal vehicular crossing and pedestrian trespassing on railroad rights-of-way. Post 9/11 security measures continue to evolve and expand. Railroad owners are being challenged to balance the need for investments in safety and security with investments to improve efficiency, growth and global competitiveness during a recessionary economy.

Background

UP, BNSF, and passenger railroads operate over more than of 5,300 miles of track in California as part of their combined 64,000-mile North American rail networks. In addition, regional and short-line railroads operate over 1,500 miles of their own railroad tracks in California and 30,000 miles of their own railroad tracks across the nation.

Railroads have made significant safety progress over the past 20 years. The Association of American Railroads reports that railroad accidents are down 70 percent across the nation. Grade crossing accidents are down 81 percent and railroad employee injury rates have fallen percent. As a result, railroads are one of the safest forms of transportation with a fatality rate of 0.2 per 100 million passenger miles. However, with 11,000 public grade crossings in California, railroad crossing safety improvements historically have been inadequately funded in the state.

Railroad safety and security are shared responsibilities of the private and public railroads, and federal, state and local public agencies. At the federal level, the Federal Railroad Administration (FRA), one of the ten agencies within the US Department of Transportation, administers federal grant and loan programs authorized by Congress, promulgates and enforces federal rail safety regulations and conducts research and development of improved railroad safety and national rail transportation policy. The Federal Highway Administration (FHWA) provides limited federal funding to the State for the elimination of hazards at existing at-grade highway-rail crossings (crossings). The National Transportation Safety Board (NTSB), an independent agency created by Congress, has the responsibility for railroad accident investigations involving freight railroads and that involve passenger rail transit systems that share tracks. The Department of Homeland Security, Department of Justice, Federal Bureau of Investigation, Coast Guard, Customs and Border Protection, and Military Transport Management Command are also deeply involved in developing and funding security programs, policy and regulatory guidance, and training assistance to railroads.

The California Public Utilities Commission (CPUC) is the largest state agency in the nation responsible for ensuring that railroads comply with federal railroad safety regulations. CPUC investigates railroad

accidents, advises on safety-related design issues such as grade crossing improvements and prioritizes Section 130 grade separation projects in the state. The California Emergency Management Agency (CalEMA) also provides grants. Numerous local law enforcement agencies, railroads, trucking companies and volunteers are involved in California Operation Lifesaver, a grade crossing awareness training program.

Freight System Implications

The railroads have historically funded their safety capital programs from railroad revenues and debt. However, recent safety and security regulations are requiring significant discretionary capital investments and operating costs for railroads. The American Association of State Highway Transportation Officials (AASHTO) has projected domestic freight tonnage to increase by 57 percent by 2020 and import-export tonnage to increase by nearly 100 percent (American Association of State Highway Transportation Officials, 2009).

Recent regulations, including federal limits on hours of service and environmental compliance have also increased operating costs and overstretched investment capital available for railroad safety and growth. Railroads have been especially concerned with the federal positive train control (PTC) implementation mandate to eliminate train-to-train collisions by 2015 on 73,000 miles of tracks used to transport passengers or hazardous materials. The railroads have estimated PTC costs to exceed $14 billion and project PTC will only prevent four percent of their accidents (Will, 2013). In April 2012, US DOT amended its regulations to eliminate the 10,000 miles of the original network that will not carry hazardous materials or passengers after 2015.

Planning Considerations

The railroads are looking to public agencies to enact cost-effective railroad safety laws and regulations with attainable implementation schedules. They are seeking greater public investment in projects that benefit the public (e.g.: PTC, grade separations, quiet zones) so that the railroad's discretionary capital can be used to address railroad capacity expansion and global competitiveness.

Resources

American Association of State Highway Transportation Officials (2003) *Transportation: Investment in America, Freight-Rail Bottom Line Report.* Retrieved: May 29, 2013. Available at: http://rail.transportation.org/Documents/FreightRailReport.pdf

Will, G. (2013) "A Mandate That is off the Rails." *Washington Post: Opinions*. Retrieved: July 1, 2013. Available at: http://articles.washingtonpost.com/2013-05-31/opinions/39653953_1_freight-train-ptc-railroads

American Association of Railroads: www.aar.org/

BNSF Railroad: www.bnsf.com

California Public Utilities Commission: www.cpuc.ca.gov

California Short Line Railroad Association: www.cslra.org/

Federal Railroad Administration: www.fra.dot.gov/

Federal Highway Administration: www.fhwa.dot.gov/

National Transportation Safety Board: www.ntsb.gov/

Union Pacific Railroad: www.up.com

This page is intentionally blank.

APPENDIX I-21: TREND ANALYSIS – REGIONAL AND SHORT LINE RAILROADS

Trend Statement

A 2011 freight shipment cost comparison study by the Government Accounting Office[1] noted that freight service costs (which include public costs, such as congestion, pollution, accidents, and infrastructure maintenance) are not adequately paid for by the freight users of the highway system and therefore, these costs are not being passed on to consumers. This uneven distribution of costs distorts competition and forces more freight to travel by truck. Public policy continues to focus on safety and environmental stewardship rather than ensuring the short line railroad industry will continue to be able to provide an attractive alternative to trucking to serve businesses in California.

Background

Class II regional railroads are line-haul railroads operating at least 350 miles of railroad and/or having carrier operating revenue between $40 million and the current Class I revenue threshold ($433.2 million).[2] Class III short line railroads earn revenues less than $40 million or are switching and terminal railroads that are either jointly owned by two railroads for the purpose of transferring cars between railroads or operate solely within a facility or group of facilities.

In California, there are 18 short line railroads and eight switching and terminal railroads operating on 823 miles of track (14 additional switching and terminal railroads add 910 miles of service)[3]. Regional and short line (Class II and III) railroads play a crucial first-and-last-mile role in the "door-to-door" collection and distribution of goods. They also provide rail service to shippers that must transport heavy, bulky, or hazardous commodities at cost-effective rates.

The Staggers Rail Act (Act) of 1980 ended most of the economic regulation on the rail industry and among many things gave railroads an exit strategy for unprofitable lines. Prior to the Act, regulation prohibited carriers from restructuring their systems, including abandoning redundant and light density lines making it difficult to control costs. In addition, the industry had a costly regulatory delay to adjust costs at times of inflation. With the lifting of many regulatory restraints, the major railroads quickly began to market unproductive branches to short line operators and the small railroad industry began an unprecedented rebirth - in essence returning to the roots of railroading. Over the ensuing years thousands of miles of track have been saved from abandonment, and hundreds of communities have been able to maintain and advance their economies thanks to continued rail service

Freight System Implications

To shippers, the ability to use short line railroads means lower transportation costs, more flexible local service options, and a greatly expanded market reach for local products through their Class I railroad

[1] Surface Freight Transportation: A Comparison of the Costs of Road, Rail, and Waterways Freight Shipments That Are Not Passed on to Consumers, GAO-11-134, Jan 26, 2011, http://www.gao.gov/products/GAO-11-134
[2] What are "SHORT LINE" and "REGIONAL" railroads? American Short Line and Regional Railroad Association, http://www.aslrra.org/about_aslrra/faqs/
[3] Railroads in California FAQ, California Short Line Railroad Association, http://www.cslra.org/faq-links.html

partners. In many cases short line railroads provide the only connection for California customers, shippers, and manufactures to the national rail network. Without short line railroads, businesses would be forced into more expensive truck transloads that typically takes place in large cities adding more trucks on an already congested metropolitan highway system. Even worse, these shippers might be forced to close or relocate, taking jobs and tax revenue with them. Although it is rare for a short line railroad to abandon service, these financially fragile railroads face four significant threats: failure or relocation of their primary customers, slow deterioration due to deferred infrastructure maintenance, the need to make significant infrastructure upgrades in order to handle the much heavier 286,000-pound rail cars being used on Class I railroads and the effects of significant storms on their infrastructure, particularly bridges.

Regional and short-line railroads can be profitable by taking advantage of lower labor cost structures and greater labor flexibility, lower profitability targets and a "can do" attitude. As the Class I railroads have consolidated their services onto critical high-density, higher-profit corridors, and curtailed or eliminated their services in lower volume markets (such as short haul movements and bulk commodity markets) railroad entrepreneurs, often residents of the region, have purchased many branch lines and offered rail service to these less profitable markets.

Short lines have also been able to develop previously neglected real estate assets to attract new rail-served businesses. Their innovative ideas have allowed them to continue operating railroads that were previously deemed unprofitable by their higher cost, larger brethren. They have also become very good at capturing some truck freight back to rail using better cost and service agreements with these customers.

In California, short line railroads play an important role in moving commodities for the state's $37.5 billion agricultural industry. Inbound commodities moved by short line railroads include bulk food products (cattle, poultry feed, grain), and chemicals (fertilizer). They are also responsible for moving processed food, chemicals and manufacturer goods out of California. In addition, they handle many bulk commodities such as stone, sand, gravel, wood, paper, minerals, petroleum, and various metal products.[4]

A second freight implication stems from the state of good repair of the railroad lines and equipment. In many cases, these smaller railroads are operating over lines that they bought from Class I carriers that allowed the infrastructure to decline through deferred maintenance over many years before they were sold. It is not uncommon on light density lines owned by short line railroads to be impacted by a combination of modest traffic, unclear market outlook, and weak finances that provide insufficient resources to achieve a standard gauge railroad (SGR). These lines have poor tie and ballast conditions and have lighter weight rails than are needed to support safely the new, heavier 286,000-pound railcar which is fast becoming the industry standard today. Accommodating the 286,000-pound rail cars would require heavier rail and significant bridge and infrastructure upgrade costs, putting a heavy burden on short line railroads. In many cases, the revenues generated by short line railroads are only enough to fund on-going maintenance. Additional resources are needed to make the necessary upgrades to remain competitive.

[4] Railroads and States – California, American Association of Railroads https://www.aar.org/keyissues/Pages/Railroads-And-States.aspx

In addition, short line railroads primarily use older, pre-owned diesel locomotives, resulting in high locomotive maintenance or rehabilitation cost ratios and are not as fuel efficient as the newer or retrofitted Class I locomotive fleets. Older locomotives also produce more diesel emissions than the newer Class I fleet. This is a significant issue in California, since the California Air Resources Board has issued stricter diesel locomotive emissions standards, putting an additional burden on short line railroads.

Planning Considerations

Because rail cars travelling over the short line railroads must also travel over the Class I rail system, the small railroads are subject to many of the same safety and operating regulations that require large investments of scarce capital resources. Yet short lines, being mostly independent and privately held, do not enjoy the same access to private-sector capital as the Class I railroads. Private sector loans with favorable rates are only available on short term loans. Short line railroads need long-term loans to support track and structure upgrades that will enjoy useful lives of 20 to 30 years. Given the greater risk of longer term repayments, these loans carry a much higher interest rate. The cost to upgrade and repair a rail line is expensive, but necessary, to avoid safety-related speed reductions and derailments.

Some states have recognized the economic consequence of rail service loss and have provided below-market loan programs to support facility rehabilitation and locomotive retrofits to accomplish public energy and environmental goals. In a 2011 study titled "Rail Preservation Programs: A Survey of National Guidance and State Practices,"[5] ten states were identified as having loan or grant programs to preserve rail corridors and assist short lines in making capital improvements. The purpose of these programs is to preserve rail corridors for future passenger and freight rail use and to ensure that businesses have the ability to ship by rail on a transportation system that that is more fuel efficient and more environmentally friendly than trucks. These states recognize the importance of having a rail alternative to keep trucks off the highway.

In 2006, California voters passed the Highway Safety, Traffic Reduction, Air Quality, and Port Security Bond Act of 2006, approved by the voters as Proposition 1B. This bond program included funding for railroad infrastructure improvements along federally designated "Trade Corridors of National Significance" in California or along other corridors that have a high volume of freight movement. Unfortunately, this precluded most short line railroad projects because they did not have high volumes of freight movement.

The federal government also has a loan program to support railroad projects. The Federal Railroad Administration's (FRA) Railroad Rehabilitation & Improvement Financing (RRIF) Program provides direct federal loans and loan guarantees to finance development of railroad infrastructure. Up to $7.0 billion is reserved for projects benefiting freight railroads other than Class I carriers. The funding may be used to: acquire, improve, or rehabilitate intermodal or rail equipment or facilities, including track, components of track, bridges, yards, buildings and shops; refinance outstanding debt incurred for the purposes listed above; and develop or establish new intermodal or railroad facilities. Direct loans can fund up to 100%

[5] Rail Preservation Programs: A Survey of National Guidance and State Practice, CTC and Associates, LLC, for Office of Goods Movement, Caltrans Division of Transportation Planning, http://www.dot.ca.gov/newtech/researchreports/preliminary_investigations/docs/rail_preservation_preliminary_investigation_6-21-11.pdf.

of a railroad project with repayment periods of up to 35 years and interest rates equal to the cost of borrowing to the government. [6]

During the past several years, short line railroads also have had access to federal tax credits available to offset track maintenance. However, these tax credits expired in December 2011. The Internal Revenue Code Short Line Tax Credit – 45G, which had been in effect since 2005, provided for a 50 percent tax credit incentive, capped at $3,500 per mile, for small railroads that invested in rehabilitation of their infrastructure. The proposed Short Line Railroad Rehabilitation and Investment Act of 2013 (H.R 721) would extend and modify the tax credit; however, as of December 2013, Congress has not passed the bill.

Resources

Federal Surface Transportation Board (STB): www.stb.dot.gov/

Federal Railroad Administration: www.fra.dot.gov/

California Public Utilities Commission: www.cpuc.ca.gov

American Association of Railroads: www.aar.org/

American Short Line Railroad Association: www.aslrra.org/

California Short Line Railroad Association: www.cslra.org/

Jalene Forbis, California Short Line Railroad Association: cslra@hotmail.com

Union Pacific Railroad: www.up.com

BNSF Railroad: www.bnsf.com

Charles Banks, RL Banks and Associates: cbanks@rlbadc.com

[6] FRA RRIF fact sheet, http://www.fra.dot.gov/eLib/Details/L04476

APPENDIX I-22: TREND ANALYSIS – RAILROAD PERSPECTIVES ON SHARED USE

Trend Statement

A new paradigm for sharing freight railroad infrastructure and related rights-of-way has emerged over the past four decades - as public interest has grown in providing a cost-effective travel option to the private automobile, thereby improving mobility, safety, air quality, and easing congestion. A renaissance of publicly-subsidized passenger rail has been hastened by the deregulation of the freight railroads, the need to comply with clean air and sustainability requirements, and the public's willingness to provide permanent subsidies for passenger rail.

Shared use is potentially viable for freight railroads that are starved for expansion and rehabilitation capital needed to retain and expand their freight services. On the public side, the costs of providing exclusive publicly-subsidized passenger service over inter-city or commuter train distances is prohibitive for all but a few high speed corridors of national significance. The California High-Speed Rail Authority plan on using portions of existing passenger and freight rail corridors for some of its segments, thereby using existing right- of-way, defraying costs and minimizing impacts to communities. As a result, shared use agreements continue to be successfully negotiated throughout the country based on mutually recognized needs and benefits. Shared use corridors can take place in three different forms – shared tracks, shared right-of-way, shared corridors (i.e., two rail services are operating independently on separate parallel tracks having a track separation between 30 and 200 feet). In California, shared-use rail operations take place on shred track with the exception of the Southern California Regional Railroad Authority (SCRRA) line between Palmdale and Lancaster.

Background

In the United States (U.S.), freight and passenger rail services were historically owned and operated by the private sector under tight federal regulation to preserve equitable access and the public interest against railroad monopolistic pricing. However, by the 1960's the automobile and airplane had replaced most rail passenger business. Railroads also were pressured by competition from trucking. By 1960, one-third of the U.S. rail industry was bankrupt or close to failure. The share of railroad intercity freight movements fell from 75 percent in 1920 to 35 percent by 1975.

Congress responded to the reduced monopolistic threat in two ways that dramatically changed the rules for shared use of railroad infrastructure by passenger and freight trains. In May 1971, the publicly-subsidized National Railroad Passenger Corporation (AMTRAK) was created which allowed private railroads to divest their unprofitable passenger services in exchange for statutory access rights and low access rates for AMTRAK to use the private railroads. Federal deregulation of the railroads in 1976 and 1980 enabled route consolidation, freight service elimination of marginal rail served customers, abandonment of more than 100,000 miles of track, railroad mergers (from 56 Class 1 railroads in 1975 to 7 today) and the sale of surplus railroad infrastructure to public agencies and short line railroads. Though the railroads lack the public subsidies that support highway and airline systems, these increased efficiencies have allowed railroads to compete with trucks and airlines for freight services.

Deregulation also allowed railroads to focus on their key product - strategic long-distance rail corridors linking major global gateways to inland markets - and to become more efficient in order to be more competitive with trucking. At the same time, air quality, sustainability, and congestion reduction strategies have recognized passenger rail transit as a primary objective.

Freight System Implications

A public agency that wants to initiate passenger rail needs to recognize that freight railroads are not obliged to consider public interests and are concerned primarily with the interests of their shareholders and customers. A public agency has several choices in the rail infrastructure it uses for new passenger service. There is no "best choice" for shared-facility operation of passenger and freight trains. Freight railroads own 41percent of the shared tracks; transit owns 18 percent, and the rest are jointly owned. An agency wishing to implement passenger rail service can construct a new rail transit line that doesn't host freight trains; purchase abandoned railroad routes and reactivate rail passenger (and freight) service; access existing freight routes via AMTRAK's statutory rights; or negotiate shared use agreements with each railroad owner on which the passenger trains will operate. According to a recent NCHRP Report, "with few exceptions, anticipated patronage and revenue and available funds simply cannot support the investment required". Each of the choices involves large and long-lasting capital, operations and maintenance subsidies. Each choice also has significant policy, regulatory and business frameworks and tradeoffs.

So, what do the railroads need and want from their public partners? The railroads have over-arching concerns for safe operations, guarding against degradation of their freight business, preserving capacity for freight growth, and limiting their liability and legal exposure. Passenger rail service consumes far more railroad resources than it generates to the railroad in revenue and the railroads expect the public agency to fully reimburse for all ongoing costs incurred, plus a profit. In addition, public agencies need to provide an incremental benefit to the railroad, usually in the form of publicly funded capacity expansion and safety improvements.

Each agreement is developed in recognition of differences in infrastructure availability, capacity utilization, and condition of the existing infrastructure (right of way, tracks, signals and communications, stations, railyards). The agreements are long-term or perpetual and include detailed provisions for access (route limits, passenger and freight service restrictions and priority, integrated service schedules /time slots / maintenance windows), rates (for facility use and incremental maintenance costs of passenger rail service volumes and quality), communications and dispatch arrangements, funding to be provided, and design/construction schedules for the capital projects required before passenger service is initiated or for expansion thresholds. The agreements must also consider industry specific laws (e.g.: the Railroad Retirement Act, the Railroad Unemployment Insurance Act, the Railway Labor Act, and the Federal Employers Liability Act), labor agreements, liability sharing and insurance, and ever-evolving regulations affecting the viability and cost of shared services (e.g., the Americans With Disabilities Act, regulations related to rolling stock crashworthiness, and Positive Train Control). Agreements must also incorporate arcane freight railroad design constraints (e.g., the extra lateral and vertical clearance required by freight railroads in anticipation of national defense needs and to preserve the continuity of the national railway network).

Planning Considerations

Many of California's busiest rail corridors have shared use between freight, commuter, and intercity passenger trains. With the absolute necessity for safe operations, shared use means lessened passenger

capacity, a reduced top speed, reliability problems and fewer options for high speed passenger vehicle design than is possible with exclusive facilities. Planning and negotiating shared use agreements requires experienced and knowledgeable negotiation teams representing all parties so that the many issues involved in the complex agreements can be timely resolved. The teams need to include expertise in freight railroad engineering, railroad safety and operations, railroad cost estimation and accounting, legal and regulatory matters, liability and risk management, and private sector business drivers and requirements.

With so much invested in developing and operating shared rail service, it is in the interest of the transit agency and the railroad to negotiate long-term arrangements–ideally in perpetuity. However, perpetual agreements require continuous funding and it is very difficult to estimate long-term freight capacity requirements. Hence, the agreements need to provide the processes and triggers for future passenger rail service level changes based on availability of public capital and operating subsidies and competing freight service needs and priorities.

One of the most difficult planning issues in a shared use agreement is the need for reliable, fast passenger service and for competitive freight delivery schedules. With increasing demands for just-in-time service and time-sensitive high value freight service, both passenger and freight operators need to agree how they will manage day-to-day service and dispatching, maintenance windows and recovery from incidents.

Shared Use of Railroads Resources

Guidebook for Implementing Passenger Rail Service on Shared Passenger and Freight Corridors, Report 657, National Cooperative Highway Research Program, 2010: http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_rpt_657.pdf

2013 California State Rail Plan, California State Transportation Agency. http://californiastaterailplan.dot.ca.gov/docs/Final_Copy_2013_CSRP.pdf

Passenger Rail Sharing Freight Infrastructure: Creating Win-Win Agreements, Center for Transportation Research, University of Texas at Austin. March 2006: ftp://ftp.dot.state.tx.us/pub/txdot-info/rti/psr/0-5022.pdf

Passenger Service on Tracks Owned by the Freight Railroad. January 2004. Association of American Railroads Policy and Economics Department, www.aar.org/PubCommon/Documents

Resor, R. and P. Patel. “Allocating Track Maintenance Costs on Shared Rail Facilities.”

Transportation Research Report 1785, (2002): 25-32. www.trforum.org/journal/downloads/2005v44n1.pdf

FRA/FTA Joint Statement of Agency Policy Concerning Shared Use of the Tracks of

the General Railroad System by Conventional Railroads and Light Rail Transit: www.gpo.gov/fdsys/pkg/FR-2000-07-10/pdf

California Public Utilities Commission: www.cpuc.**ca**.gov

Charles A. Spitulnik, Immediate Past Chair, APTA Legal Affairs Committee, and partner, Kaplan, Kirsch & Rockwell, LLP, Washington, DC: http://www.kaplankirsch.com/charles_a_spitulnik.php

This page is intentionally blank.

APPENDIX I-23: TREND ANALYSIS – 3D PRINTING AND PRODUCTION

Trend Statement

Three-dimensional (3D) printing, or additive manufacturing, encompasses various processes for producing an original or exact replica of an item using computer-aided design (CAD) or a laser scan. Continued refining and honing of these processes could eventually result in many consumer products being "manufactured" locally or at home on 3D printing devices. This trend could have a dramatic impact on freight by reducing or eliminating the need to transport components and finished products (domestically or internationally), resulting in shorter, simpler supply chains.

Background

3D printing, also known as additive manufacturing, creates an original or exact replica of an object from the bottom up by literally building up (adding) layers of material using designs from computerized digital files. CAD or laser scanned images of an object are digitally "sliced" into thin layers that the printer transforms into three-dimensional products using raw materials loaded into the device. Because digital files are used, these products can be more complex, precise, intricate, customized, and stronger than previous methods. Traditional "reductive" machining methods (where materials are removed to form a product) can take longer, be more costly, and create more waste.

Originally producing only solid objects in the 1980's, some 3D machines are now creating fully-assembled products with multiple materials, different colors, embedded electronics, and moving parts from materials such as metal, plastics, ceramics, metal alloys, sand, and food. Applications for 3D printing include manufacture of nearly every conceivable commonly-shipped consumer product – from water bottles to cars, and everything in between. Perfect for rapid prototyping and producing unique customizable products, 3D technology is already entrenched in the dental, medical/orthopedic, automotive, and aerospace sectors. 3D machines can also create clothing, food, and human tissue. Over the years these devices have become smaller, faster, and cheaper – to the point where consumers can fabricate some items from home with printer design files that are already being stored, shared, and sold.

Prior to 3D printing, most manufacturing models used mass production and distant low-wage countries to create economies of scale (cost advantages per unit through quantity production) in addition to maximizing efficiency of transportation costs to improve profits. With 3D technology, businesses can dramatically reduce their profit break-point by reducing labor costs, foreign and domestic freight costs, and import duties; saving time (no need to wait for prototypes, spare parts); eliminating capital investments (such as molds, casts and machine tools); reducing inventory, stocking levels, and warehousing requirements; reducing lead times; removing handling and distribution costs on component part transportation; and reducing scrap, waste, and cost of their disposal.

Global Industry Analysts estimated that by 2018, the global 3D printing market will reach around $3 billion and that personal manufacturing technologies will profoundly impact the design, production, transportation, and consumption of physical products, which will in turn impact the supply chain. By 2020, it is expected that up to 80% of finished products will involve some kind of 3D printing. According

to a Supply Chain Management poll, responders predict that 3D printing will play a key role in the supply chain in the next three to five years and in less than ten years will play a much more prominent and widely implemented role. Complete transformation will take decades, partially due to limitations such as materials, speed, and lack of operator working knowledge.

Freight System Implications

Continued refining and honing of 3D processes could eventually result in many consumer products being "manufactured" locally or at home on 3D printing devices. This trend could have a dramatic impact on freight by reducing or eliminating the need to transport components and finished products (domestically or internationally), resulting in shorter, simpler supply chains.

In their simplest form, supply chains are typically about warehousing and shifting products outward from the point of manufacture. With localized production, 3D printing allows for on-demand manufacturing and leaner inventories. Zero-inventory business models could potentially eliminate the need for transportation of some freight. 3D technology has the potential to dramatically alter the supply chain industry, lower carbon footprints, and revolutionize the way international trade moves. The extent of impact 3D technology will have on goods transportation is still unknown and will depend upon how widespread and affordable it becomes.

By shaving weeks off manufacturing times and at-home production, this technology may reverse the trend of low-cost global manufacturing outsourcing, distribution (parts warehouses and forward stock locations will become unnecessary), production, and retailing – posing a significant change to the global transportation industry. Although many supply networks will likely be altered, it is predicted that some supply chains and distribution networks would remain intact, due to the rapid growth in business and home need for raw materials to feed the 3D printers. Birth of a new logistics sector for storage and movement of these powders and supplies, recycling, and waste disposal is also anticipated.

With growth in 3D printing, it is predicted that:

- Some retail sectors will either cease to exist or become "shop windows" for manufacturers (not keeping stocks);
- Some third-party logistics providers will be hard hit (businesses will print what they need);
- Small and midsize companies will form around specialized 3D printing shops (contract manufacturers);
- The service parts industry will be replaced by portable 3D machine operators;
- More software-based supply/management corporations specializing in digital rights management, insurance services, software development, delivery services, contract management, market monitoring, energy supplies and other utilities, recycling and disposal, and materials/resources procurement will rise; and
- Safety and standardization with regulation by government will be needed.

Planning Considerations

3D printing could reduce infrastructure requirements should some of the items currently manufactured overseas shift to domestic production facilities. Mass production of items may no longer be required in certain industries which could in turn reduce shipment volumes from countries to which they were globally outsourced, as supply chains become leaner, simpler, flexible and more localized. This might also reduce wear and tear on the transportation infrastructure in general; but, there could also be an increase in local deliveries with smaller commercial vehicles.

It is estimated that by 2020 3D printing and production will comprise up to 20% of the supply chain. A recent International Business Machines (IBM) study stated that for government policy makers there could be implications for labor (employment), infrastructure, workforce development, taxation and intellectual property in this new marketplace.

Resources

The New Software Defined Supply Chain, IBM Institute for Business Value Executive Report, Paul Brody, February 2013. http://www-935.ibm.com/services/us/gbs/thoughtleadership/software-defined-supply-chain/

3D Printing Transforming the Way Companies Think About Supply Chains, Journal of Commerce, Dave Biederman, October 24, 2013.

http://www.joc.com/international-logistics/global-sourcing/3d-printing-transforming-way-companies-think-about-supply-chains_20131024.html

Building on 3D Printing, Jerry Peck, Journal of Commerce, August 18, 2014.
http://www.jocdigital.com/08182014#&pageSet=19

The Economist, Additive Manufacturing Heavy Metal, May 3, 2014, Berlin, Business.
http://www.economist.com/news/business/21601528-three-dimensional-printing-may-help-entrench-worlds-engineering-giants-heavy-metal

3D: The future of printing, Len Pannett, Supply Management, January 16, 2014.
http://www.supplymanagement.com/analysis/features/2014/3d-the-future-or-printing

The Implications of 3D Printing for the Global Logistics Industry, John Manners-Bell and Ken Lyon, January 23, 2014.
http://supplychain247.com/article/the_implcations_of_3d_printing_for_the_global_logistics_industry

The Impacts of 3D Printing on Transport and Society, Thomas Birtchnell, Economic & Research Council.
http://www.academia.edu/3628536/Freight_Miles_The_Impacts_of_3D_Printing_on_Transport_and_Society

Building on 3D Printing, Jerry Peck, The Journal of Commerce, August 18, 2014. http://www.joc.com

What does 3D printing mean to logistics? Biju Kewalram, American Shipper, September 2014.
http://digital.americanshipper.com/i/370498/19