The San Joaquin Valley Goods Movement Sustainable Implementation Plan

Executive Summary

Section 1: Introduction

The San Joaquin Valley (SJV) has long been acknowledged as one of the critical freight transportation and goods movement centers in California. The SJV economy relies on an efficient and well-functioning goods movement system. The SJV Inter-Regional Goods Movement Plan (SJVIGMP), released in 2013, showed that goods movement dependent industries (including agriculture, food processing, construction, energy production, and transportation and logistics) accounted for more than 564,000 jobs and $56 billion in economic output in 2010. More than 463 million tons of goods were moved into, out of, and within the SJV in 2007 and this was expected to grow to over 800 million tons by 2040. In addition to the critical role of agriculture and food products industries, the SJV also is becoming a major distribution and logistics center with expanding numbers of mega-distribution centers and even new manufacturing facilities, as businesses seek to reshore jobs that had been going overseas. All of this growth will contribute to needs for improved goods movement systems.

The SJVGMSIP identified a number of key issues that face the Valley. Several of these led to follow-up work in order to implement recommendations:

- **Growth in population and industry activity leading to growth in congestion, bottlenecks, and safety issues on key corridors –** While the two most significant goods movement corridors in the SJV are I-5 and SR 99, there are other rural highways that serve important roles for east-west connectivity and provide farm-to-market and farm-to-processor connectivity. Many of these highways are among the State's most important rural corridors. The 2015 Federal FAST Act requires state departments of transportation to designate priority rural corridors as part of the National Highway Freight Network.

Kern Council of Governments · StanCOG Stanislaus Council of Governments · Fresno Council of Governments · TCAG Tulare County Association of Governments · San Joaquin Council of Governments · Madera County Transportation Commission · MCAG Merced County Association of Governments · Caltrans · Kings County Association of Governments

- **The need to improve and maintain East-West (E-W) Corridors and Last Mile Connectors –** Many of the east-west highway corridors are outdated and not keeping up with growing truck traffic volumes. Last mile connectors are city streets or county roads that connect directly to intermodal and rail facilities, major industrial parks, and warehouse and distribution center concentrations. Because they have so much truck traffic, these connectors often need higher maintenance, increased capacity, and safety improvements. Local governments generally do not have the resources to address these concerns and they are not supported by major state or Federal programs.

- **The need to build a transportation system to support economic development –** Key industry sectors and growth opportunities were identified and transportation investments that support these industries were prioritized. These priority investments further emphasize the need to identify a comprehensive truck route system, including last-mile connectors, rural priority corridors, and intercity truck routes that connect to and serve the needs of key industries and clusters of economic activity.

- **Truck parking shortages –** Changes in truck driver hours of service (HOS) regulations have increased the need for truck parking throughout the SJV as well as real-time information about parking availability.

- **Need for improved analysis tools and performance measures –** Federal transportation legislation emphasizes that freight planning should be supported by robust performance measures. The SJV has an inter-regional truck model but it needs to be updated, it needs a long term maintenance plan, and staff need training in how to use the model.

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Section 2: Purpose and Scope of the Study

2.1 Objectives of the Study

The purpose of this study was to build on the work conducted in the SJVIGMP, and take the next steps to address issues raised in the SJVIGMP. This was accomplished by designating priority first and last mile goods movement connectors and identifying any needed improvements to the connectors; identifying truck route and parking needs and strategies; identifying priority rural corridors; developing a framework for improving and maintaining the Valleywide truck model; and coordinating all of these efforts with the Valley Regional Transportation Planning Agencies' (RTPA) Sustainable Communities Strategies (SCS) and other planning efforts at the local, state, and Federal level.

2.2 Key Tasks

- **Task 1** focused on the issue of first and last mile connectors. The study started by identifying all of the major clusters of goods movement facilities, industrial parks and manufacturing centers, and warehouse and distribution facilities. The study incorporated the data identifying the location of these facilities that were collected and mapped in the SJVIGMP study. The study also surveyed local stakeholders to identify the routes they think are the key connectors. The connectors were mapped to make sure that there were good connections to all of the major freight activity centers. The condition and performance of a representative set of connectors was evaluated to characterize the general needs for connector maintenance and improvements.

- **Task 2** focused on truck routing and parking needs. While it was impossible to inventory all of the truck route systems for every city and county in the Valley, the study focused on high priority intercity truck routes that include the state highways and county roads and assembled a map of these priority routes and how these relate to the STAA network. The study also obtained land use maps and examined how the existing routing provides connectivity to major goods movement centers and issues of continuity across jurisdictions. The study provides recommendations about changes to the truck route system and physical and operational improvements to make the system function more effectively. The SJVIGMP already includes some information about the locations of public rest areas and private truck stops. The study expanded upon this to get a more complete inventory of the major truck parking facilities in the region. Ultimately, the study identifies where there are high levels of truck activity and limited parking, and makes recommendations for both public and private investments in truck parking and public policies that can encourage private investment.

- **Task 3** focused on designation of priority rural freight corridors. This task identified and updated information on California's priority network and key rural corridors as identified in the SJVIGMP, and then established criteria for designating priority rural corridors in the region. The routes identified are part of the overall system of roads important to the movement of goods as identified in Task 1 (Connectors) and Task 2 (Truck Routes).

- **Task 4** reviewed the Valleywide truck model to recommend improvements, methods to ensure integration with other freight data and modeling efforts that are ongoing in the state, and methods to ensure that the model can support performance measures and analysis.

- **Task 5** involved integrating the implementation of the study recommendations with implementation of the Regional Transportation Plan (RTP) Sustainable Communities Strategy (SCS) plans. The study identified how the goods movement programs can be aligned with, and supportive of, the SCS goals and mandates.

Section 3: Truck Routes

3.1 Truck Route Types

The study looked at the complete roadway network to best address goods movement in the Valley. This included highways (I-5 and SR-99), other intercity truck routes, rural corridors (critical for connections to and from the major roadway system), and connectors (providing key first and last-mile connectivity to businesses).

3.2 First and Last-Mile Connectors

First and last mile connectors are key parts of the goods movement system connecting the major through routes in the San Joaquin Valley to freight generators and receivers, such as warehousing and manufacturing land uses; wholesale or retail clusters; and industrial, agricultural, logging, mining, or other resource extraction and processing facilities. Clusters of these types of freight-generating businesses were identified and mapped as part of the SJVIGMP. This initial list of freight-generating business clusters was expanded based on feedback from the study's Technical Advisory Committee (TAC). A map of these clusters is shown in Figure 1. The team used the procedures described below to identify first and last mile connectors that connect to these clusters. Key steps included:

1. Identified a preliminary list of connectors based on cluster and business establishment-level data in relation to highway accessibility. Using establishment-level data, the team identified cluster connectivity from specific industries to major highways.

2. Circulated initial connector list to the TAC and other interested parties for review and input. This critical local knowledge contributed to a substantial amount of clarifications in certain areas of the Valley. The project team used a survey, as well as direct input/comment for this step. Direct input included county-specific identification of major trucking sources in addition to those in the initial connector list, as well as specific point and line comments regarding freight generation locations and roadway characteristics submitted through the team's on line geographic information system (GIS) system.

3. Further refined connector list based on feedback and recommendations. Much of this refinement included a desktop scan of the Valley using Google Earth to determine land uses that are likely freight activity centers and accessibility. This led to a number of additions and revisions to the initial list of connectors.

The connector routes identified in Table 1 are part of the local road network. Table 1 also indicates if the connector meets any criteria established in the Federal Fixing America's Surface Transportation (FAST) Act that would make the connector eligible for designation as part of the National Freight Highway Network.

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Figure 1. SJV Freight Clusters

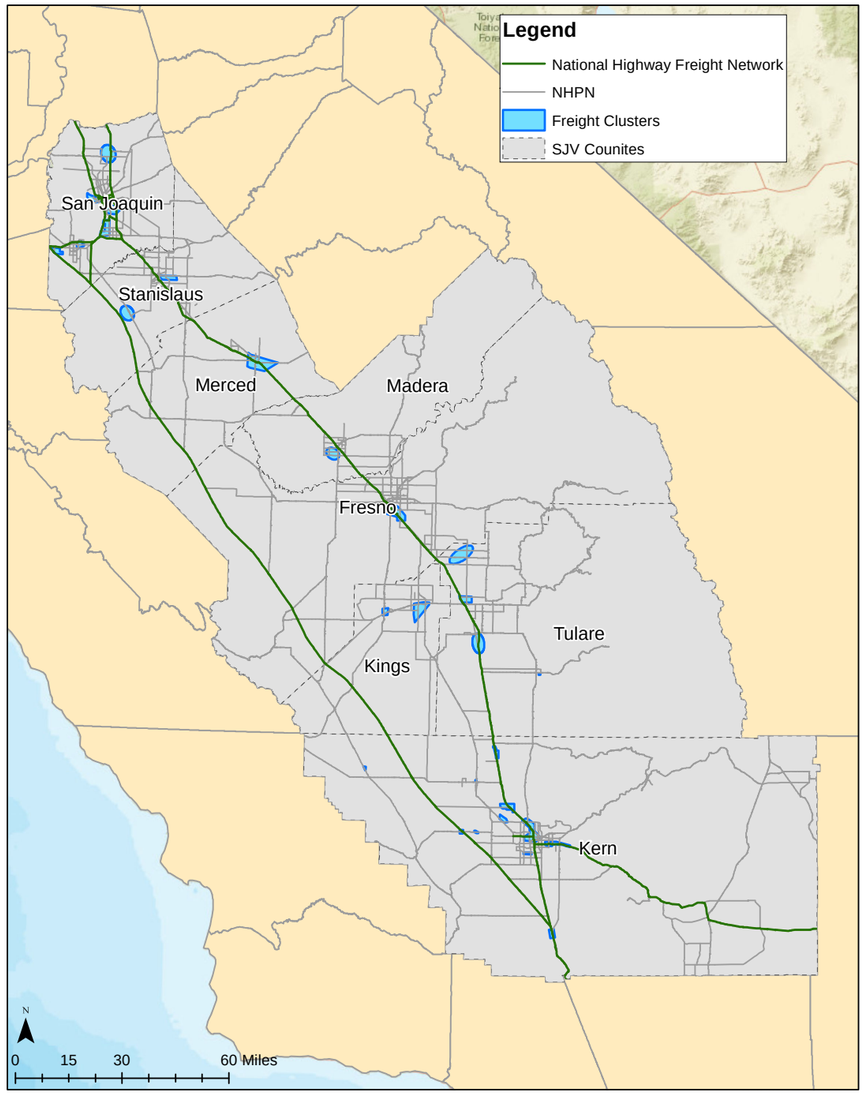

Table 1. SJV Key Connectors

Street Name	From	To	FAST Act Criteria Met (If Applicable)
Fresno County			
Fowler Avenue	Shields Avenue	CA 180	Manufacturing/Industrial Land
H Street	Belmont Avenue	Calaveras Street	Alt to SR 99 corridor, major freight generation
E Jensen Avenue/ E Jensen Avenue Bypass	CA 99	Willow Avenue	Major freight generation, intermodal/transload to PHFS
N Clovis Avenue	SR 168	McKinley Avenue	Major freight generation, intermodal (airport) to PHFS
North Avenue	Elm Avenue	Willow Avenue	Major freight generation, warehouse, logistics, etc.
S Railroad Avenue	S Van Ness Avenue	E Church Avenue	Serves warehouse and industrial land
Van Ness Avenue	Los Angeles Street	Railroad Avenue	Major freight generation
Kern County			
Brown Material Road	SR 33	SR 46	
Browning Road	Pond Road	Schuster Road	Major freight generation (multiple), intermodal (Railex, airport)
Cherry Avenue	7th Standard Road	Lerdo Highway	
China Grade Loop	Manor Street	Round Mountain Road	Petroleum Production
Delano – Woollomes Ave	Lexington Ave	SR 99	
Di Giorgio Road	SR 184	Tejon Hwy	Access to agriculture (Grimmway, Kern Ridge, Heck Cellars)
District Blvd	Gosford Drive	Stine Road	Major freight generation (multiple, Nestle/ Dryer)
Driver Road/ Express Avenue	BNSF	Merced Avenue	Freight Container Yard (under construction), major freight generation, logistics warehouse center
Edison Highway	SR 184	Pvt Grade Crossing East of Malaga Road	Agriculture
F Street (Wasco)	SR 46	Gromer Avenue	Access to major Ag processing facility (Sunny Gem)
Fruitvale Avenue	Hageman Road	end	Multiple freight generators
Holloway Road	SR 46	Twisselman Road	Petroleum Production
Lerdo Highway	SR 33	I-5	Petroleum Production
Lerdo Highway	Cherry Avenue	SR 65	Major freight generation (multiple, GAF) Access to ag, intermodal facility (rail-existing bulk and planned UP intermodal container facility, airport)
Lost Hills Road	SR 46	SR 33	Petroleum Production
Merle Haggard Drive	SR 99	Airport Drive	Major freight generation (multiple, Carquest DC, Camping World DC), Intermodal facility (airport, rail), energy (Valley Pacific, Haliburton)
Midway Road	SR 33	SR 119	

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Street Name	From	To	FAST Act Criteria Met (If Applicable)
Kern County (continued)			
Mt Vernon Avenue	Virginia Avenue	Gateway Avenue	Major freight generation (warehouse and manufacturing)
Mountain View Road	S Fairfax Road	SR 184	Serves Grimmway Farms
Pegasus Drive	Merle Haggard Drive	Norris Road	Alt to SR 99, major freight generation (Pactiv, others), intermodal (rail, airport)
Pond Road	SR 99	Browning Road	Major freight generation (multiple), intermodal (Railex, airport)
Schuster Road	Browning Road	S. Lexington Avenue	Major freight generation (multiple), intermodal (Railex, airport)
S Wheeler Ridge Road	I-5	1st Street	Major freight generation (caterpillar)
S Lexington Avenue	Schuster Road	Balboa Avenue	Major freight generation (multiple), intermodal (rail, airport)
S Zerker/Zerker Road	Lerdo Hwy	Zerko Extension	Major freight generation (GAF, Grimmway, Garlic Company)
Pepper Drive/ Packing House Road	Edison Hwy	Edison Highway	Major freight generation
Snow Road/ Norris Avenue	Fruitvale Avenue	Airport Drive	Major freight generation, intermodal (airport)
Oak Creek Road	Tehachapi Willow Springs Road	SR 58	Petroleum Production
Tehachapi Blvd	SR 58	Monolith	Major freight generation (cement)
Wasco Avenue/J Street	Paso Avenue	Just north of SR 46	Energy (intermodal rail facility)
Panama Lane	Gosford Drive	SR 99	Major freight generation
Zachary Avenue	7th Standard Road	Burbank Street	Major freight generation, logistics/warehouse center
7th Standard Road	Santa Fe Way	I-5	Serves multiple manufacturing/industrial clusters
7th Standard Road	Santa Fe Way	SR 99	Serves multiple manufacturing/industrial clusters
7th Standard Road/ Merle Haggard Drive	Coffee Road	Beach	Petroleum Production
SR 14	Oak Creek Road	Tehachapi Willow Springs Road	
Stockdale Highway	Nord Road	Allen Road	Petroleum Production
Woollomes Avenue	SR 99	S Lexington	
Kings County			
11th Avenue	W Lacey Blvd	Jackson Avenue	Major freight generation
5th Street	11th Avenue	10th Avenue	Major freight generation (Marquez Brothers), manufacturing/warehousing land use

Street Name	From	To	FAST Act Criteria Met (If Applicable)
Kings County (continued)			
E. Lacey Boulevard	10th Avenue	SR 43	Serves manufacturing, industrial land
9th Avenue	E. Lacey Blvd	E Hanford Armona Road	Westside Locker Plan, Central Valley Meat
10th Avenue	Jackson Avenue	Hanford Armona Road	Agriculture, some manufacturing
Fox Drive/Fox Street	W Hanford Armona Road	W Bush Street	Serves Leprino Foods
Bush Street	Belle Haven Drive/ Industrial Way	18th Ave	Serves Leprino Foods
S 19th Avenue	Jackson Avenue	SR 198	Olam – major freight generator
Idaho Avenue	SR 41	S 19th Avenue	Olam – major freight generator
W Industrial Way/Belle Haven Drive	SR 41	Leprino Foods	Serves Leprino Foods
Madera County			
Avenue 12	Road 23	CA 99	Major freight generation (Constellation wines/ mission bell winery, Victor packing)
Avenue 14/ Howard Road/W Olive Road	Road 23	CA 99	Major freight generation
West Almond Avenue/ S Pine Street/ W Olive Avenue	S Granada Drive	CA 99 Madera Avenue	Warehouse/industrial cluster
Airport Drive/Avenue 17	Aviation Drive	SR 99	Connection to airport and associated industry
S Pine Street	Howard Road	Avenue 12	Multiple Freight generators, City truck route
N Gateway Drive	SR 145	W Cleveland Avenue	Connection between SR 145 and SR 99, limited freight generators
Merced County			
Healy Road	Doppler Road	Sandy Mush Road	Access to agriculture
Cooper Avenue	Ashby Road	CA 59	Manufacturing (Quad Graphics, Scholle, White Oak)
Volta/Ingomar/Husman	SR 33	SR 33	Two packaging facilities and agriculture
Ortigalita Road/ Sunset Avenue	SR 152	Canyon Road	Vulcan Materials-quarrying
Meadow Drive/ Shaffer Road	Jones Road	Oakdale Road	Serves Aggregate Mine-Oakdale Road is also on Corridor List
Shaffer Road	Oakdale Road	end of road	Serves Aggregate Mine-Oakdale Road is also on Corridor List
Collier Road	SR 99	end of road	Foster Feed Farm and agriculture – some transloading

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Street Name	From	To	FAST Act Criteria Met (If Applicable)
Merced County (continued)			
River Road/Vinewood Avenue/B Street	Winton Pkwy	Griffith Avenue	Gallo Winery, agriculture
Magnolia Avenue	Sultana Blvd	Robin Avenue	Multiple small businesses, freight, packaging
Westside Blvd	Robin Avenue	Gipson Street	Garcia Farms and Dole
Applegate Road	SR 99	Atwater Jordan Road	Atwater Packing Company
Atwater-Merced Expressway	Santa Fe Drive	SR 99	Connection to airport, limited freight
Vassar Avenue/ Henry Street/ E Mission Avenue	Healy Road	SR 99	Connection to Yosemite Wholesale Warehouse
White Rock Road/ Le Grand Road	S Santa Fe Avenue	Quarry	Connection to aggregate site
San Joaquin County			
Airport Way	SR 120	French Camp Road	Alt to SR 99/I-5, intermodal connection, warehouse/logistics
Arch Airport Road/Arch Road	I-5	Mariposa Rail Yard	Intermodal facility (airport and rail), warehouse/ industrial land
McCloy Avenue/Port of Stockton Expressway	CA 4	Navy Drive	Intermodal (port), industrial/warehouse/ manufacturing
Spreckles Avenue	S Main Street	E Yosemite Avenue	Manufacturing and Distribution companies
French Camp Road	SR 99	S Airport Way	Major freight generation, agricultural and forestry processing, access to intermodal (Air)
Hammer Lane	West Lane	CA 99	Major freight generation
Diamond Street	E Charter Way	E Worth Street	Diamond Foods, Stockton Tri Industries, Access to Stockton Intermodal
E Mariposa Way	E Charter Way	SR 99	Access to Stockton Intermodal
E Charter Way (Dr. Martin Luther King Jr. Blvd)	Diamond Street	SR 99	Access to Stockton Intermodal
E Anderson Road	Facility	Diamond Street	Access to Stockton Intermodal
Harbor Street	Terminal	Fresno Avenue	Access to Port of Stockton
Fresno Avenue	Harbor Street	Navy Drive	Access to Port of Stockton
Navy Drive	W Washington	Charter Way	Access to Port of Stockton
Charter Way	Navy Drive	I-5	Access to Port of Stockton
Washington Street	Navy Drive	Fresno Avenue	Access to Port of Stockton
MacArthur Drive	I-205	I-205 Bus (W 11th Street)	Major freight generation, logistics/warehouse, mining
San Joaquin County (continued)			

Street Name	From	To	FAST Act Criteria Met (If Applicable)
Grant Line Road	MacArthur Dr	I-5	Major freight generation, logistics
Roth Road	I-5	S Airport Way	Intermodal (rail), freight generators, logistics/ warehouses
Turner Road	Lower Sacramento Road	CA 99	Major freight generation
S Stockton Road	E Lodi Avenue	E Century Blvd	Multiple manufacturing/industrial on west side of street, alt corridor to SR 99
S Guild Avenue/ N Guild Avenue	Auto Center Road	Winemaster Way	Multiple manufacturing/industrial, alt corridor to SR 99
W Fremont	Carlton Avenue	N Center Street	Multiple manufacturing industries
Guthmiller Road/ W Yosemite Avenue	CA 120	Airport Way	Logistics, warehouses
D'Arcy Pkwy	Yosemite Avenue	Harlan Road	Serves multiple warehouses, logistics centers
Harlan Road	E Louise Avenue	end	Connector from interstate to multiple warehouse/ distribution sites
Stanislaus County			
Faith Home Road, Garner Road, and Claus Road	SR 99	SR 108	Manufacturing/Industrial/Distribution
Crows Landing Road/ Fink Road	SR 99	I-5	Warehouse/industrial land, major freight generation
Mitchell Road	SR 132	SR 99	Intermodal (airport), major freight generation, logistics/warehouses
Rogers Road	Zacharias Road	Sperry Avenue	3 major warehouses
Park Center Drive	Keystone Pacific Pkwy	Sperry Avenue	Amazon/CVS Warehouses/Logistics, Major freight generation
Sperry Avenue	I-5	Baldwin Road	Amazon/CVS Warehouses/Logistics, Major Freight generation
Kansas Avenue/Need-ham Street	N Carpenter Road	McHenrey Avenue (SR 108)	Retail and manufacturing along northern edge
Tulare County			
Avenue 416/E Mountain View Avenue	SR 99	Road 88	Access to agricultural, major freight generation (Best Buy Distribution)
S Blackstone Street	E Bardsley Avenue	Industrial Avenue	Major freight generation, logistics/warehouse/ manufacturing
E Bardsley Avenue	South I Street	SR 99	Major freight generation, logistics/warehouse/ manufacturing
E Paige Avenue	South K Street	SR 99	Major freight generation, logistics/warehouse/ manufacturing
Tulare County			

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Street Name	From	To	FAST Act Criteria Met (If Applicable)
Industrial Avenue (Future SR 99 IC)	South K Street	S Blackstone St	Major freight generation, logistics/warehouse/ manufacturing
K Street	SR 99	E Owens Avenue	Major freight generation, logistics/warehouse/ manufacturing
Road 80 (Plaza Dr)	W Airport Dr	W Riggin Avenue	Intermodal (airport), major freight generation, warehousing
W Goshen Avenue	SR 99	N Shirk Street	Major freight generation, warehouse/logistics/ industrial
Drive 68	Betty Dr	Pacific Supply (Bus)	Major freight generation (Conway, Pacific Supply)
Sierra Way (S Alta Avenue)	Road 72	Road 80	Best Buy Distribution Center, Ruiz Foods
Poplar Avenue/S Jaye Street	End	SR 190	Major freight generation, Walmart DC
Avenue 368	SR 99	Road 132	Serves multiple large dairy farms, Ventura Coastal
Spruce Road/Road 204	SR 198	SR 137	Serves multiple agricultural processing, one chemi-cal site
Road 152	SR 137	SR 190	Serves multiple large dairy farms
Terra Bella/Avenue 96/ Avenue 95	SR 65	Road 236	Multiple Freight generators (agricultural and forestry)
Avenue 56	SR 99	SR 65	Serves trucking/agricultural facilities
Avenue 0/Reed Road/ Avenue 8	SR 99	Richgrove Dr	Serves multiple agricultural and processing facilities

3.3 Priority Rural Corridors

Given the rural character of much of the SJV and the importance of agricultural and energy production in rural areas, a critical element of the SJV freight roadway network is priority rural corridors.

The FAST Act establishes criteria that a route must meet in order to be designated a Critical Urban Freight Corridor or Critical Rural Freight Corridor. Routes so designated join routes on the Primary Highway Freight System (PHFS) and any remaining Interstate portions to become the National Highway Freight Network (NHFN).[1] Projects on the NFHN, or that impact goods movement on these routes, are eligible to receive freight formula funding allocated to each state under the National Highway Freight Program (NHFP), and also qualify the project to seek USDOT's Fostering Advancements in Shipping and Transportation for the Long-Term Achievement of National Efficiencies (FASTLANE) Grant program funding.[2] As a result, the identification of priority rural corridors as part of this study was conducted to support designation of Critical Rural Freight Corridors (CRFC) as part of the FAST Act implementation. Since some of the priority rural corridors also travel through urban areas, the study identified cases where these corridors might also qualify for designation under the FAST Act as Critical Urban Freight Corridors (CUFC).

Caltrans is responsible for designating California's CUFCs and CRFCs, but they will rely on regional input, and in the case of CUFC must consult with the MPOs. The discussion below pertains to the designation of CRFCs, as priority rural corridors are by definition found outside of Urbanized Areas. Due to the mileage cap, it is unlikely that many local routes will be chosen by the state as CRFCs, but the below discussion and identification of potential routes positions the region to advocate for such routes if they choose.

The FAST Act establishes criteria that a route must meet in order to be designated a Critical Rural Freight Corridor (CRFC).[3] To qualify under this designation, the following conditions must be met. The route cannot be in an urbanized area AND must meet one or more of the following criteria:

A. Be a rural principal arterial roadway with trucks equaling 25% or more of AADT (FHWA vehicle class 8 to 13);

B. Provide access to energy exploration, development, installation, or production areas;

C. Connect the Primary Highway Freight System (PHFS) or the Interstate system to facilities that handle: 1) 50,000 or more 20-foot equivalent units (TEU) per year; 2) 500,000 tons bulk commodity per year; and 3) provide access to grain elevators, agricultural facility, mining facility, forestry facility or intermodal facility;

D. Provide access to a grain elevator, an agricultural facility, a mining facility, a forestry facility, or an intermodal facility;

[1] http://ops.fhwa.dot.gov/freight/infrastructure/nfn/index.htm.

[2] This is the same as the Nationally Significant Freight and Highway Projects (NSFHP) Program identified in the FAST Act legislation.

[3] See FHWA FAST Act CRFC/CUFC guidance: http://ops.fhwa.dot.gov/fastact/crfc/sec_1116_gdnce.htm.

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E. Connect to an international port of entry;

F. Provides access to significant air, rail, water or other freight facility; or

G. Is determined by the state to be vital to improving efficient movement of freight of importance to the state's economy.

Table 2 presents the recommended priority rural corridors in the SJV.

Table 2. Priority Rural Freight Corridors (and Connecting Priority Urban Freight Corridors)

Route	From	To	County	Notes (FAST Act Criteria, AADT, Other)
Fresno County				
SR 99	Entire Region	Entire Region	All	ITSP Corridor
SR 33	I-5	SR 166	San Joaquin, Stanislaus, Merced, Fresno, Kings, Kern	A. Truck AADT, D. access to agriculture, B. energy, mining
SR 41	SR 99	San Luis Obispo border (SR 46)	Kings, Fresno, Kern	A. Truck AADT,a G. ITSP Corridor
SR 43	SR 99	I-5	Fresno, Kings, Tulare, Kern	A. Truck AADT, B. energy, D. access to agriculture, mining, F. Shafter container yard and major freight distribution cluster
W Nees Ave/Ave 7 1/2/ Firebaugh Blvd/Ave 12	Elm Avenue	Willow Avenue		Major freight generation, warehouse, logistics, etc.
I-5	SR 99	Fresno, Madera	D. Access to agriculture	Serves warehouse and industrial land
SR 198	SR 99	I-5	Tulare, Kings, Fresno	D. Access to agriculture
Kern County				
SR 99	Entire Region	Entire Region	All	ITSP Corridor

Route	From	To	County	Notes (FAST Act Criteria, AADT, Other)
SR 58 (Centennial Connector)	SR 99 at existing SR 58 freeway to freeway interchange	Westside Pkwy (west edge of urbanized Bakersfield)	Kern	I. route SR 58 on the PHFS provides an important highway option. K. important freight corridor as determined by the MPO. New parallel freeway under construction, scheduled to be complete in 2021 and to be designated SR 58. Mohawk St and Rosedale Hwy to SR 99 north to retain SR 58 route status.
SR 119	SR 99	I-5	Kern	J. serves major energy production area. K. important freight corridor determined by the MPO. STAA route
SR 184	SR 178	SR 223	Kern	J. serves energy and ag, K. important freight corridor determined by the MPO. STAA route
SR 204	SR 99	SR 58	Kern	I. portion of the route on the PHFS provides an important highway goods movement option. K. important freight corridor as determined by the MPO. STAA route
7th Standard Rd/Merle Haggard Dr	SR 65	Santa Fe Wy,	Kern	J. Serves a major freight generator (Shafter) K. important freight corridor as determined by the MPO.
SR 58	West edge of urbanized Bakersfield	SR 33 (Buttonwillow)	Kern	
SR 58 (new route Mohawk St-Westside Pkwy-Stockdale Hwy to I-5)	Westside Parkway (west edge of urbanized Bakersfield)	I-5 at Stockdale Hwy	Kern	Non-urban, non PHFN section, New parallel freeway partially constructed to be designated SR 58 and rescind current route (I-5 to Mohawk St) in 2018. B. access to energy production area, C, improved linkage between I-40 & Port of Oakland via I-5/580, G. ITSP/CFMP corridor
SR 14	L.A. County	US 395	Kern	Non-urban, non PHFN section, G. ITSP/CFMP Corridor
SR 33	I-5	SR 166	San Joaquin, Stanislaus, Merced, Fresno, Kings, Kern	A. Truck AADT, D. access to agriculture, B. energy, mining

[a] *Southern section has higher AADT and majority of the mining, energy, and agricultural activity.*

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Route	From	To	County	Notes (FAST Act Criteria, AADT, Other)
SR 41	SR 99	San Luis Obispo border (SR 46)	Kings, Fresno, Kern	A. Truck AADT,[a] G. ITSP Corridor
SR 119	SR 33	SR 99	Kern	B. Energy production
SR 166	SR 99	San Louis Obispo Boarder (U.S. 101)	Kern	Alternate truck route for when the grapevine is shut down and connects to SR 33. D. agriculture access
SR 184	SR 223	SR 178	Kern	D. Access to agriculture
SR 223	I-5	SR 58	Kern	D. Access to agriculture
7th Standard Rd	I-5	SR 65	Kern	B. Energy production area C. 50k+ TEUs per day, F. Shafter container yard and major freight distribution cluster
Tehachapi-Willow Springs Rd/Oak Creek Rd	SR 58	SR 14	Kern	B. Energy, D. Mining
Wheeler Ridge Rd	I-5/Tejon Industrial Drive	SR 184/223	Kern	D. Agriculture, F. Warehousing
Kings County				
SR 41	SR 99	San Luis Obispo border (SR 46)	Kings, Fresno, Kern	A. Truck AADT,a G. ITSP Corridor
SR 33	I-5	SR 166	San Joaquin, Stanislaus, Merced, Fresno, Kings, Kern	A. Truck AADT, D. access to agriculture, B. energy, mining
SR 43	SR 99	I-5	Fresno, Kings, Tulare, Kern	A. Truck AADT, B. energy, D. access to agriculture, mining, F. Shafter container yard and major freight distribution cluster
SR 198	SR 99	I-5	Tulare, Kings, Fresno	D. Access to agriculture
Houston/Caldwell Ave	SR 43	SR 198	Tulare, Kings	D. Access to agriculture
Madera County				
SR 99	Entire Region	Entire Region	All	ITSP Corridor
SR 152	SR 99	Santa Clara border	Merced, Madera	A. Truck AADT, D. access to agriculture, G. ITSP corridor
W Nees Ave/Ave 7 1/2/ Firebaugh Blvd/Ave 12	I-5	SR 99	Fresno, Madera	D. Access to agriculture
Merced County				
SR 99	Entire Region	Entire Region	All	ITSP Corridor

Route	From	To	County	Notes (FAST Act Criteria, AADT, Other)
SR 152	SR 99	Santa Clara Border	Merced, Madera	A. Truck AADT, D. access to agriculture, G. ITSP corridor
SR 33	I-5	SR 166	San Joaquin, Stanislaus, Merced, Fresno, Kings, Kern	A. Truck AADT, D. access to agriculture, B. energy, mining
Santa Fe Ave/Dr	SR 132	SR 59	Stanislaus, Merced	D. Access to agriculture
San Joaquin County				
SR 99	Entire Region	Entire Region	All	ITSP Corridor
SR 4	Contra Costa County	Calaveras County	San Joaquin	Non-urban, non PHFN section
SR 33	I-5	SR 166	San Joaquin, Stanislaus, Merced, Fresno, Kings, Kern	A. Truck AADT, D. access to agriculture, B. energy, mining
SR 120	I-5	SR 108	San Joaquin, Stanislaus	Non-urban, non PHFN section
SR 132	I-5	SR 99 or Toulumne border	San Joaquin, Stanislaus	A. Truck AADT, D. access to agriculture
Stanislaus County				
SR 99	Entire Region	Entire Region	All	ITSP Corridor
SR 33	I-5	SR 166	San Joaquin, Stanislaus, Merced, Fresno, Kings, Kern	A. Truck AADT, D. access to agriculture, B. energy, mining
SR 120	I-5	SR 108	San Joaquin, Stanislaus	Non-urban, non PHFN section
W Main St/E Las Palmas Ave/Sperry Ave	SR 99	I-5	Stanislaus	A. Truck AADT, F. Warehousing
Santa Fe Ave/Dr	SR 132	SR 59	Stanislaus, Merced	D. Access to agriculture
SR 132	I-5	SR 99 or Toulumne Border	San Joaguin, Stanislaus	A. Truck AADT, D. access to agriculture
North County Corridor	Tully Road	SR 120/108	Stanislaus	J. Serves a major freight generator (Planned) K. important freight corridor as determined by the MPO.
Tulare County				
SR 99	Entire Region	Entire Region	All	ITSP Corridor
SR 43	SR 99	I-5	Fresno, Kings, Tulare, Kern	A. Truck AADT, B. energy, D. access to agriculture, mining, F. Shafter container yard and major freight distribution cluster

Route	From	To	County	Notes (FAST Act Criteria, AADT, Other)
SR 65	SR 99	SR 190	Tulare	D. Access to agriculture B. Access to energy
Houston/Caldwell Ave	SR 43	SR 198	Tulare, Kings	D. Access to agriculture
SR 198	SR 99	I-5	Tulare, Kings	D. Access to agriculture

Many of the above rural corridors connect with urban corridors. Table 3 is a listing of these connecting urban corridors. Fresno and Kern have urbanized areas larger than 500k population and have lead in requesting FHWA to designate urban corridors in those areas. The state has the lead on designating urban corridors in urbanized areas between 50k and 500k population, in consultation with MPOs.

Table 3. Priority Urban Corridors

Route	From	To	County	Potential CUFC?	Notes (FAST Act Criteria, AADT, Other)
SR 99	Entire Region		All	No-already on PHFN	ITSP Corridor
SR 58 (Centennial Connector)	SR 99 at existing SR 58 freeway to freeway interchange	Westside Pkwy (west edge of urbanized Bakersfield)	Kern	Yes	I. route SR 58 on the PHFS provides an important highway option. K. important freight corridor as determined by the MPO. New parallel freeway under construction, scheduled to be complete in 2021 and to be designated SR 58. Mohawk St and Rosedale Hwy to SR 99 north to retain SR 58 route status.
SR 119	SR 99	I-5	Kern	Yes	J. serves major energy production area. K. important freight corridor determined by the MPO. STAA route
SR 184	SR 178	SR 223	Kern	Yes	J. serves energy and ag, K. important freight corridor determined by the MPO. STAA route
SR 204	SR 99	SR 58	Kern	Yes	I. portion of the route on the PHFS provides an important highway goods movement option. K. important freight corridor as determined by the MPO. STAA route
7th Standard Rd/Merle Haggard Dr	SR 65	Santa Fe Wy,	Kern	Yes	J. Serves a major freight generator (Shafter) K. important freight corridor as determined by the MPO.
North County Corridor	Tully Road	SR 120/108	Stanislaus	No	J. Serves a major freight generator (Planned) K. important freight corridor as determined by the MPO.

3.4 The Primary Truck Route Network in the San Joaquin Valley

Starting with the First-/Last-Mile Connectors and Priority Rural Corridors described previously, this study compiled an inventory of the primary truck route network throughout the SJV. Major urban truck routes and intercity truck routes that were not identified as connectors or rural corridors, were also added to this inventory through outreach to Caltrans, the Valley transportation agencies, and cities throughout the SJV. One source of information for this inventory was the California Freight Mobility Plan (CFMP). The CFMP prioritizes the highway freight network based on truck volumes and significance in providing access to major freight generator regions. Figure 1 shows the CFMP Truck Route Tiers in the Valley. While all of the freight network facilities are important, the Tier 1 facilities are more likely to have projects prioritized for funding. Most of the Tier 1 highways have been identified by the Federal Highway Administration as components of the proposed national Primary Freight Network (PFN). Not all of California's portion of the PFN routes are included in Tier 1. 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. Combined, all three highway tiers plus additional routes identified as connectors and rural corridors but not included in the CFMP system comprise the primary truck route network in the San Joaquin Valley. For the purpose of this report, the freight network in the Valley is summarized in four layers:

- **National STAA truck routes –** the Surface Transportation Assistance Act (STAA) of 1982 allows the largest trucks to operate on the National Network. FHWA sets standards for STAA routes.
- **STAA access routes –** these routes provide connectivity to the National STAA Network, often on state routes or local roads.
- **Local truck routes –** these are truck routes designated by cities and counties as preferred truck routes within their jurisdictions.
- **Key connectors –** these are other routes identified as connectors or priority rural corridors but not otherwise included in any of the previous designations

In addition to routes already designated as primary truck routes, the study examined the connectivity of the system and recommended several new routes or improvements to existing routes to provide for a more robust Valleywide truck route network.

Figures 2-8 present county level maps of the primary truck routes throughout the Valley.

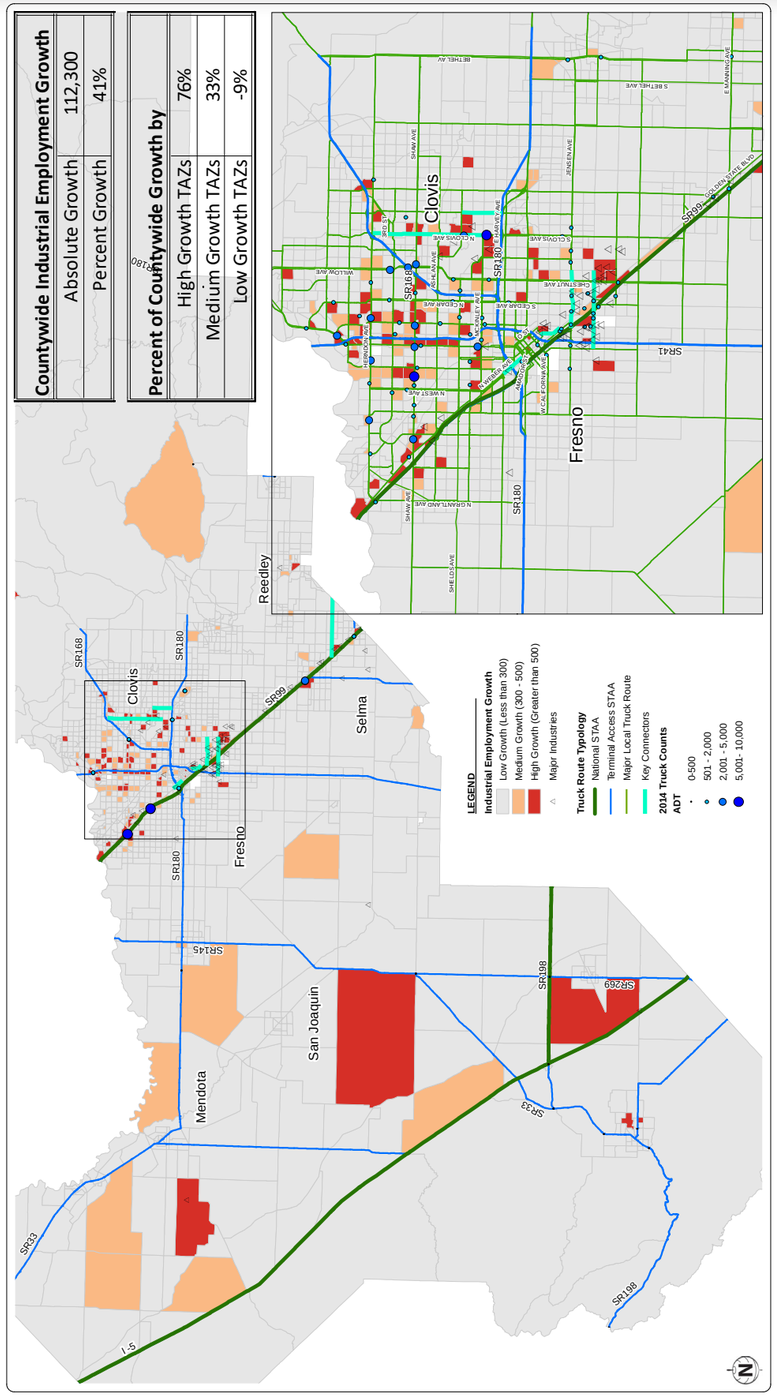


Figure 2 Major Truck Routes and Industrial Employment Growth from 2010 to 2040 Fresno County

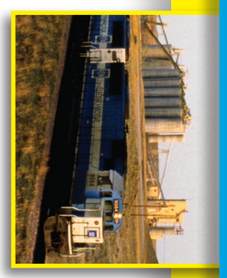
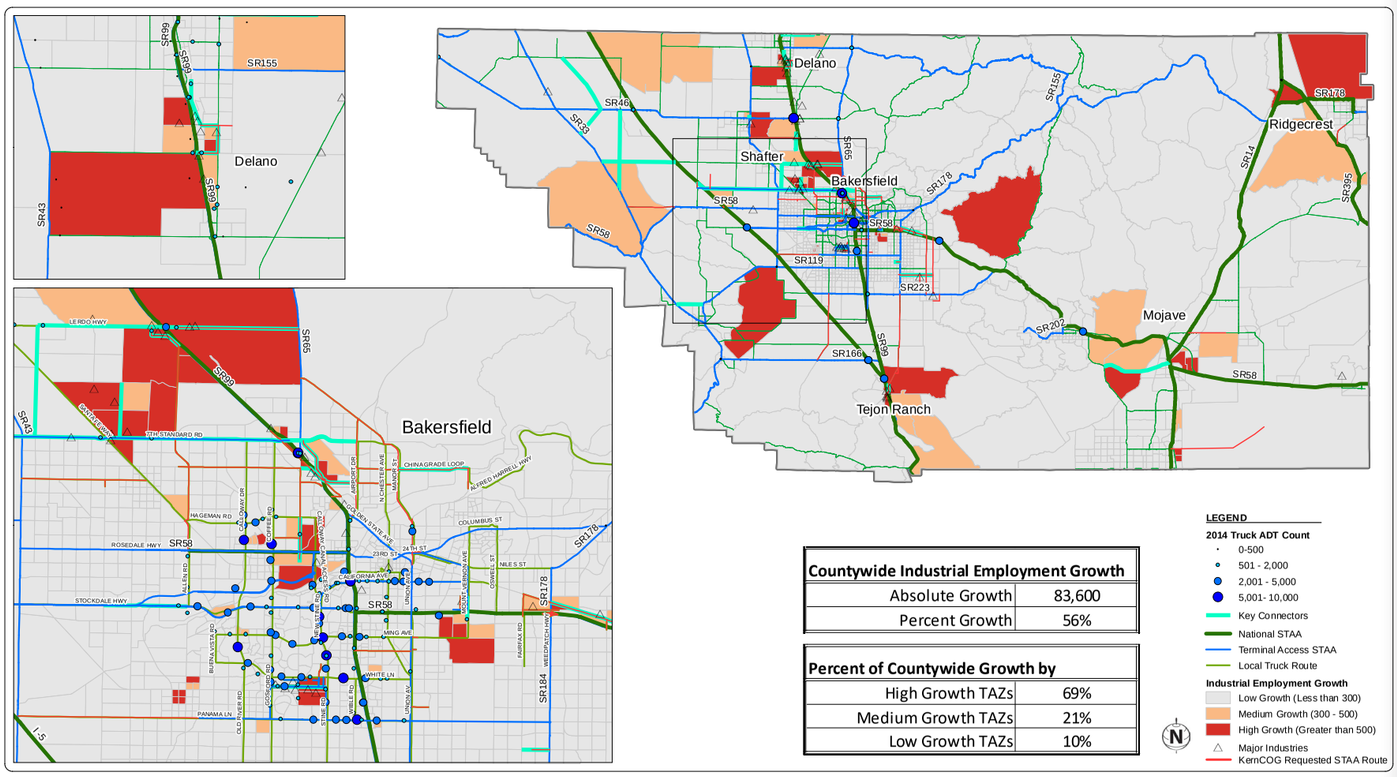


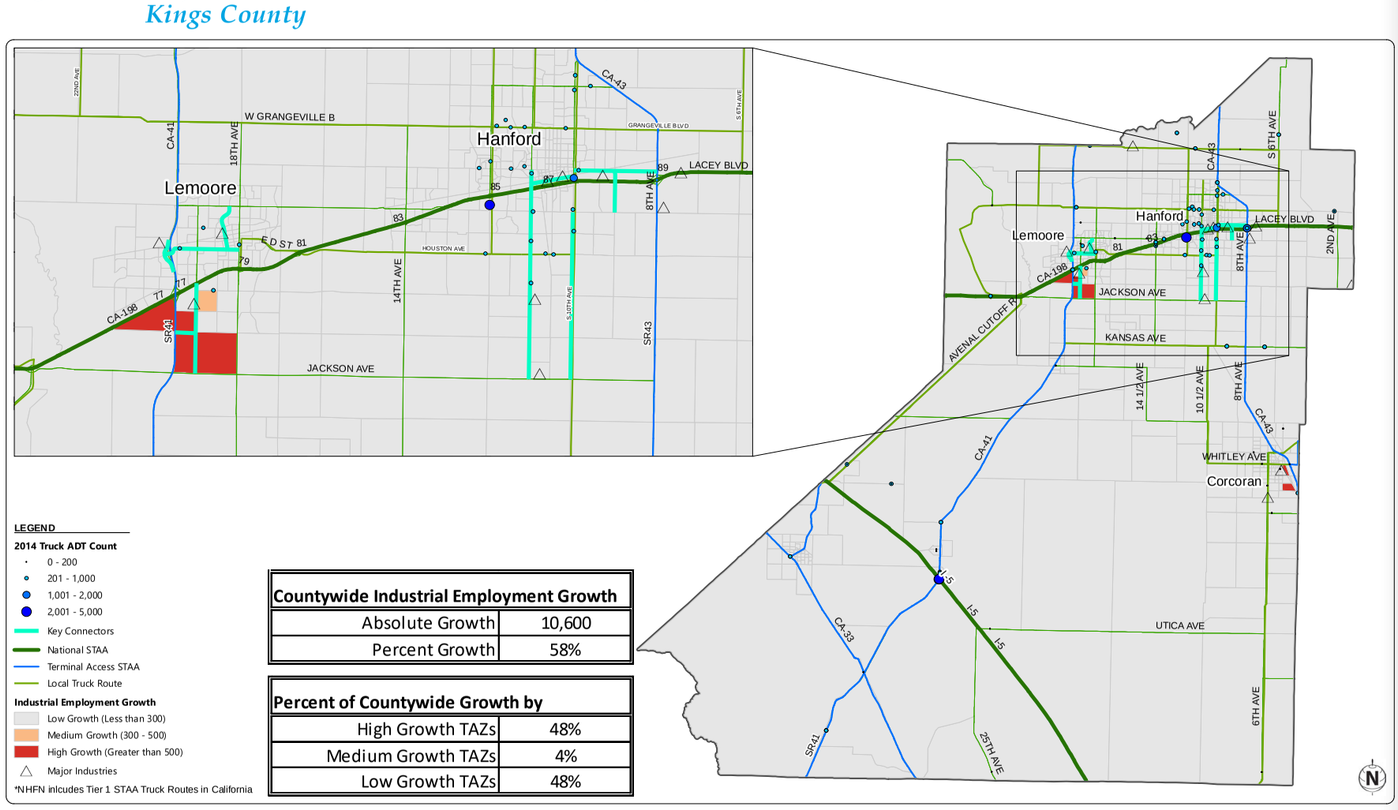
Figure 3 Major Truck Routes and Industrial Employment Growth from 2008 to 2040 Kern County



Countywide Industrial Employment Growth	
Absolute Growth	83,600
Percent Growth	56%

Percent of Countywide Growth by	
High Growth TAZs	69%
Medium Growth TAZs	21%
Low Growth TAZs	10%

Figure 4 Major Truck Routes and Industrial Employment Growth from 2005 to 2040 Kings County



Countywide Industrial Employment Growth	
Absolute Growth	10,600
Percent Growth	58%

Percent of Countywide Growth by	
High Growth TAZs	48%
Medium Growth TAZs	4%
Low Growth TAZs	48%

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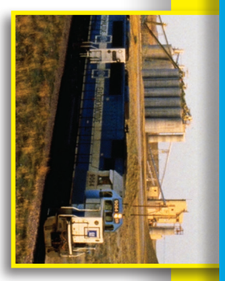
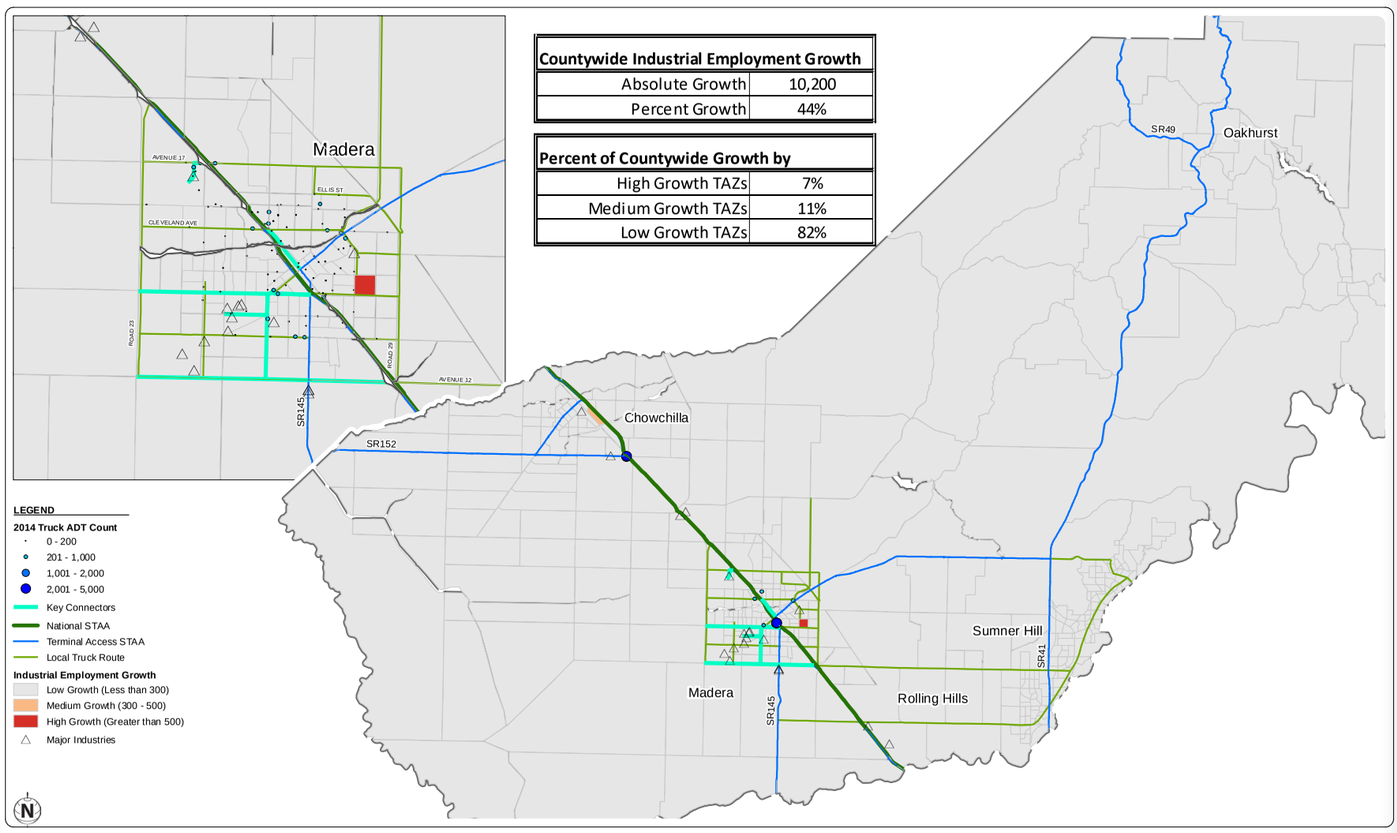


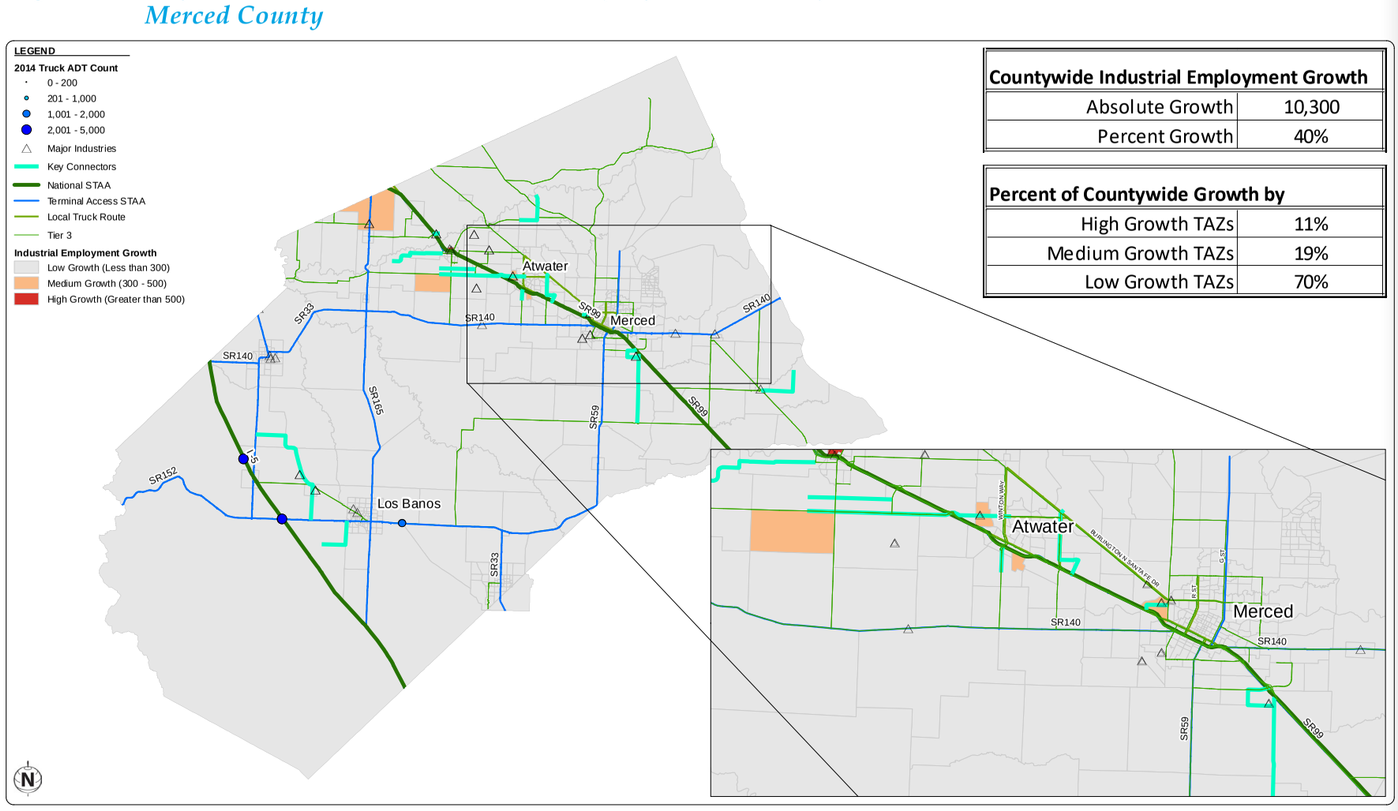
Figure 5 Major Truck Routes and Industrial Employment Growth from 2010 to 2035
Madera County



Countywide Industrial Employment Growth	
Absolute Growth	10,200
Percent Growth	44%

Percent of Countywide Growth by	
High Growth TAZs	7%
Medium Growth TAZs	11%
Low Growth TAZs	82%

Figure 6 Major Truck Routes and Industrial Employment Growth from 2008 to 2040
Merced County



Countywide Industrial Employment Growth	
Absolute Growth	10,300
Percent Growth	40%

Percent of Countywide Growth by	
High Growth TAZs	11%
Medium Growth TAZs	19%
Low Growth TAZs	70%

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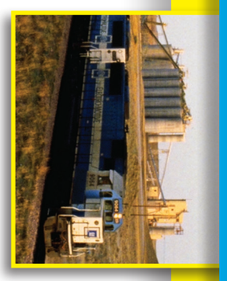


Figure 7 Major Truck Routes and Industrial Employment Growth from 2008 to 2040
San Joaquin County

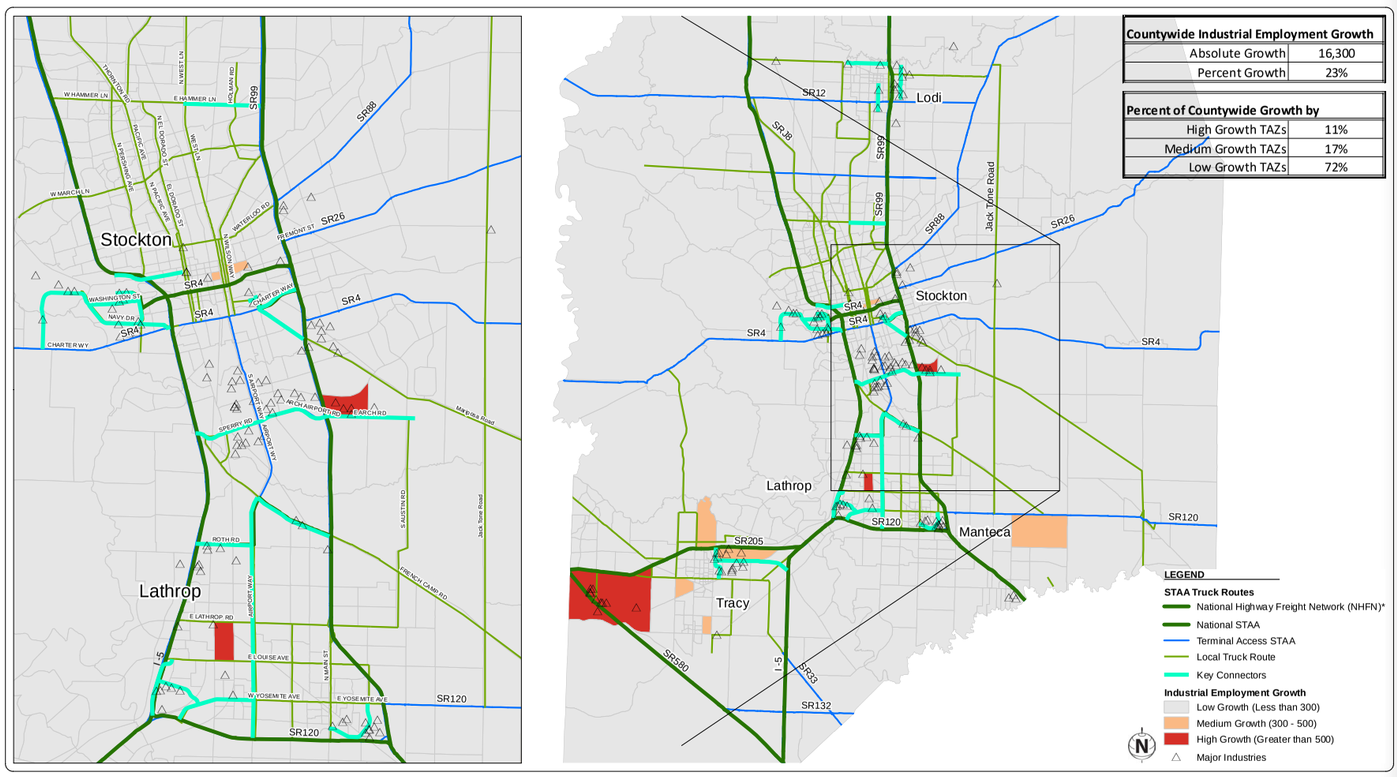
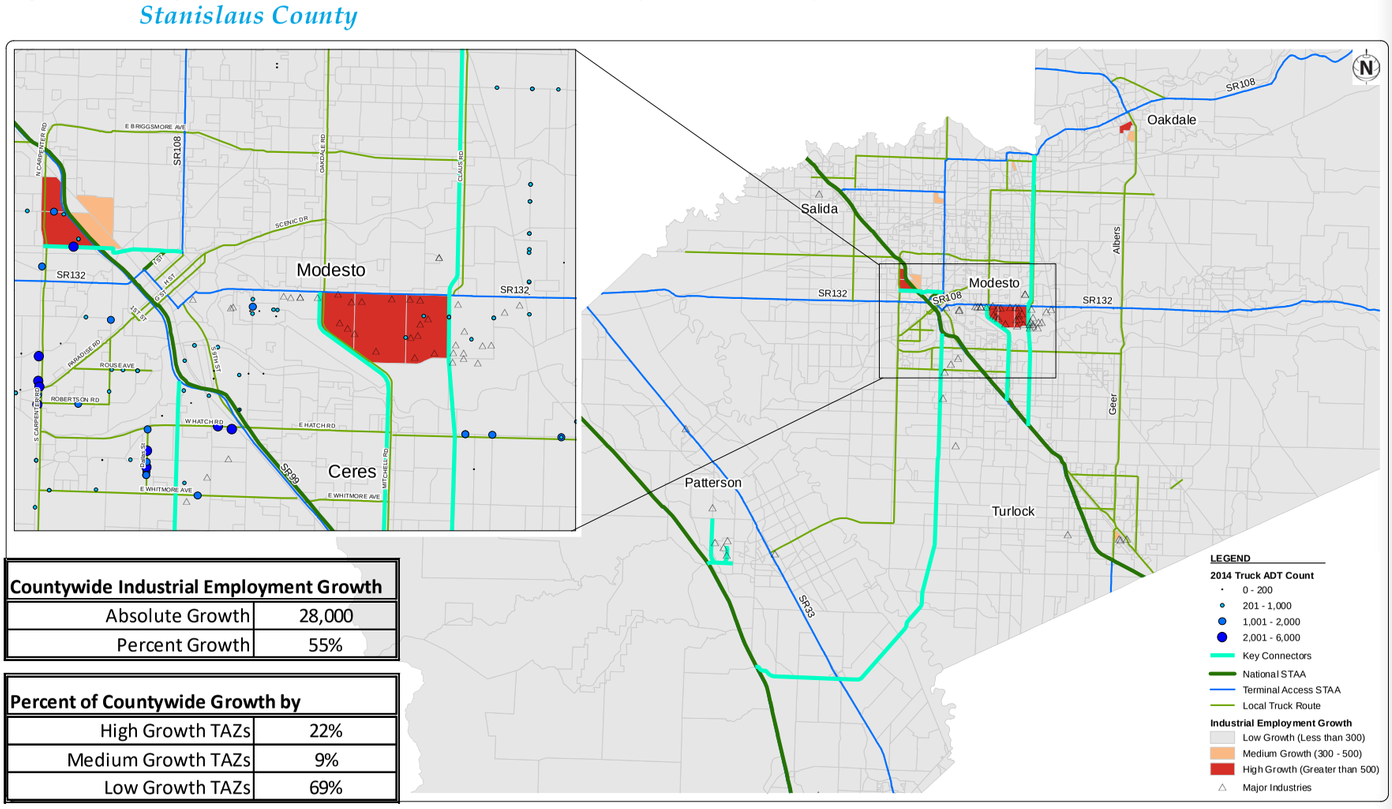


Figure 8 Major Truck Routes and Industrial Employment Growth from 2008 to 2040
Stanislaus County



Countywide Industrial Employment Growth	
Absolute Growth	28,000
Percent Growth	55%

Percent of Countywide Growth by	
High Growth TAZs	22%
Medium Growth TAZs	9%
Low Growth TAZs	69%

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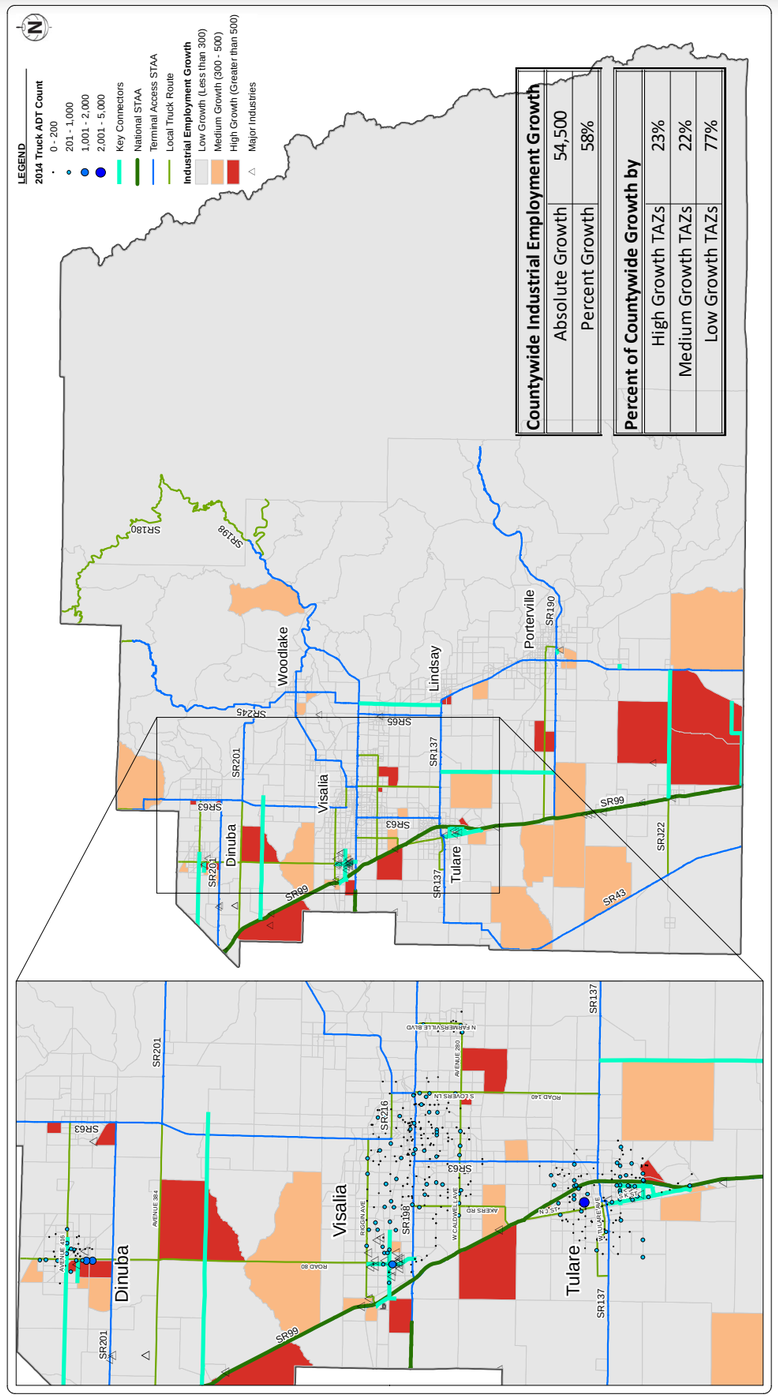

Figure 9 Major Truck Routes and Industrial Employment Growth from 2010 to 2040 Tulare County

Section 4: Truck System Issues and Needs

4.1 Summary of the STAA Truck Routing Recommendations

Several general recommendations to improve truck routes in the Valley were identified in this study. Many of them require promotion and encouragement by government agencies and a private sector investment.

- Data management: Develop and maintain an inventory of local STAA routes in each jurisdiction. Also regularly collect classification counts to identify the change in truck traffic patterns.
- Routing guidance: Prepare high-quality electronic and paper maps and broadcast them so that any truck driver can easily get a copy.
- Public outreach: Communicate often to drivers to use designated routes for the safety and efficiency of the network.
- Safety measures and signage: Review STAA routes with high truck- involved collisions. Identify the factors that contribute to repeated collisions. Evaluate the design characteristics of each of these locations. If the issue is caused by poor design, develop an improvement plan. Also review the trends of truck-involved collisions on local truck routes; an increase in truck-related collisions can be a warning to reevaluate truck routes to be compatible with surrounding land use changes.
- Pavement Maintenance: Evaluate the pavement conditions on STAA routes regularly to minimize the maintenance cost. STAA trucks have more impact on pavement deterioration than smaller trucks. Poor pavement conditions will result in higher fuel consumption and safety risks.

Beyond the above recommendations, to the extent possible with available data, the study conducted a detailed review of inter-city and local STAA routes in each county in the San Joaquin Valley. Route-specific recommendations were developed and included in a technical memorandum.

4.2 Connector Needs and Strategies

Performance metric data collected for select connectors revealed multiple needs that could improve safety and efficiency on connectors throughout the region. Examples include:

- **Improved signage for both passenger and commercial vehicle traffic.** In areas with a mix of traffic, it is important for conspicuous and legible signage to direct various vehicle types.
- **Safety analysis and improvement.** The issue of increased collisions came up in a number of different areas. A thorough safety analysis on the region's connectors could help identify more distinct patterns in commercial vehicle crashes, such as causes (human factors, signage, environmental), crash types, vehicle mix, and other factors. Based on these findings appropriate countermeasures can be identified. Examples include several connectors in San Joaquin, Tulare, and Kern County that exhibit higher than average numbers of collisions. Potential causes on these roadways include freight and local traffic interaction, traffic turning patterns and conflicts, and visibility concerns from geometry of intersections and routes.

- **Signal coordination on truck routes.** Efficiency of truck routes and last-mile connectors are impacted significantly by stop signs and signals. Signalization of key intersections with high annual average daily truck traffic (AADTT) could be explored to expedite truck movements, particularly through rural areas with non-signalized intersections. In urban areas, steps can be taken to coordinate signals on truck routes and adjacent connectors to enhance fluidity of traffic. Another suggestion included adding safety signs to alert auto drivers about heavy truck volumes along the freight connector corridor to reduce the risk of collisions.

- **Pavement quality improvements.** Pavement quality on selected connectors is generally rated good or better. For designated connectors that did not have data, steps should be taken to collect basic qualitative pavement data. Poor pavement is represented by "Major cracks, holes; needs significant capital intensive repairs" which should signal programmatic and/or maintenance improvements to these roadways. These areas have potential to inhibit safety and cause increased damage to both commercial and passenger vehicles.

- **Exploring design standards for heavy truck routes and connectors.** A clear finding of this analysis was that the designated connectors vary widely in geometry, appearance, adjacent land uses, and other attributes. In order to address goods movement and safety concerns the SJV transportation planning agencies could consider devising recommended design standards for first and last-mile connectors to establish baseline "best practices" for issues such as: turning radii, signage and signalization, shoulder dimensions, Complete Streets elements (if applicable), and other geometric elements. These standards could be incorporated into new and existing capital improvements as part of each municipality's and county's planning programs. Based on performance metrics and feedback, nearly every county could benefit from standardized design recommendations on selected connectors.

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Section 5: Truck Parking

Truck parking availability is a concern for both the goods movement/logistics industry as well as local and state government agencies. Parking along truck routes is necessary for truck drivers to take breaks and rest, or to sleep and wait long enough to comply with federal laws limiting hours of on-duty driving time. According to the Jason Law report, California ranked second among all the states in terms of severity of need for truck parking spaces. I-5 in California is also ranked 11th in terms of cited interstates with a shortage of truck parking. There is often a disconnect between perceived need and actual need for truck parking. Parking on a shoulder or ramp does not always correlate to a truck parking shortage. Truck drivers may park along the side of highways and exit ramps in several situations:

- When parking is at capacity, unavailable, or inadequately located, truck drivers may not risk continuing further than they should to find a legitimate space to park at their own cost.

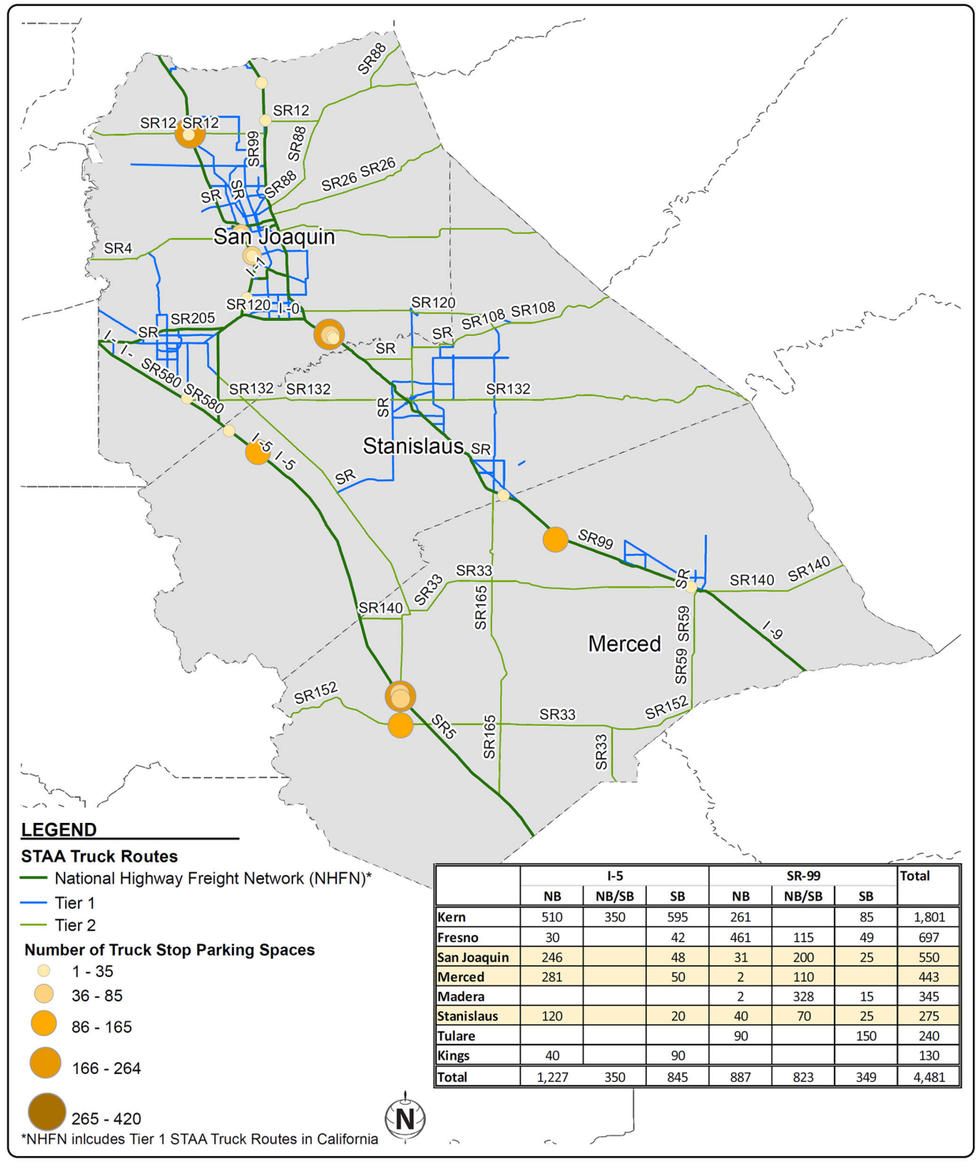
- When the truck operator is focused on the need for or pressure to deliver their load by a specific time, leading the driver to push onward regardless of the actual possibility of making it to their destination on time or before they reach their hours of service (HOS) limit, this may cause the driver to park and wait on state routes, rather than entering city boundaries to avoid restrictions on city roads.

- When parking cost is not covered by shippers or employers separately, truck drivers are more likely to park along the side of the highways as a free alternative.

- When information about parking availability and the possibility of booking a parking space in advance at an affordable cost is not available, truck drivers must plan their trip with high uncertainty. This uncertainty is higher during the busy months and weekdays when travel time is also not reliable. In these conditions, the truck driver may run out of HOS and need to stop at a non-designated truck parking space.

Figure 10 shows truck parking availability in the I-5 and SR99 corridors in the SJV.

Figure 10. San Joaquin Valley Truck Parking Availability



	I-5			SR-99			Total
	NB	NB/SB	SB	NB	NB/SB	SB	
Kern	510	350	595	261		85	1,801
Fresno	30		42	461	115	49	697
San Joaquin	246		48	31	200	25	550
Merced	281		50	2	110		443
Madera				2	328	15	345
Stanislaus	120		20	40	70	25	275
Tulare				90		150	240
Kings	40		90				130
Total	1,227	350	845	887	823	349	4,481

5.1 Summary of Truck parking Recommendations

After reviewing previous reports and discussing the issue with public agencies, truck stop operators and truck drivers, the study identified several factors that contribute to the truck parking problem in the Valley. The following recommendations are provided to improve conditions. Many of them require promotion and encouragement by government agencies and a private sector investment.

5.1.1 Planning and Funding

- Improve data collection and analysis to have a better understanding of short-term and long-term parking demand.
- Work with law enforcement to educate and train them about improved use of safe and available parking spaces (where parking space is actually available).
- Update plans and investment programs to include truck parking solutions, both for facilities and technology for truck parking information services. Investigate P-3 approaches (Public Private Partnership) that involve private sector partners in the development of truck parking investments.
- MPOs should consider ways to incentivize land use decisions to facilitate private sector expansion of existing facilities or opening a new one.
- Convert surplus public properties to truck stops (e.g., converting a former weigh station to truck parking spaces) especially if the property has adequate pavement.
- Use funding provided by FAST to construct or expand truck parking facilities and deploy tools for commercial motor vehicle drivers to find safe, available places to park and rest. The National Highway Freight Program (NHFP) created under FAST, allocates $1.2 billion annually by formula to states to undertake freight planning, performance measures, operational improvements and construction activities. While the program is highway focused, it allows states to allocate up to 10 percent of the program funds to truck parking, rail, intermodal and port projects.

5.1.2 Demand Control

- Incentivize off-peak deliveries to reduce demand for long-term parking spaces. States reported that delivery timing and hours of operation at freight facilities (such as ports), can help reduce night-time parking demand.
- Address truck circulation problems in older parking facilities that are not designed for larger trucks. Standard striping and use of way-finding signage are low cost improvements that can increase the efficiency and traffic circulation in the truck parking.
- Shippers/receivers often demand that drivers leave the facility immediately after delivery. Trucking association and public agencies may encourage industries to develop procedures or agreements to allow drivers to use their parking facility as available for short breaks if drivers need.

5.1.3 Technology

- Develop apps showing information for adjacent or nearby interchanges that have parking. Caltrans can also develop (or sponsor) an integrated parking app to show public and private locations, amenities, occupancy, maybe even reservations. Caltrans launched real time parking solutions on segments of I-5, the results shows increase in parking occupancy. More of these applications would be beneficial.

5.1.4 Emission Reduction Policies

- Encourage fleet owners to pay drivers to use designated parking areas with truck stop electrification in order to reduce unnecessary idling. Caltrans can also help DOE and EPA to promote it.

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Section 6: Modeling and Performance Evaluation

The growing demand for various freight-related analyses from public agencies has resulted in significant improvements in the availability of freight-related data sources such as accessibility and affordability of truck GPS data and truck diaries, increase in data quality and sample size of freight related surveys such as, local establishment surveys, and national and local commodity flow/origin-destination studies. Currently, the Federal Highway Administration and the Bureau of Transportation Statistics are considering re-establishing the Vehicle Inventory and Use Survey (VIUS), while at the state level, California is in the process of conducting its own statewide VIUS program to provide data for state and local freight modeling. The National Cooperative Freight Research Program (NCFRP), the National Cooperative Highway Research Program (NCHRP), and the Strategic Highway Research Program (SHRP) have all conducted applied research projects to advance the state-of-the-art of freight modeling and an increasing number of states and metropolitan planning organizations (MPOs) have adapted methodologies from this research in state and regional freight models.

Prior to developing the modeling framework for new freight/commercial vehicle models, this study conducted a review of existing literature on freight and truck travel modeling in order to identify conceptual frameworks that could be useful in the San Joaquin Valley as well as pitfalls that should be avoided. This was used to develop a series of recommendations for data and model improvements.

6.1 Recommended Freight Modeling Framework

After reviewing the available modeling methodologies and their associated cost, and the various needs of San Joaquin Valley MPOs for freight planning, the following options are available.

- Option 1 requires major investment to update the existing Valley truck model, continuous commitment to maintain the model, and training the staff for new applications. However, the model would be customized to the local needs and the MPOs have more control about the structure of the model and related assumptions.
- Option 2 requires the Valleys' MPOs close coordination with Caltrans modeling staff to ensure that their projects are properly included in the newly developed California Statewide Freight Forecasting Model (CSFFM). The advantage of this option is that Caltrans would maintain the model, provide regular updates and offer training for all MPOs.

A hybrid framework is recommended, where Option 2 is adapted and procedures will be developed to address all local needs. Under this framework there will be no need to maintain a Valleywide freight model; every MPO will have a freight module integrated with their passenger model. This recommended framework is summarized in two steps and explained in Table 6 and Table 7:

- Step 1 - Develop a Valley Freight Data Plan
- Step 2 - Develop a Valley Freight Model Update Plan

A detailed explanation of each of these steps is provided in a separate technical memorandum.

Table 6. Valleywide Freight Data Plan

Step One
1. Maintain an inventory of truck routes, truck parking, major freight activity centers.
2. Maintain a database of classification counts for major arterials and regional screen lines
3. Prepare a maintenance plan and review/update the data base every 5 year.
4. Maintain a single set of input data base for passenger and freight models.
• As *part of I-5/SR-99 Freight Corridor Study and Sustainable Implementation Plan Study* a lot of freight related data have been collected and geocoded. This geo data base can be published on the Valley website as a valuable resource for practitioners.
• The shared input data between passenger models under MIP and freight model (such as land use information or network information) must be consistent and seamlessly integrated.

Table 7. Freight Model Update Plan for each MPO

Step Two
1. Maintain the consistency with California Statewide Freight Forecasting Model (CSFFM). Ensure the consistency of model's assumption
2. Develop a sketch freight planning tool for quick inter-regional commodity flow analysis
3. Modify Valleywide truck model to include new modules and user friendly interface for easy and seamless integration with the MIP passenger model and Statewide model
4. Include truck trips by their purpose: freight and non-freight trips
5. Improve model validation on local level and conduct model sensitivity test

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Section 7: Funding

For the first time since the San Joaquin Valley regional transportation planning agencies have begun to address their freight transportation needs, both the state and Federal governments now have dedicated freight transportation funding programs. This presents a new opportunity to implement many of the recommendations included in this study.

7.1 Federal Funding

In the fall of 2015, Congress passed and the President signed the Fixing America's Surface Transportation (FAST) Act. The FAST Act provides multiple funding sources for freight projects and programs.

The first freight-specific funding program is the National Highway Freight Program (NHFP). The NHFP is a $6.3 billion program over five years that is apportioned among the states by formula. States may spend up to 10 percent of their funding on rail and intermodal projects, with the remainder going to projects that are located on or improve freight movement on the National Highway Freight Network which has four components:

1. The Primary Highway Freight system;
2. Critical Urban Freight Corridors (311.77 miles to be designated in California);
3. Critical Rural Freight Corridors (623.54 miles to be designated in California); and
4. The remainder of the Interstate Highway System.

The second potential source for Federal freight-specific funding is the Fostering Advancements in Shipping and Transportation for the Long-term Achievement of National Efficiencies (FASTLANE) Grant Program. The FASTLANE Program is a $4.5 billion program over five years that consists of competitive grants. Funds can be used for projects on the National Highway System and the National Highway Freight Network. Projects must be "shovel ready" when the State applies for a grant.

Goods movement can also be enhanced by projects funded through nonfreight-specific sources in the FAST Act. Projects on local and state roads, such as those addressing last mile connector needs, could be considered for funding through these "general" highway programs. For example, safety improvements that benefit both trucks and passenger vehicles (such as a truck climbing lane) or projects that reduce heavy truck delay, reducing idling and decreasing greenhouse gas emissions, could obtain some funding from these sources which include: National Highway Performance Program (NHPP), Congestion Mitigation and Air Quality (CMAQ) Program, Local Assistance Program (LAP), Highway Safety Improvement Program (HSIP), and the Surface Transportation Program (STP) which has been modified to become the Surface Transportation Block Grant Program (STBGP). STBGP funding is flexible and could be used for a number of programs, including intelligent transportation systems (ITS) and truck parking.

Finally, "innovation" is a theme found throughout the FAST Act and one program under that heading could provide funding for freight projects. The FAST Act provides $60 million per year for an Advanced Transportation

and Congestion Management Technologies Deployment Program. This competitive grant program will focus on the development of pilot projects and model deployment sites for the installation and operation of advanced transportation technology. For example, the Federal emphasis on truck parking could be combined with an ITS component such as real-time space availability information to address multiple Federal priorities and increase the chance of receiving funds.

Table 8 below shows California's share of Federal FAST Act money in different programs over the next five years.

Table 8. California Funding from the FAST Act (Millions of Dollars)

	NHPP	National Freight	Metropolitan Planning	STP	HSIP	TAP	Railway-Highway Crossings	CMAQ
FY 2015	1,930.3	N/A	48.5	887.9	196.8	Unknown	15.3	463.6
FY 2016	1,924.7	106.3	49.8	894.1	195.5	74.7	15.7	462.2
FAST Act 5-year annual average	2,006.5	116.5	52.0	936.1	203.5	75.5	16.2	481.4
FAST Act FY 2016-2020 Total	**10,032.5**	**582.4**	**259.8**	**4,680.5**	**1,017.6**	**377.3**	**82.1**	**2,407.0**

Source: http://www.dot.ca.gov/hq/transprog/map21/reauthorization/ca-fedtranliaison-fastactmemo.pdf.

7.2 State Funding

In April 2017, the Governor signed Senate Bill (SB) 1, the Road Repair and Accountability Act of 2017, creating significant new funding resources for transportation in California. The bill is projected to provide over $52 billion in new revenues from gasoline and diesel excise tax increases, a transportation improvement fee levied on all registered vehicles, and loan repayments under the Transportation Congestion Relief Program.

One of the stated performance outcomes that the bill is intended to help achieve by 2027 is to leverage funding provided by the act for trade corridors and other highly congested travel corridors in order to obtain matching funds from Federal and other sources to maximize improvements in the State's high-priority freight corridors. The bill estimates that approximately $3 billion will be allocable by the State to investments in high-priority freight corridors. The bill creates a new Trade Corridor Enhancement Account to receive 50 percent of the funding collected from the new 20 cent diesel excise tax increase. These funds can be spent on corridor-based freight projects nominated by local agencies and the State.

The SJV has an opportunity to work with the State Transportation Agency and Caltrans to ensure that a portion of the funding that will become available under this new program can be used to address goods movement needs identified in this plan.

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Section 8: Recommended Next Steps

The SJV Goods Movement Sustainable Implementation Plan has identified a system of truck corridors and connectors and recommendations for how to proceed with improvements on these roadways to address identified needs. In order to move forward with these recommendations, implementation actions should be taken in four key areas:

1. Taking steps to secure funding for near-term opportunities;
2. Conduct additional local analysis to prioritize corridor improvements, including truck parking;
3. Establish a process for regular input on connectors, priority corridors, and truck routes; and
4. Work with Caltrans to adapt the statewide freight model for Valley applications.

Funding Next Steps. During the summer of 2017, Caltrans will complete the designation of critical rural and urban corridors as required by the FAST Act. The approach will be to designate corridor segments that line up with regional priority projects on these corridors. The input from the San Joaquin Valley transportation agencies is consistent with the larger priority corridor recommendations in the Sustainable Implementation Plan. As the projects on this first round of priority corridor designations receive funding, Caltrans is committed to adding new segments. The San Joaquin Valley agencies can use the data from this Plan to inform these subsequent priority corridor designations.

One of the biggest new opportunities is the money that will flow to trade corridor improvements from the SB1 programs. Using the information about priority corridor needs identified in the Sustainable Implementation Plan, SJV transportation agencies will have a good starting point to work with Caltrans to flesh out the details of how the new funds will be spent and ensure that funds are available to support needs identified in this Plan. A related opportunity is one that the SJV agencies can develop themselves using SB1 funds that are available for local streets and roads. At the present time, there is no comprehensive program to address the needs of last mile connectors in the Valley. Individual regional transportation agencies can create their own program or a Valleywide program could be developed based on the recommendations in this Plan and targeted to the priority connectors identified in the Plan.

Additional Local Analysis. Condition and performance evaluations were conducted for a representative sample of last mile connectors across the Valley. However, the lack of data made it impossible to conduct a more comprehensive analysis. Using the examples provided in this study with a focus on the types of issues identified for connectors, SJV regional transportation agencies can develop programs to collect new data on the priority connectors to more comprehensively identify project needs. Similar types of analysis can also be developed to better prioritize priority rural corridor needs. These data collection and analysis efforts would focus on better understanding truck crash patterns, truck/passenger vehicle conflicts, and pavement quality, signage, and geometric issues on local roads.

Regular Input on Truck Routes. One lesson learned from the review of intercity truck route designations conducted for this study is that changing land use patterns and the rapid new development of logistics centers and warehouse/distribution center facilities in the Valley requires a regular review of designated truck routes to ensure that the system maintains good connectivity to goods movement centers and that land use conflicts along truck routes are identified as they develop. As part of the regular regional long range transportation plan process, the metropolitan planning organizations and regional transportation planning agencies in the Valley should undertake a review of designated truck routes and connectors from this study to make necessary changes. A process for further prioritization of last mile connectors and rural corridors could also be beneficial in order to ensure that funding is targeted to the corridors of greatest importance to the Valley economy.

Updated Freight Model. The SJV Goods Movement Sustainable Implementation Plan recommended that the Valley transportation agencies consider adapting the statewide freight model as a replacement for the current Valleywide truck model. The benefits, in addition to consistency with statewide planning tools, is that Caltrans will provide support through ongoing data collection programs and model updates that the Valley transportation planning agencies can take advantage of. Work is continuing to complete and validate the statewide model. SJV modelers should participate to the maximum extent possible in reviewing and advising Caltrans as it finalizes the model for statewide applications and should approach Caltrans about creating an adaptation of the model for use in the Valley.