

# FEHR & PEERS

## MEMORANDUM

**Date:** July 6, 2016

**To:** Kristine Cai, Fresno Council of Governments

**From:** Carrie Carsell, Rod Brown, and Fred Choa, Fehr & Peers

**Subject:** *Regional Gap Analysis for Bicycle and Trail Facilities*

RS15-3365

### INTRODUCTION

This memorandum presents the results of an analysis of bicycle and trail facilities in the Fresno County region to identify gaps between local jurisdictions.

### DATA COLLECTION AND MAPPING

Fehr & Peers collected data from available resources for the analysis, including data provided by Fresno COG, data from the American Community Survey, data collected for previous projects in the region, and other sources. Specific datasets included:

- Existing and planned trails, bicycle lanes and routes (Figure 1)
- Streets and roadways
- Potential barriers to bicycle and pedestrian travel, including freeways, railroads, canals, and other waterways (Figure 2)
- Incorporated cities and unincorporated communities
- Key destinations for bicycle trips (Figure 2), including
  - Primary and secondary hot spots (key activity centers) identified by Fresno COG
  - Schools
  - Transit stops and routes
  - Significant commercial and governmental destinations
  - Parks and open space
- Employment density
- Population density
- Youth populations (age 10-17)
- Households with zero automobiles
- Mix of land uses
- Bicycle collisions resulting in injuries (Figure 3)
- Indicators of disadvantaged communities, including median income (Figure 4) and Cal EnviroScreen 2.0 scores (Figure 5)
- Vehicle speed limits, number of road lanes, and average daily traffic volume (Figure 6)

Figures 1-6 present highlights of this data.

- Figure 1 presents the roadway and bicycle networks that this assessment utilizes.
- Figure 2 presents significant places in the region that may be destinations for bicycle trips.
- Figure 3 identifies locations of bicycle injury accidents, which may be considered for safety improvements.
- Figures 4 and 5 present indicators of disadvantaged communities, which receive special focus in this analysis.
- Figure 6 presents traffic volumes on major roads; high volumes may reduce cyclist comfort.

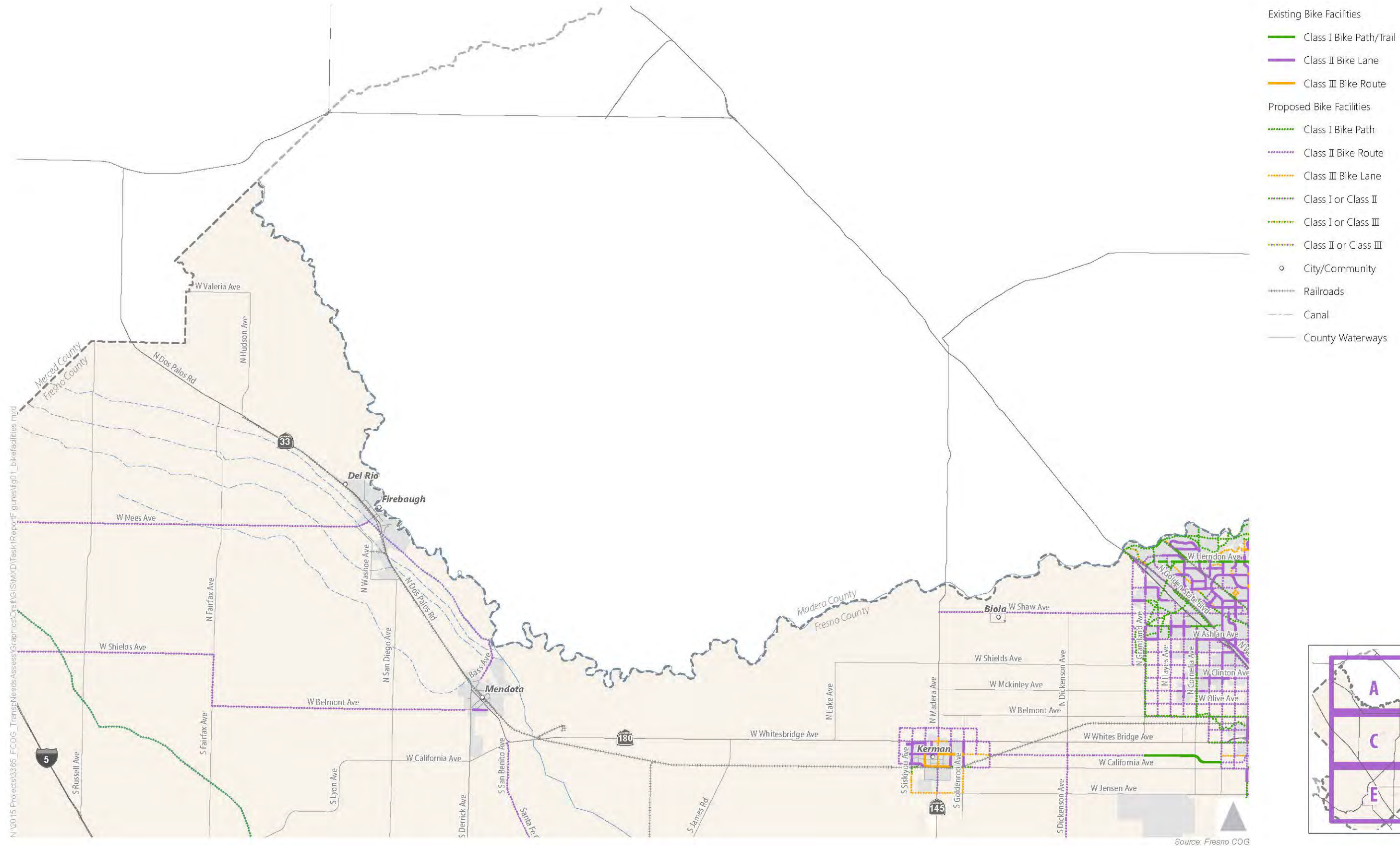
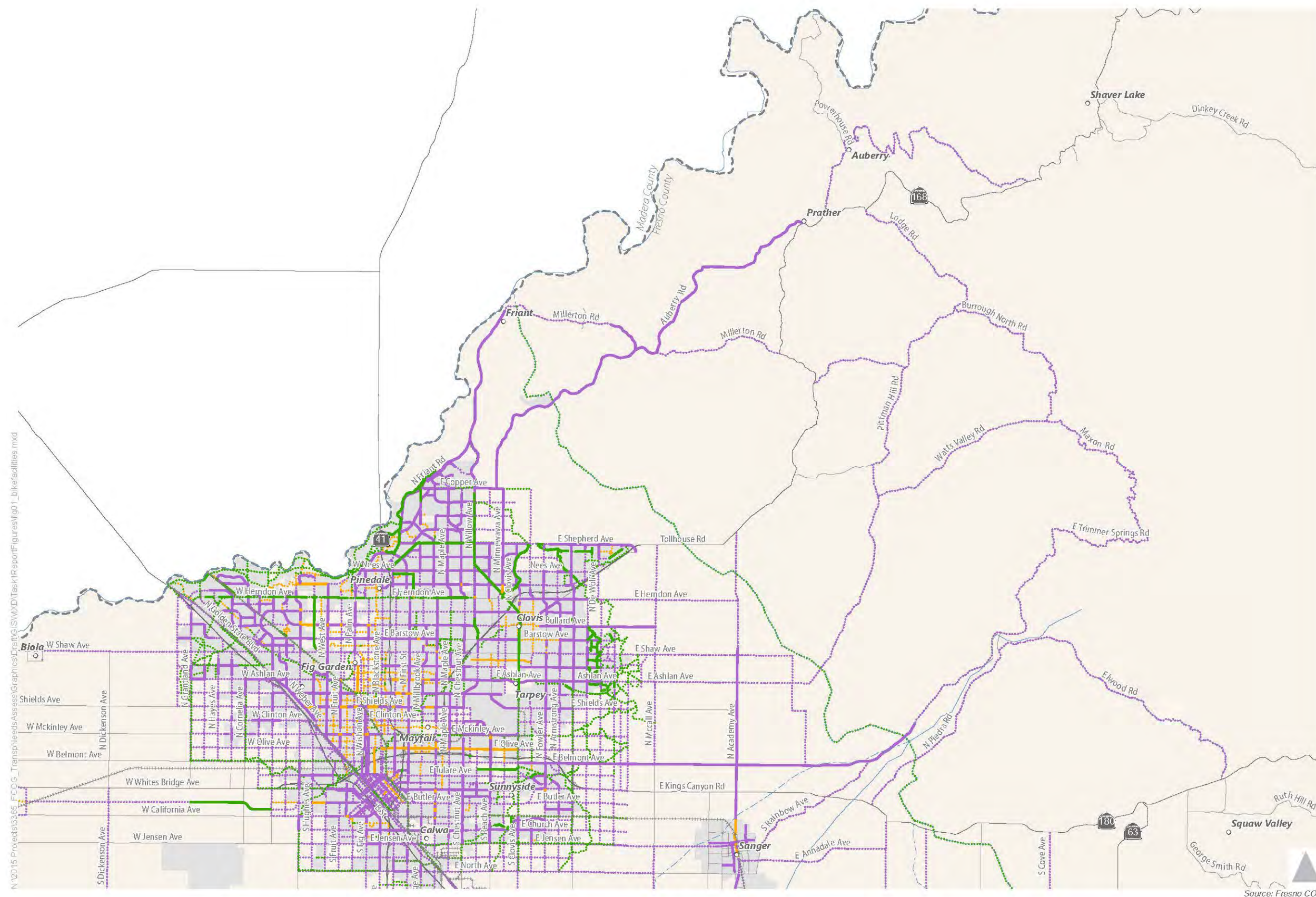


Figure 1  
Existing and Proposed Bike Facilities -  
Inset A

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- Existing Bike Facilities
- Class I Bike Path/Trail
  - Class II Bike Lane
  - Class III Bike Route
- Proposed Bike Facilities
- Class I Bike Path
  - Class II Bike Route
  - Class III Bike Lane
  - Class I or Class II
  - Class I or Class III
  - Class II or Class III
  - City/Community
  - Railroads
  - Canal
  - County Waterways

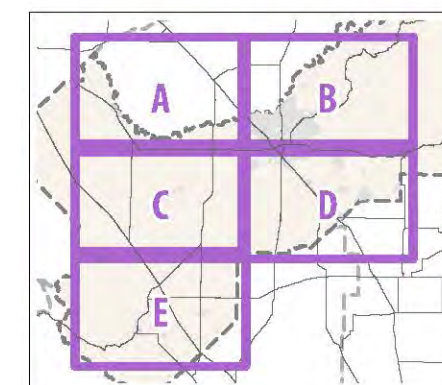


Figure 1  
Existing and Proposed Bike Facilities -  
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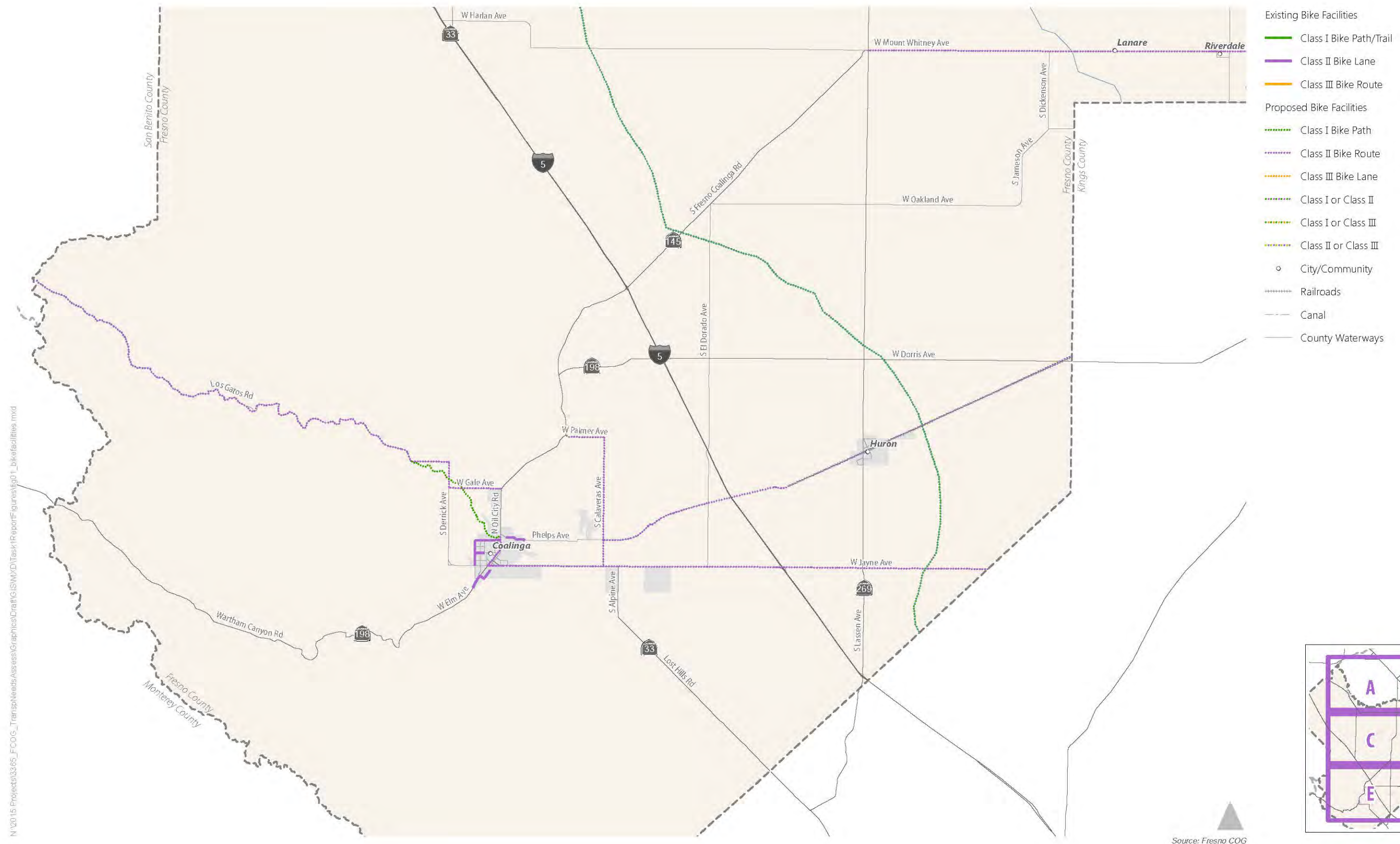


Figure 1  
Existing and Proposed Bike Facilities -  
Inset E

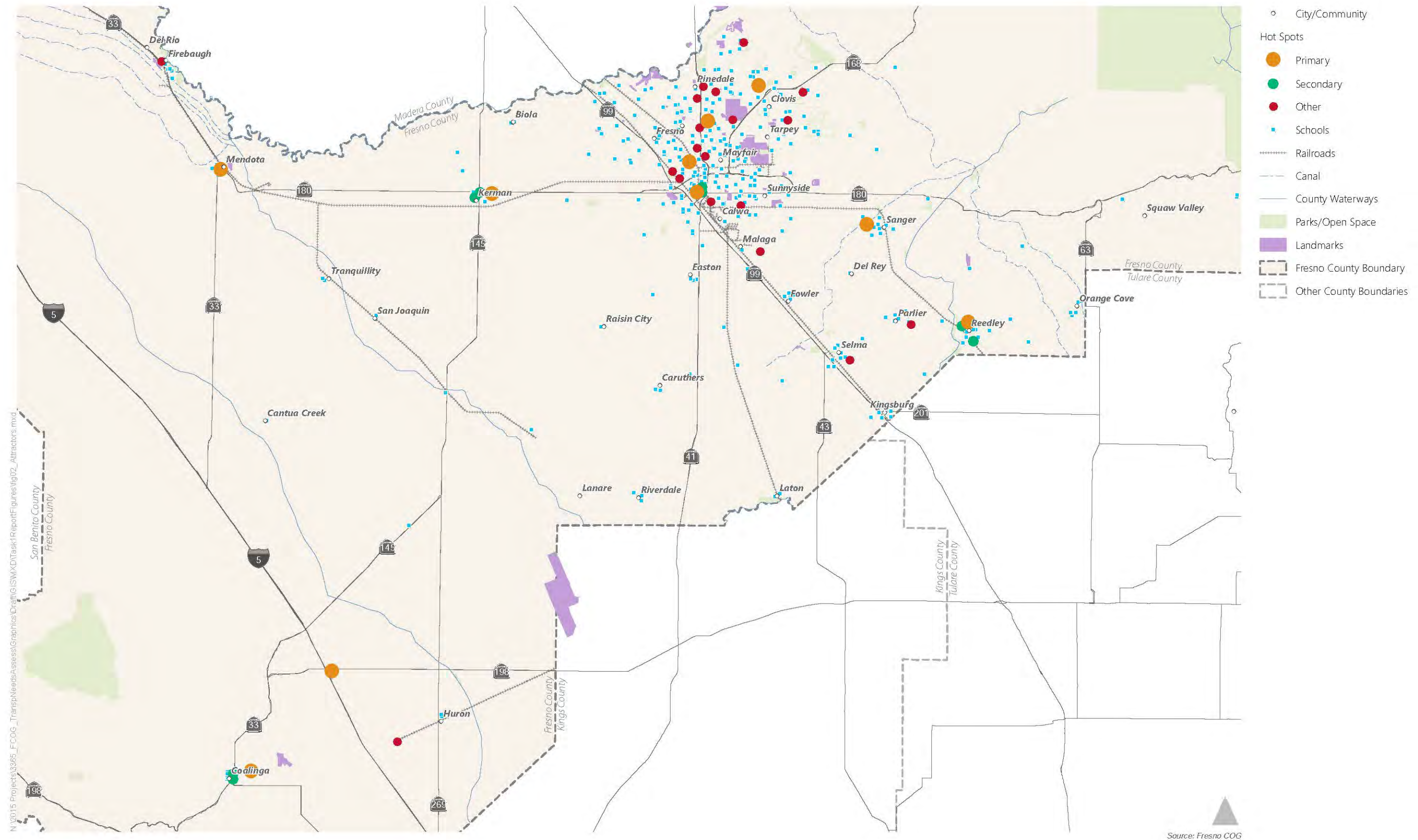
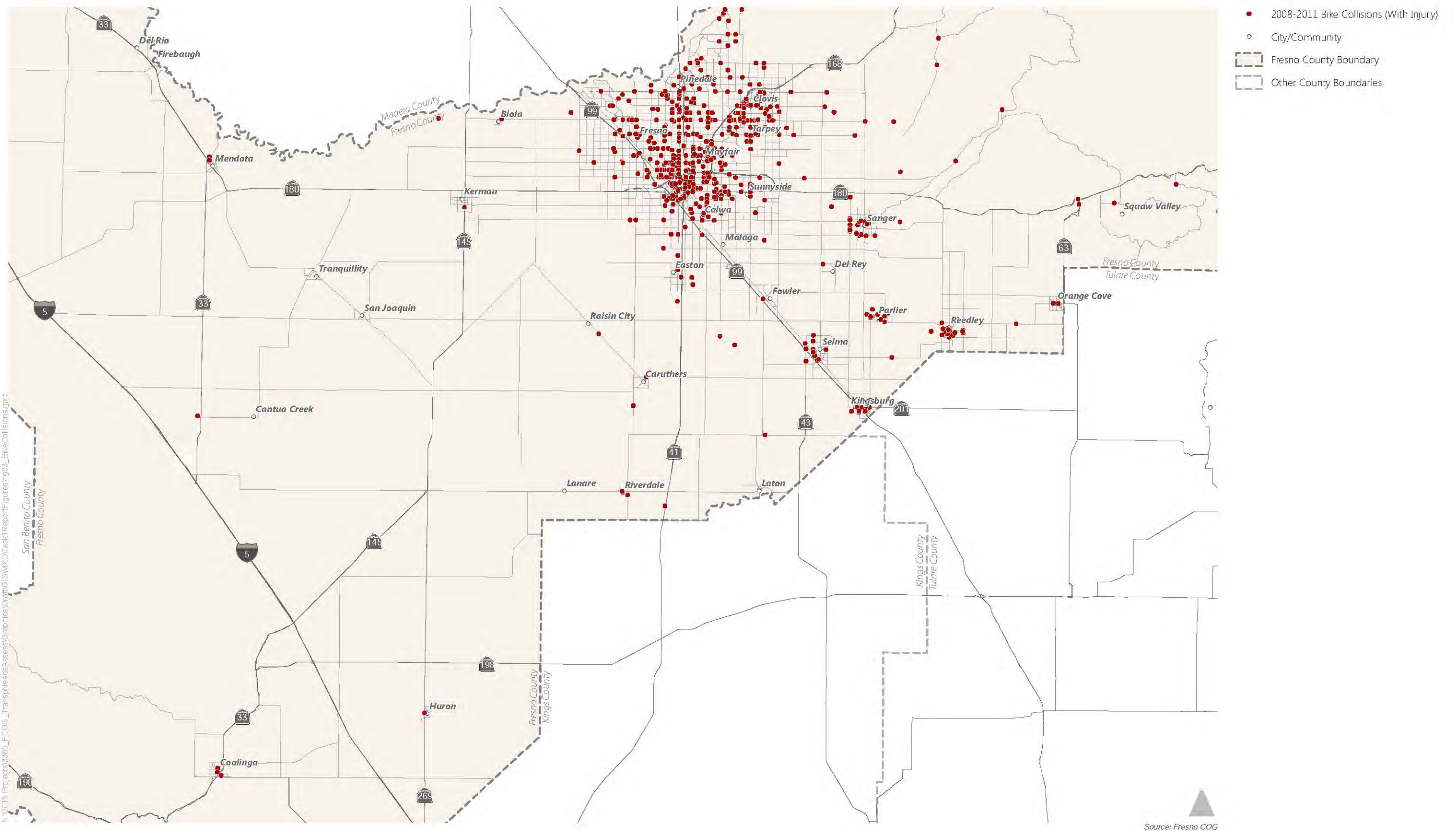


Figure 2

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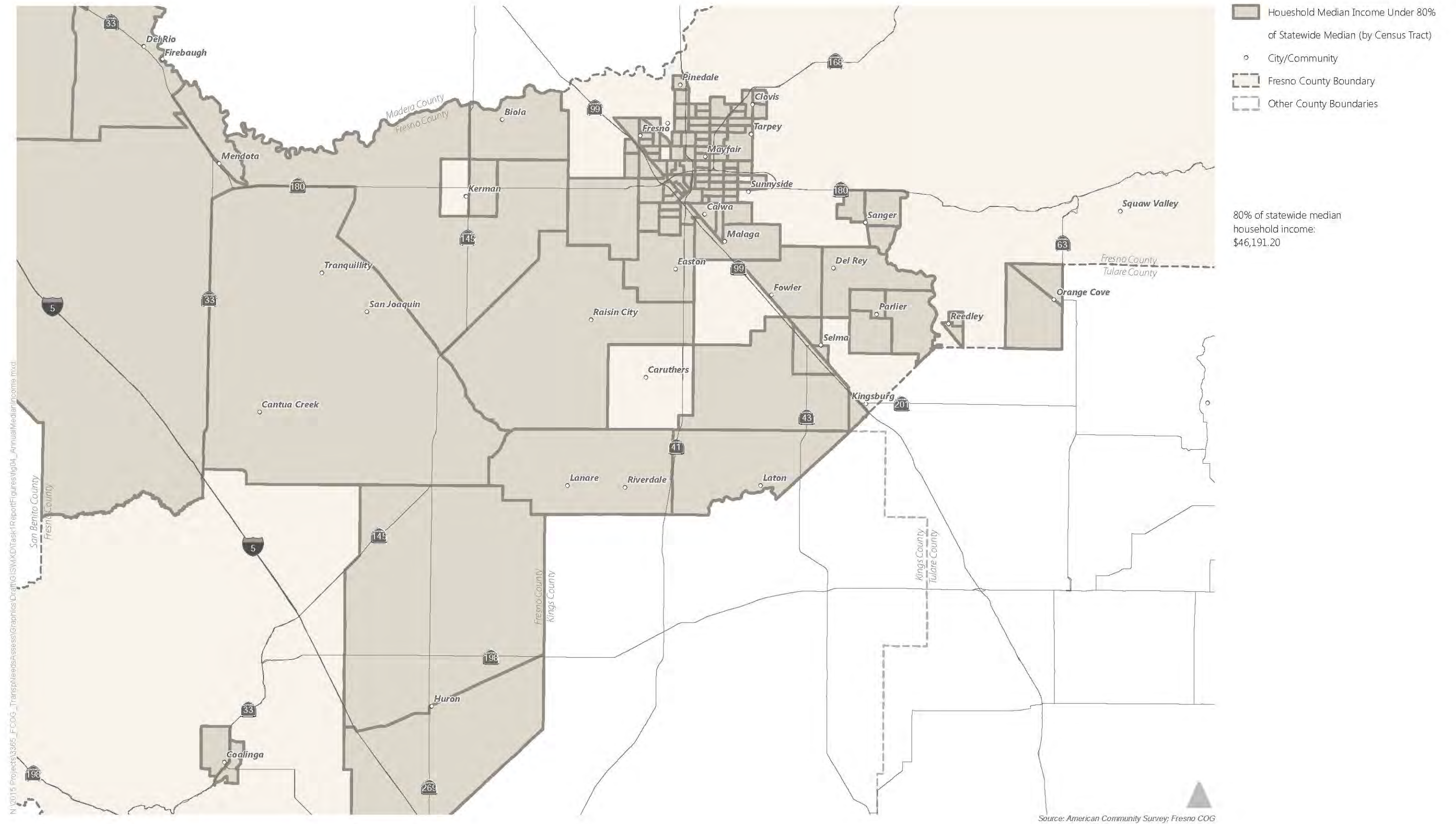
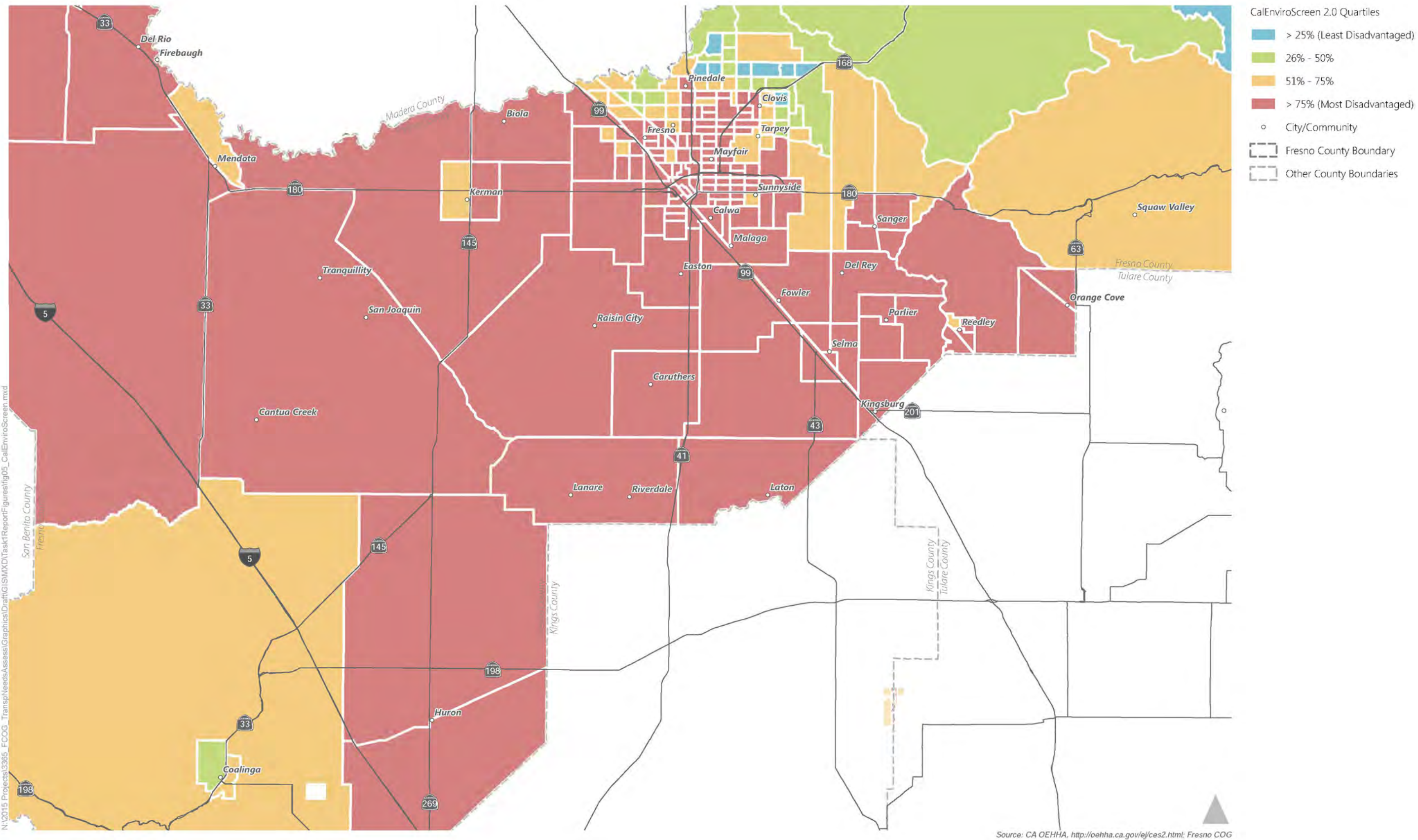


Figure 4  
Household Median Income Under 80%  
of Statewide Median (by Census Tract)

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Source: CA OEHHA, <http://oehha.ca.gov/ej/ces2.html>; Fresno COG

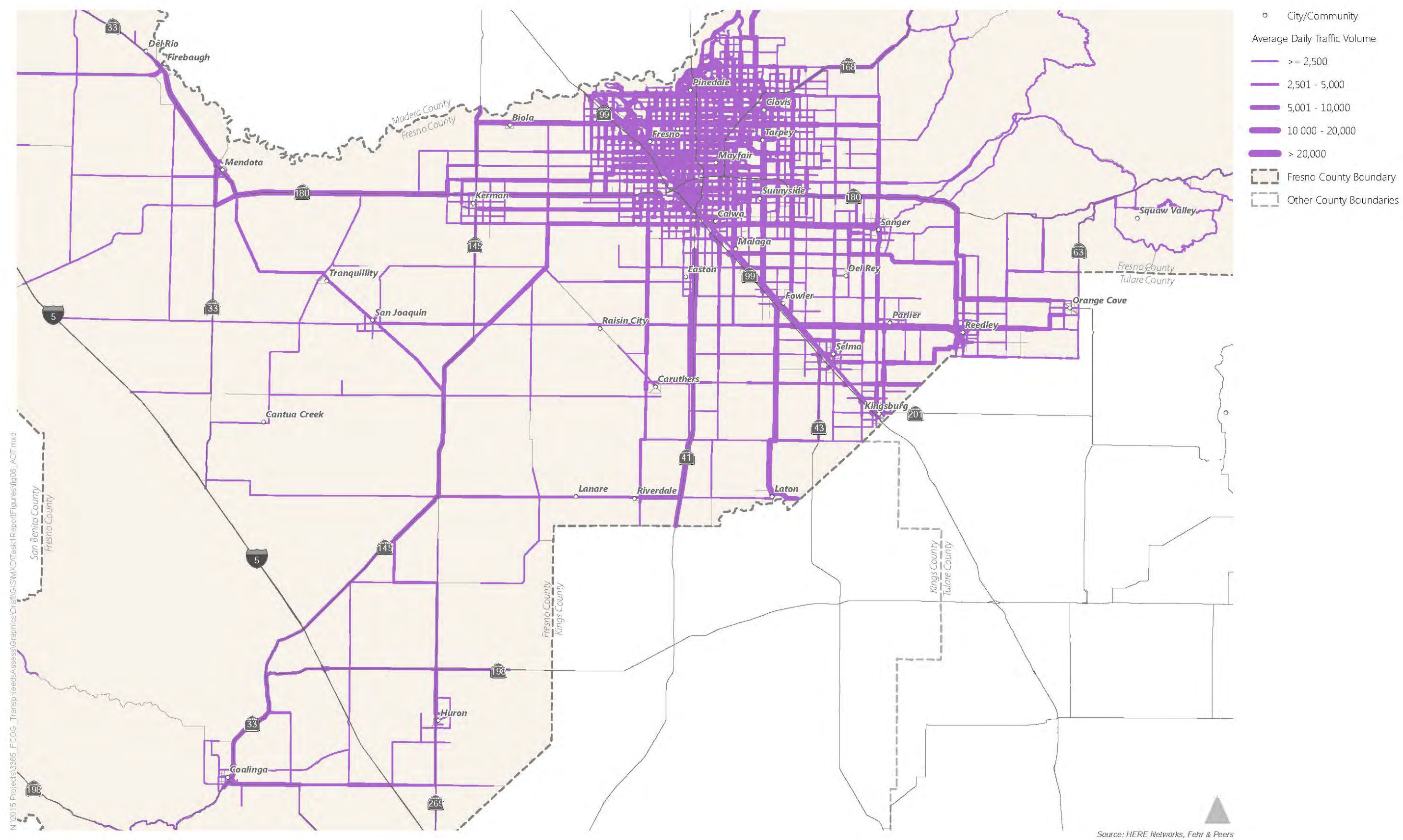


Figure 6  
Average Daily Traffic Volumes  
On Model Network

## MISSING CONNECTIVITY AND BARRIER ANALYSIS

Using this data, Fehr & Peers analyzed the region to identify and prioritize gaps in the trail and bicycle network. There were two main components of this analysis: a GIS-based analysis of demand, then a detailed review of connections between and through high areas of demand. This analysis was accomplished by completing the following steps:

1. We created GIS layers scoring all areas of the region based on expected latent demand for bicycle transportation. Latent demand is defined as opportunities for bicycle trips that do not occur due to existing connectivity issues. Areas with low scores are likely to have low demand for bicycle facilities, and areas with high scores are expected to have high demand. The following factors (which are mapped in Appendix A) were included in this final comprehensive demand score (Figure 7):
  - a. Proximity to hot spots provided by the COG Needs Assessment committee
  - b. Proximity to schools
  - c. Proximity to transit stops
  - d. Proximity to parks
  - e. Proximity to other key destinations (landmarks), including Fresno State and municipal centers
  - f. Employment density
  - g. Population density
  - h. Population 10-17 years old density
  - i. Percentage of households with zero vehicles
  - j. Land use mix
2. We overlaid the following maps on top of the map of comprehensive demand scores:
  - a. Existing road network
  - b. Existing trail and bikeway network
  - c. Incorporated areas

Using this combined map view, we examined the region for missing bicycle network connections outside of incorporated areas between areas of high demand using a limit of six miles between destinations (limit development is discussed in section below).

3. We identified 32 specific roadway and trail segments for development of bicycle facilities to fill these missing connections by considering the following:
  - a. Connectivity to existing bikeways
  - b. Level of traffic stress (described in the Development of Bicycle Distance Threshold (page 12) and shown in Appendix B)
  - c. Traffic volumes

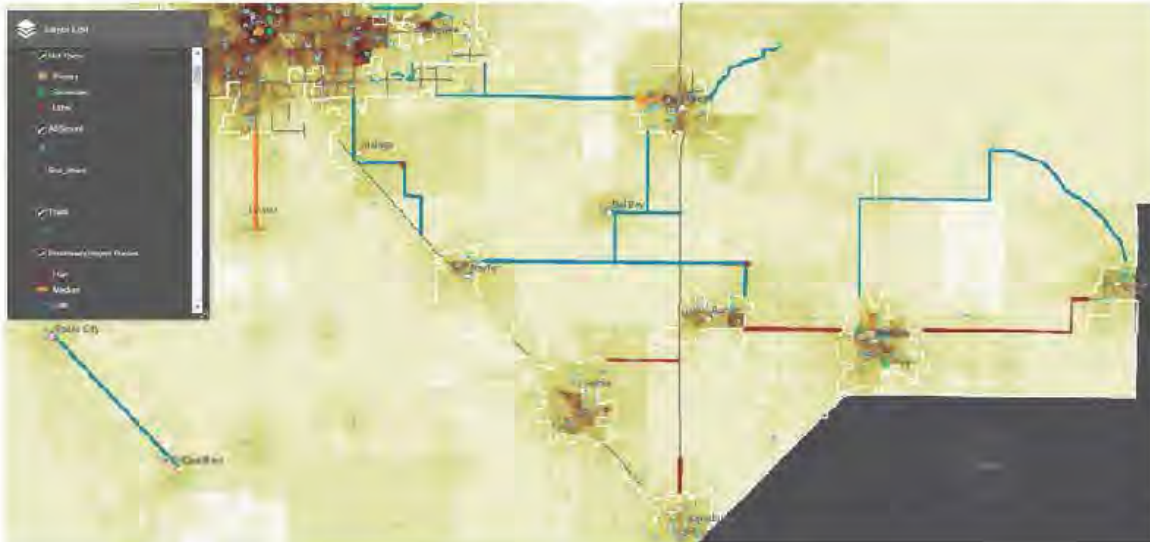
Where possible, we connected to existing bikeways and identified bikeways on lower stress and lower volume routes.

4. We grouped these segments into 20 projects that made logical connections between destinations or were near each other.
5. We then prioritized the projects as high, medium, or low priority by considering the following factors:
  - a. Final composite demand score
  - b. Proximity to Needs Assessment hot spots and schools
  - c. Disadvantaged community status as determined by annual median income
  - d. Disadvantaged community status as determined by CalEnviroScreen 2.0 score



After completing our prioritization, we shared our results and underlying data with Fresno COG via an online web map (snapshot shown below), available at <http://gis.fehrandpeers.com/Projects/FresnoCOGTask1Review/> (login: FresnoCOG, password: Fresno1). After review by Fresno COG, three of the low priority projects were determined to have insufficient demand and were removed.

#### WEB MAP DEPICTING RESULTS OF AND INPUTS TO NEEDS ASSESSMENT

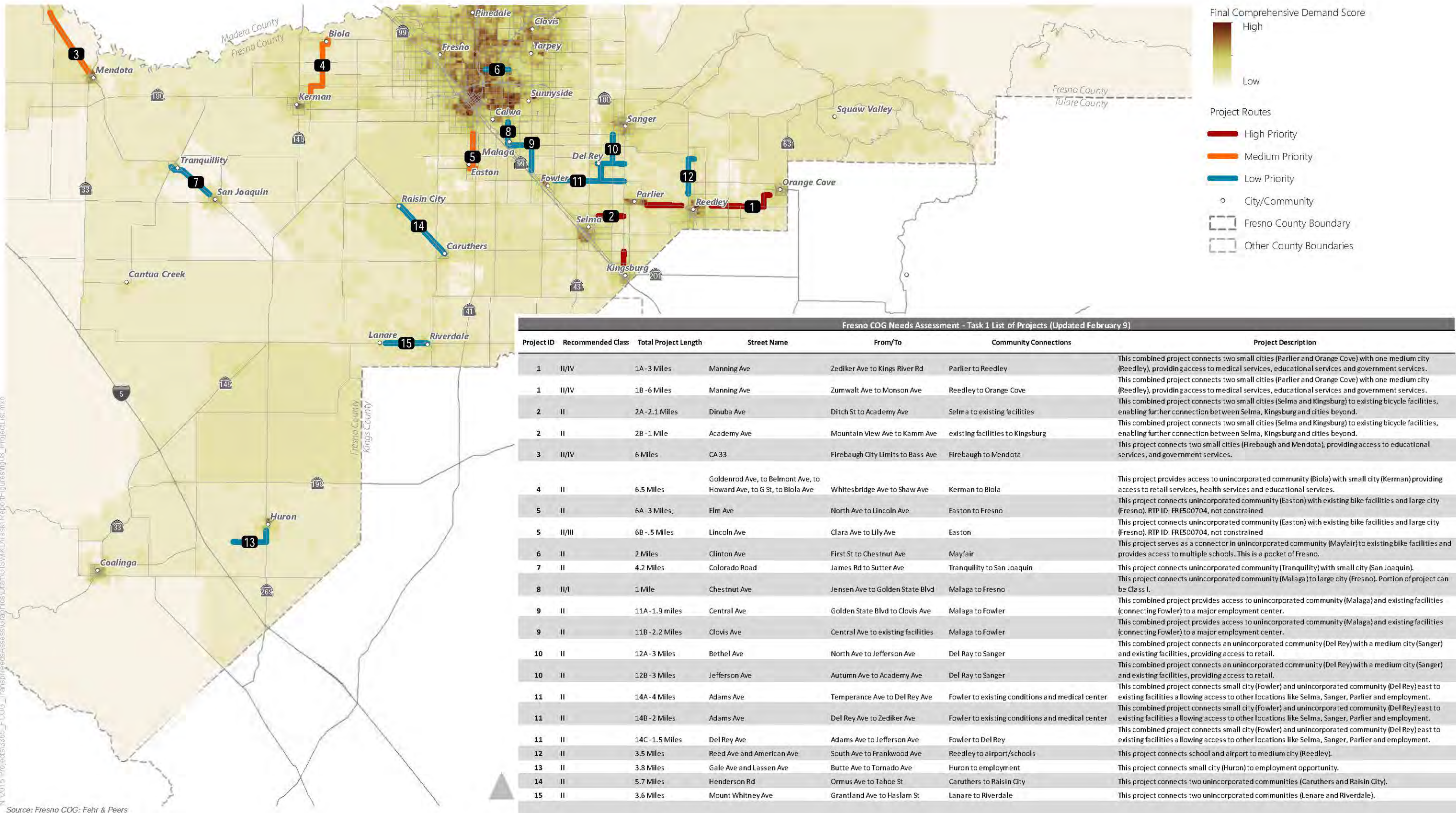


#### PRIORITIZED PROJECTS

The final projects are shown in Figure 8. Cost estimates for the high and medium priority projects are provided in Appendix C. Project fact sheets, listing estimated costs and other significant factors for the top five priority projects, are provided in Appendix D.

A web-based story map with a guided explanation of the steps in this analysis is available at <http://gis.fehrandpeers.com/fresnocogtask1>.

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Source: Fresno COG; Fehr & Peers

Figure 8

## DEVELOPMENT OF BICYCLING DISTANCE THRESHOLD

Fehr & Peers performed an investigation to identify appropriate maximum distances that bicyclists are likely to travel to establish reasonable boundaries for the gap analysis. There will always be a small percentage of long distance bicyclists who will have trips longer than nearly any particular distance, but our goal was to capture the behavior of the large majority of the population. This number was calculated as described below.

We reviewed the 2012 California Household Travel Survey Data to examine trip distances for bicycling by trip purpose (home based other (HBO), home based work (HBW), and non-home based (NHB). To gather sufficient data points, we looked at the San Joaquin Valley (SJV) as a whole and also looked at the combined SJV and Sacramento Valley (SACOG) region.

To identify a valid portion of the population to serve with the analysis, we considered the levels of bicyclists created by City of Portland, Oregon, bicycle coordinator Roger Geller (later updated by Portland State University researcher Jennifer Dill), who sorted bicyclists into four groups:

- "Strong and Fearless" cyclists represent 7% of the overall population and 11% of bicyclists; bicycling is a strong part of their identity and they are generally undeterred by poor roadway conditions.
- "Enthusied and Confident" cyclists (about 5% of the overall population and 8% of bicyclists) are comfortable sharing the roadway with automobile traffic, but prefer to do so operating on their own facilities; they appreciate bicycle lanes and boulevards.
- The "Interested but Concerned" group represents the majority of the population (51% overall and 81% of bicyclists), who are curious about bicycling and enjoy riding a bicycle, but are afraid to ride in the presence of motor vehicles.
- The "No Way, No How" group is currently not interested in bicycling at all due to inability or lack of interest, regardless of the facilities provided (31% of the population and 0% of bicyclists).

To convert these shares of population into shares of trips, we made the following assumptions. Stronger, more enthusiastic riders are likely to make a larger proportion of trips and make longer trips overall. Based on survey data that examined the number of days each type of bicyclist bikes per month, we estimated the relative trip frequency of each type of bicyclist. Using the share of the biking population that each bicyclist represents, we calculated the share of bicycling days of each group. This data is summarized in Table 1.

TABLE 1: SHARE OF BICYCLING DAYS BY RIDER GROUP

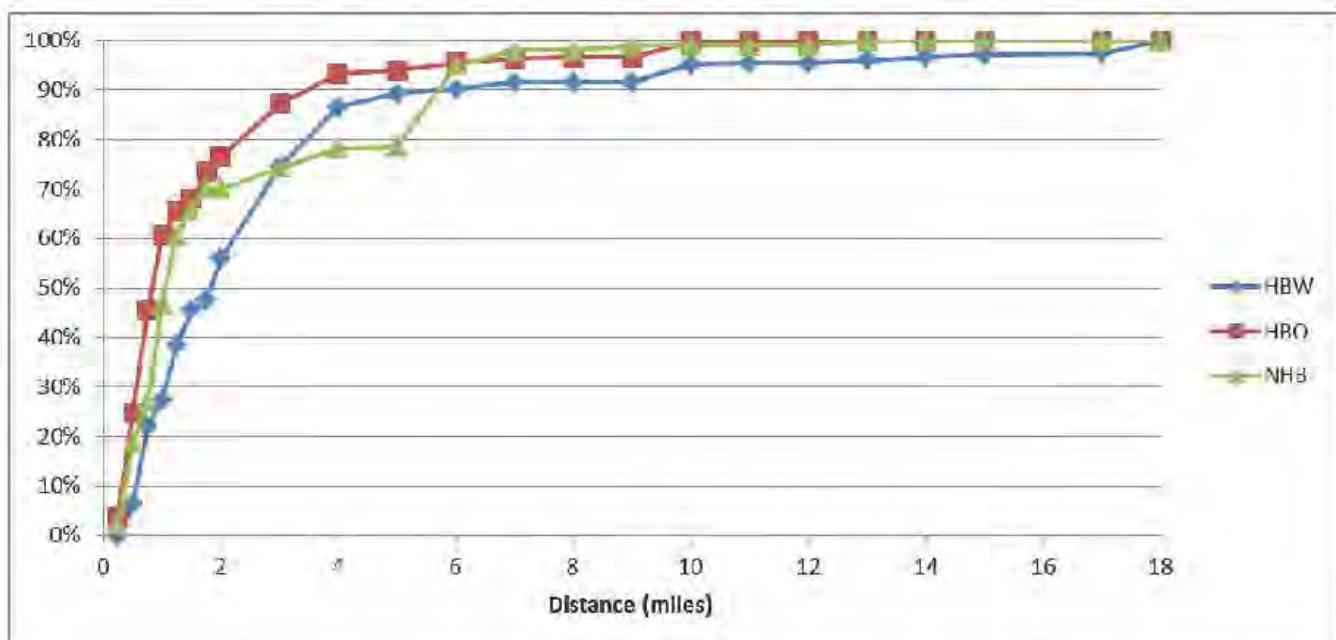
Group	Share of Total Population	Share of Total Bicyclists	Share of group who biked in last 30 days	If biked last 30 days, # days	Relative Trip Frequency	Share of Bicycling Days
Strong and Fearless	7%	11%	36%	9.7	3.5	15%
Enthusied and Confident	5%	8%	41%	10.4	4.3	13%
Interested but Concerned	51%	81%	33%	6.7	2.2	71%
No Way, No How	37%	0%	0%	0	0	0%

Thus, about 15% of trips are made by "Strong and Fearless" riders, and 85% (13% + 71%) of trips are made by the rest of the groups, who are more dependent on bicycling in bicycle paths, lanes, and other facilities for comfortable bicycling.

It should be noted that this analysis does not consider the number of trips per day, as data for this parameter is not available. However, a reasonable assumption was made of one longer distance trip per day, and more frequent trips are likely to be shorter distance. This analysis also does not include distance as a factor, as clear data for this characteristic by rider type was not available. Riders other than “strong and fearless” may take some longer trips if they are comfortable doing so. Thus, adding on some of the longer trips is reasonable. Therefore, we chose to target 90% of trips.

Because insufficient California Household Travel Survey (CHTS) data was available for SJV to be statistically significant, we reviewed combined SJV and SACOG data. A trip distance of 6 miles encompasses approximately 90% of HBW trips (shown below). Distances for HBO and NHB trips were shorter, with a distance of 6 miles encompassing approximately 95% of those trips. For comparison, a typical biking speed of 11 mph for 30 minutes yields a distance of 5.5 miles, comparable to the number derived above. Therefore, we selected a maximum analysis distance of 6 miles.

#### CUMULATIVE BICYCLE TRIPS



#### LEVEL OF TRAFFIC STRESS

Level of traffic stress (LTS) examines the characteristics of city streets and how various aspects can cause stress on bicyclists and affect where they are likely to ride. LTS methodology classifies roadways into one of four levels of traffic stress, which are termed as LTS 1, the lowest stress bicycling environment, through LTS 4, the highest stress bicycling environment. This project used a condensed analysis considering number of lanes, speed limit, and road functional classification. LTS as calculated for this project is presented in Appendix B.

## **POTENTIAL FUNDING SOURCES**

Federal, state, regional, county and local organizations provide funding for pedestrian and bicycle projects and programs. The most recent federal surface transportation funding program, Fixing America's Surface Transportation Act (FAST), was signed into law in December 2015. This is the first long-term federal transportation authorization enacted since 2012, and the first long-term funding since the signing of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) in 2005. The new authorization brings changes to typical funding sources and structures.

FAST funding is distributed to federal and state surface transportation funds. Most of these resources are available through Caltrans and Fresno COG.

This section includes details about current programs that are used to fund existing scheduled projects and an assessment of upcoming programs as of February 2016. These may change as state and local programs adapt to the new FAST funding.

Table 2 summarizes the applicability of these various funding sources to projects, planning efforts, and programs proposed in this plan. Detailed descriptions of the grant funding sources are presented in subsequent sections. The most applicable funding sources for the improvements recommended by this Plan are the Active Transportation Program and Highway Safety Improvement Program.

TABLE 2: FUNDING SOURCES FOR BICYCLE AND PEDESTRIAN PROJECTS

Funding Source	Class I Bicycle Path	Class II Bicycle Lane	Class III Bicycle Route	Class IV Protected Bikeways	Pedestrian Projects	Other Projects	Planning and Programs
Highway Safety Improvement Program (HSIP) Grants	●	●	●	●	●	●	○
Caltrans Transportation Planning Grants	○	○	○	○	○	○	●
Local Transportation Fund (LTF)	●	●	●	●	●	●	○
California State Parks Recreational Trails Program (RTP)	●	○	○	○	○	○	○
Land and Water Conservation Fund (LWCF)	●	○	○	○	○	○	○
Active Transportation Program (ATP)	●	●	●	●	●	●	●
Transportation Development Act (TDA)	●	●	●	●	●	●	●
Affordable Housing and Sustainable Communities Program (AHSC)	●	●	●	●	●	●	●
FCTA Measure C	●	●	●	●	●	●	●
SJVAPCD Bikeway Incentive Program	●	●	●	○	○	○	○

Notes:

1. ● indicates that funds may be used for this category, ○ indicates that funds may not be used for this category, and ◐ indicates that funds may be used, though restrictions apply.

Source: Fehr & Peers, 2016.

### Federal Programs

The majority of public funds for bicycle, pedestrian, and trails projects are derived through a core group of federal and state programs. Federal funding is authorized through the Surface Transportation Block Grant Program (STBGP). STBGP provides flexible funding that may be used by states and localities for projects on any Federal-aid highway. In the past this funding was authorized by the Surface Transportation Program (STP) in the Moving Ahead for Progress in the 21st Century Act (MAP-21). Funding for STBGP is now authorized through FAST, with the same goals of STP funding.

The Transportation Alternatives Program (TAP), authorized through MAP-21, provides funding for programs and projects defined as transportation alternatives, including on- and off-road pedestrian and bicycle facilities, transit access, mobility, and recreation trails program. This program is now part of the STBGP in FAST instead of a stand-alone program as it was under MAP-21.

The Congestion Mitigation and Air Quality Improvement Program (CMAQ) also authorizes federal funds, including education programs. FAST maintains the existing CMAQ program from MAP-21.

Federal funds from STBGP, TAP, and CMAQ programs are allocated to Fresno COG. Distribution is allocated either competitively or proportionally according to jurisdiction population.

The HUD-DOT-EPA Interagency Partnership for Sustainable Communities periodically offers funding opportunities. Previous programs have included Urban Circulator grants, TIGER grants, and Sustainable Communities Planning grants.

### **State Programs**

There are a number of statewide funding sources and regionally administered funds.

#### **Active Transportation Program**

The Active Transportation Program was created by SB 99 / Assembly Bill 101 to encourage increased use of active modes of transportation such as biking and walking. The program consolidates five existing state funded programs: Transportation Alternatives Program, Recreational Trails program, Safe Routes to Schools, Environmental Enhancement and Mitigation Program and the Bicycle Transportation Account. It provides a comprehensive program that improves program planning and flexibility and is more efficient than multiple programs. Another benefit is that funds can be directed to multi-year projects to make greater long-term improvements to active transportation.

The ATP mixes state and federal funds and provides approximately \$130 million annually, with a focus on implementing active transportation improvements to support the goals of local SB 375 sustainable community strategies. This program is funded from a combination of federal and state funds from appropriations in the annual state budget act. Forty percent of the funding will go toward metropolitan planning organizations in urban areas. Ten percent of the funds go to small urban and rural regions. The remaining funds will go to the California Transportation Commission for statewide projects. The ATP ensures that disadvantaged communities fully share in the benefits of the program by requiring that a minimum of 25% of fund be distributed to disadvantaged communities.

In order to maximize the effectiveness of program funds and to encourage the aggregation of small projects into a comprehensive bundle of projects, the minimum request for Active Transportation Program funds that will be considered is \$250,000. This minimum does not apply to non-infrastructure projects, Safe Routes to Schools projects, and recreational trails projects.

Project types allowed under the ATP include: new bikeways serving major transportation corridors, new bikeways to improve bicycle commuting options, bicycle parking at transit and employment centers, traffic control devices to improve pedestrian and bicycle safety, improving and maintaining safety on existing bikeways, recreational facilities, Safe Routes to School projects, Safe Routes To Transit projects, education programs, and other improvements to bicycle-transit connections and urban environments.

For a project to contribute toward the Safe Routes to School funding requirement, the project must directly increase safety and convenience for public school students to walk and/or bike to school. Safe Routes to Schools infrastructure projects must be located within two miles of a public school or within the vicinity of a public school bus stop. Other than traffic education and enforcement activities, non-infrastructure projects do not have a location restriction.

### Highway Safety Improvement Program

Caltrans administers two funding programs for roadway safety improvements: the Highway Safety Improvement Program (HSIP) and the Highway Rural Roads Program (HR3). These programs use cost-benefit ratios as a primary factor in the awarding of applications. Because both of these programs focus on roadway safety, projects with documented collision history – through frequency of collision but particularly collision severity – are typically ranked higher. Roadways with documented bicycle and pedestrian collision history may be well qualified for HSIP and HR3 applications, particularly since many of the proposed projects would improve bicyclist and pedestrian safety at a lower cost than many of the highway projects also eligible under this funding source.

In its most recent grant cycle (November 2015), Caltrans awarded \$160 million to 182 projects. While this funding source is often used for major roadway improvement projects, installation of traffic signals, and most other cost-intensive projects, funding has routinely been awarded to bicycle and pedestrian projects. Successful projects have included:

- Median refuges and curb extensions
- Curb, gutter, and sidewalk
- Paved shoulders
- Upgraded traffic signals with pedestrian countdown signals and pedestrian-scale lighting
- Bicycle lane striping
- Crosswalk striping
- In-pavement flashers and rectangular rapid flashing beacon (RRFB) at crossings

Many of these projects were applied for as standalone bicycle and pedestrian improvement projects; some bicycle and pedestrian improvements were included with a broader package of roadway improvement projects. The next call for projects is anticipated in April 2016.

More information is available online: <http://www.dot.ca.gov/hq/LocalPrograms/hsip.htm>

### Other Statewide Funding Programs

Caltrans Transportation Planning Grants are available to jurisdictions and can be used for planning or feasibility studies. The Division will award approximately \$9.8 million in funding through two Grant Programs for Fiscal Year 2016-17. The maximum funding available per project is \$500,000.

Limited amounts (2%) from the Local Transportation Fund (LTF), which is part of the Transportation Development Act (TDA) and derived from a ¼ cent of the general sales tax collected statewide, can be used for bicycle and pedestrian facilities. Article 3 funds for planning and construction of pedestrian and bicycle facilities are administered locally through Fresno COG and are allocated to member agencies based on population and taxable sales.

The California State Parks administers the state's Recreational Trails Program (RTP). The RTP provides funds annually for recreational trails and trails-related projects. Cities are eligible applicants for the annual funding (\$8.4 million in 2015). The program requires an applicant match of 12 percent of the total project cost.

The National Park Service and California State Parks administer the Land and Water Conservation Fund (LWCF). The LWCF Program provides matching grants to states and local governments for the acquisition and development of public outdoor recreation areas and facilities. Approximately \$6.5 million is available in 2016; grants require a 50 percent local match.

The Affordable Housing and Sustainable Communities (AHSC) Program is administered by the Strategic Growth Council. AHSC funds can be used for projects which demonstrate VMT reduction through fewer or shorter vehicle trips or mode shift to transit use, bicycling or walking within areas lacking high quality transit, with an emphasis on providing disadvantaged community benefits. The project area must be served by at least one transit stop. More information is available at [https://www.sgc.ca.gov/s\\_ahscprogram.php](https://www.sgc.ca.gov/s_ahscprogram.php).

#### Regional Surface Transportation Program (RSTP)

The Surface Transportation Program (STP) block grant provides MAP-21 and FAST funding for transportation projects, including pedestrian and bicycle projects (see above discussion about Federal programs for details). This program is administered by Fresno COG, which can prioritize projects for RSTP funding.

Fresno COG RSTP program information: <http://www.fresnocog.org/regional-surface-transportation-program>

#### Fresno County Transportation Authority (FCTA) Measure C

Measure C is a half-cent sales tax aimed at improving the overall quality of Fresno County's transportation system. The Local Transportation Program can be used on pedestrian and bicycle facilities and trails. Funding is allocated to cities and the county based on population.

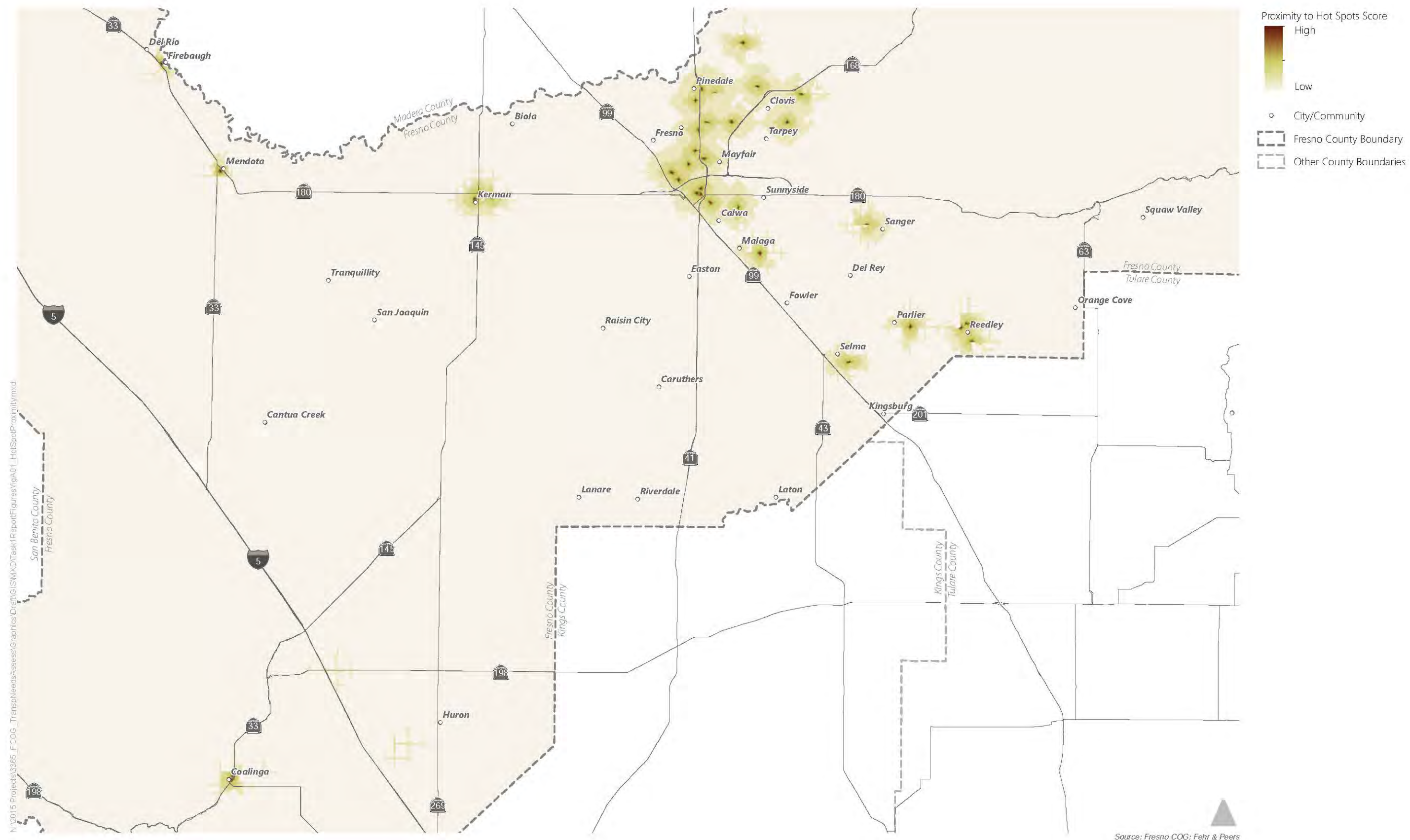
#### San Joaquin Valley Air Pollution Control District (SJVAPCD) Bikeway Incentive Program

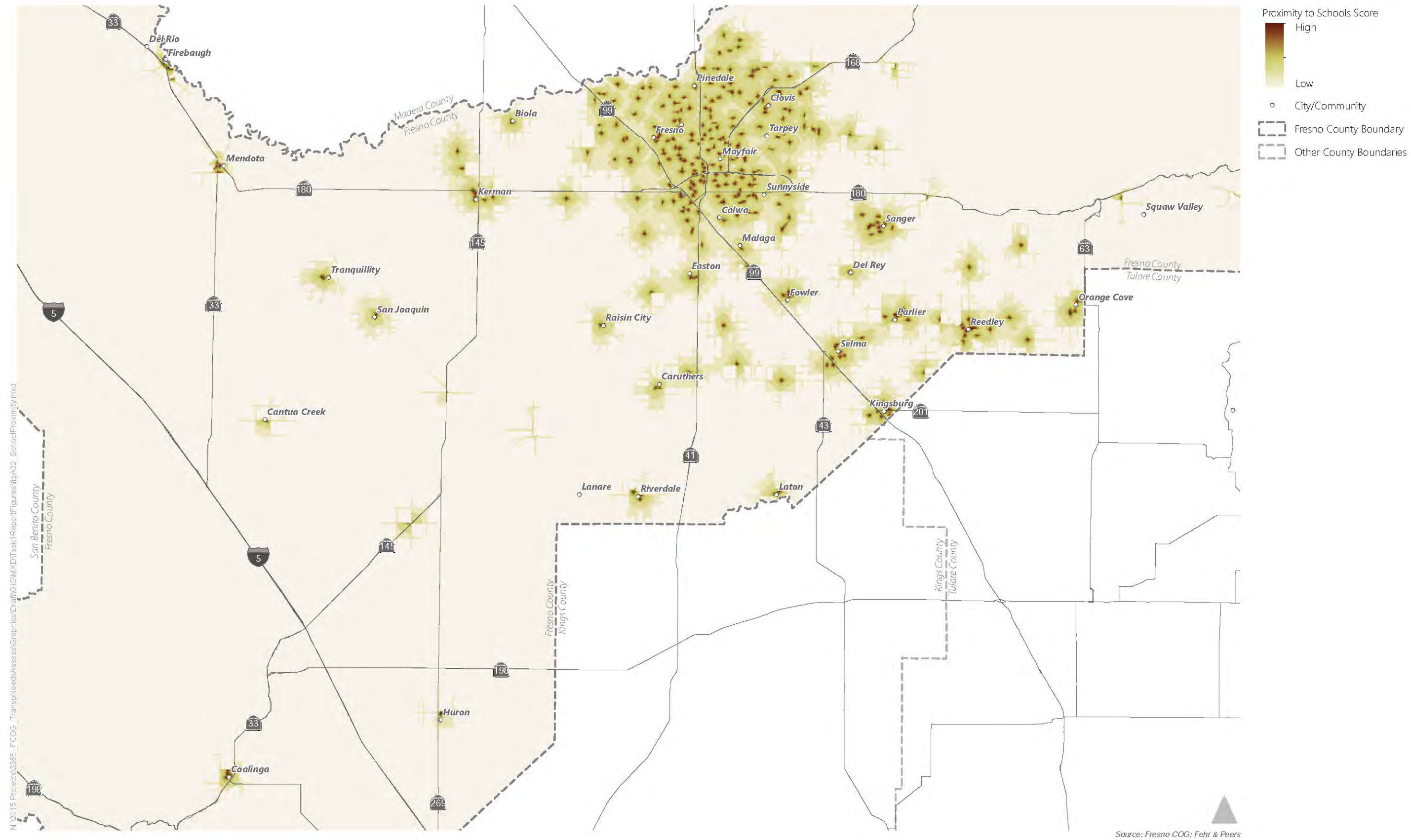
SJVAPCD provides funds to increase commuter bicycle accessibility and utilization as an alternative transportation measure. Funds may be used for Class I, II, or III bikeways in amounts up to \$150,000 (depending on bikeway type).

More information is available online: <http://valleyair.org/grants/bikepaths.htm>

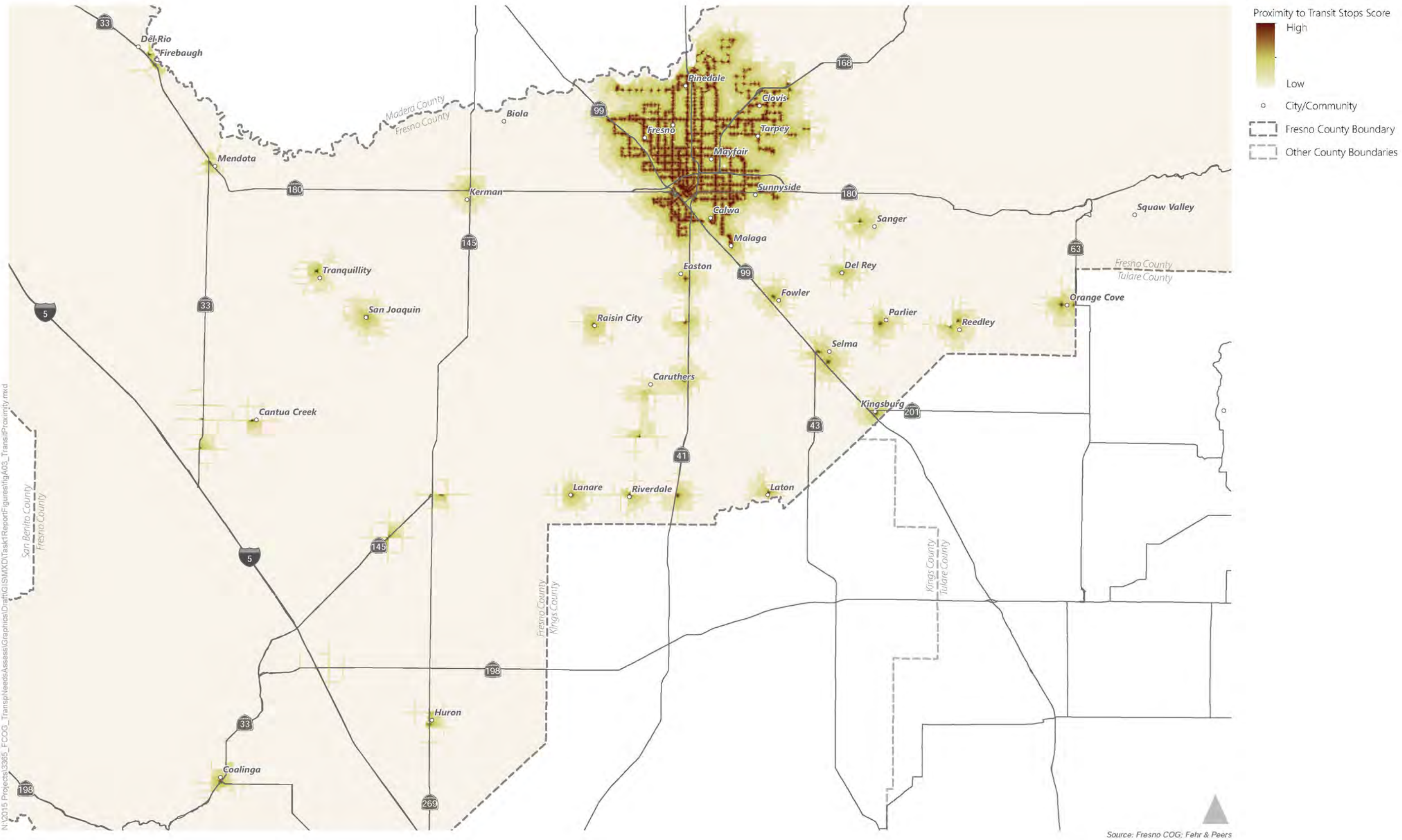
## **APPENDIX A: DEMAND SCORE FACTORS**

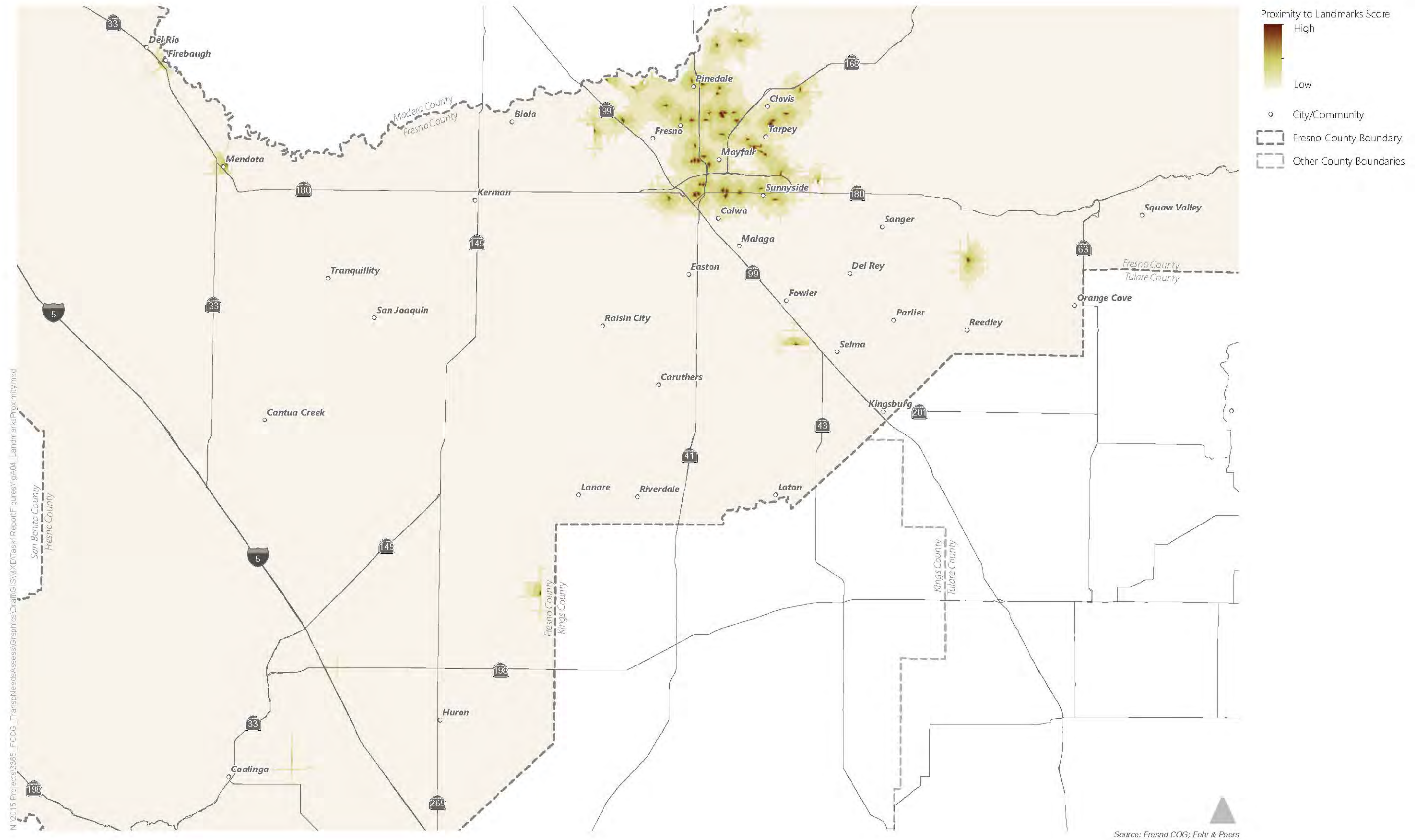
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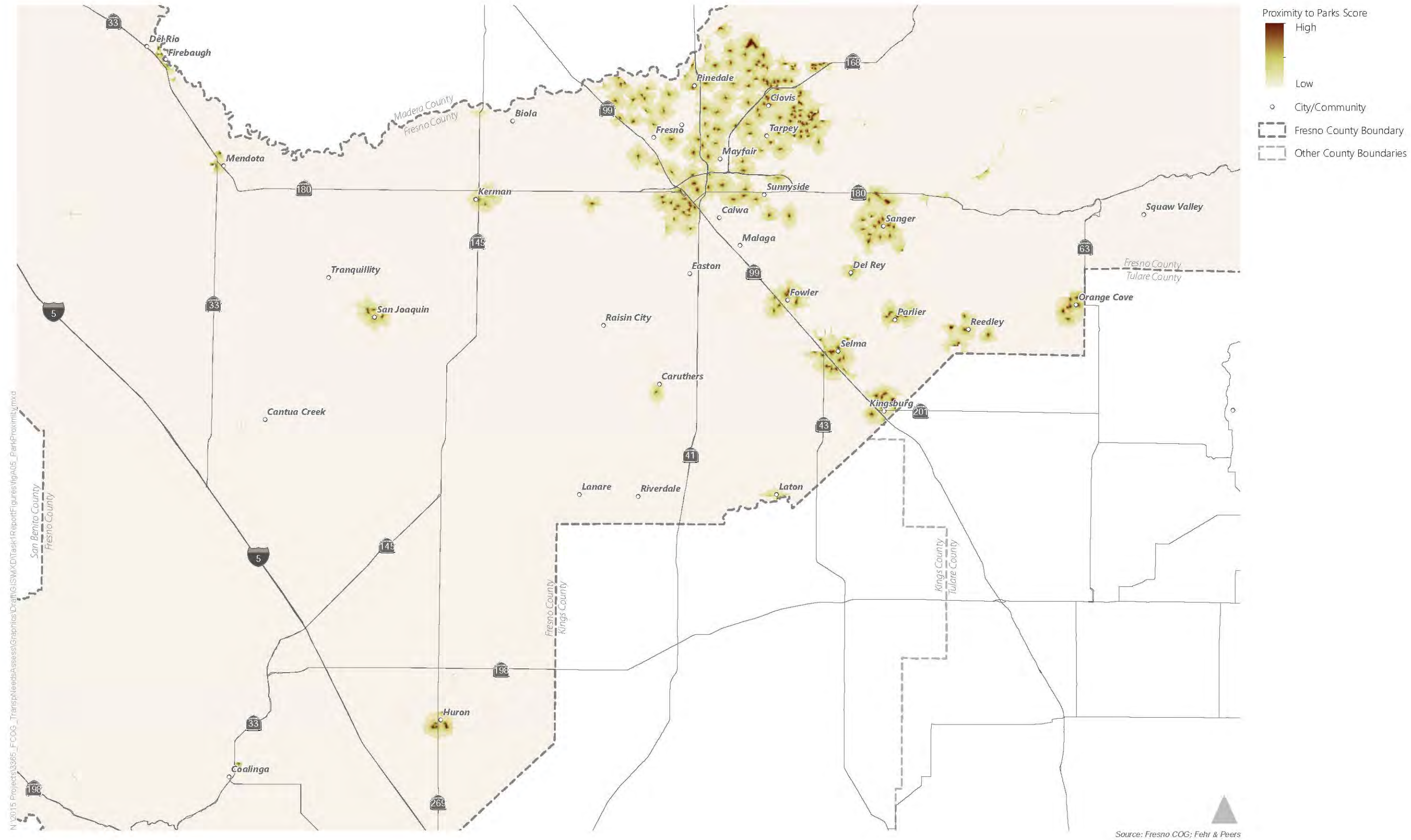




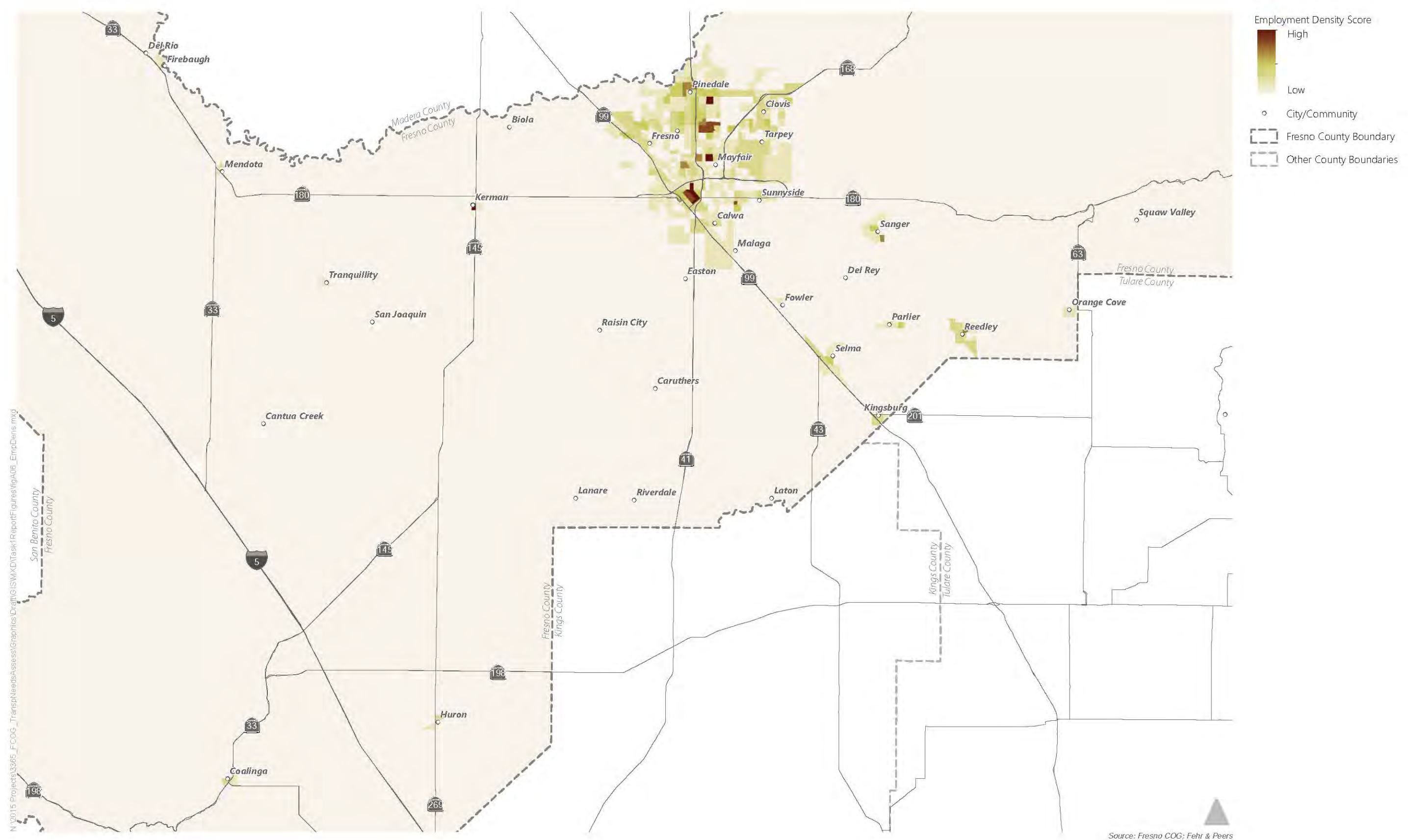
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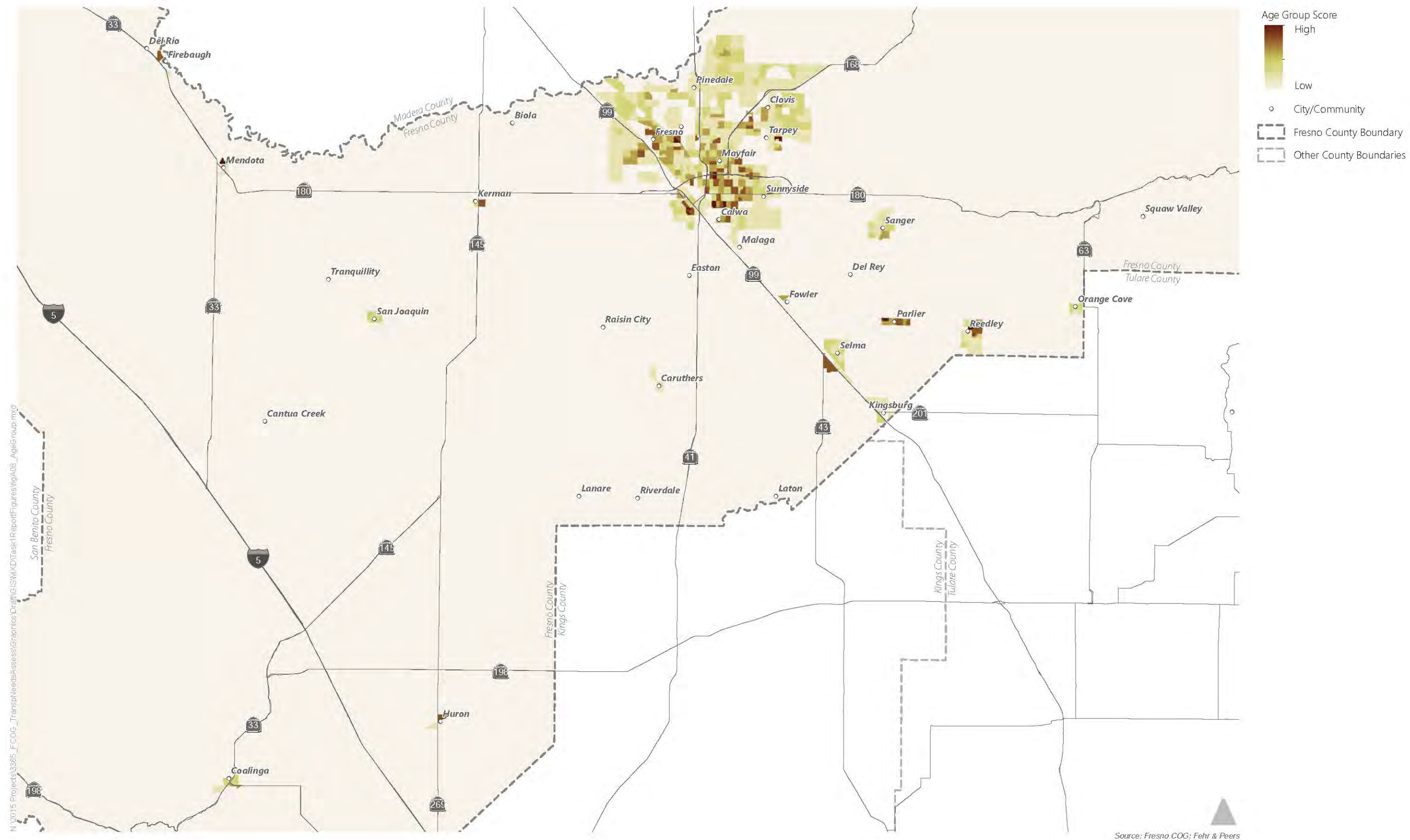
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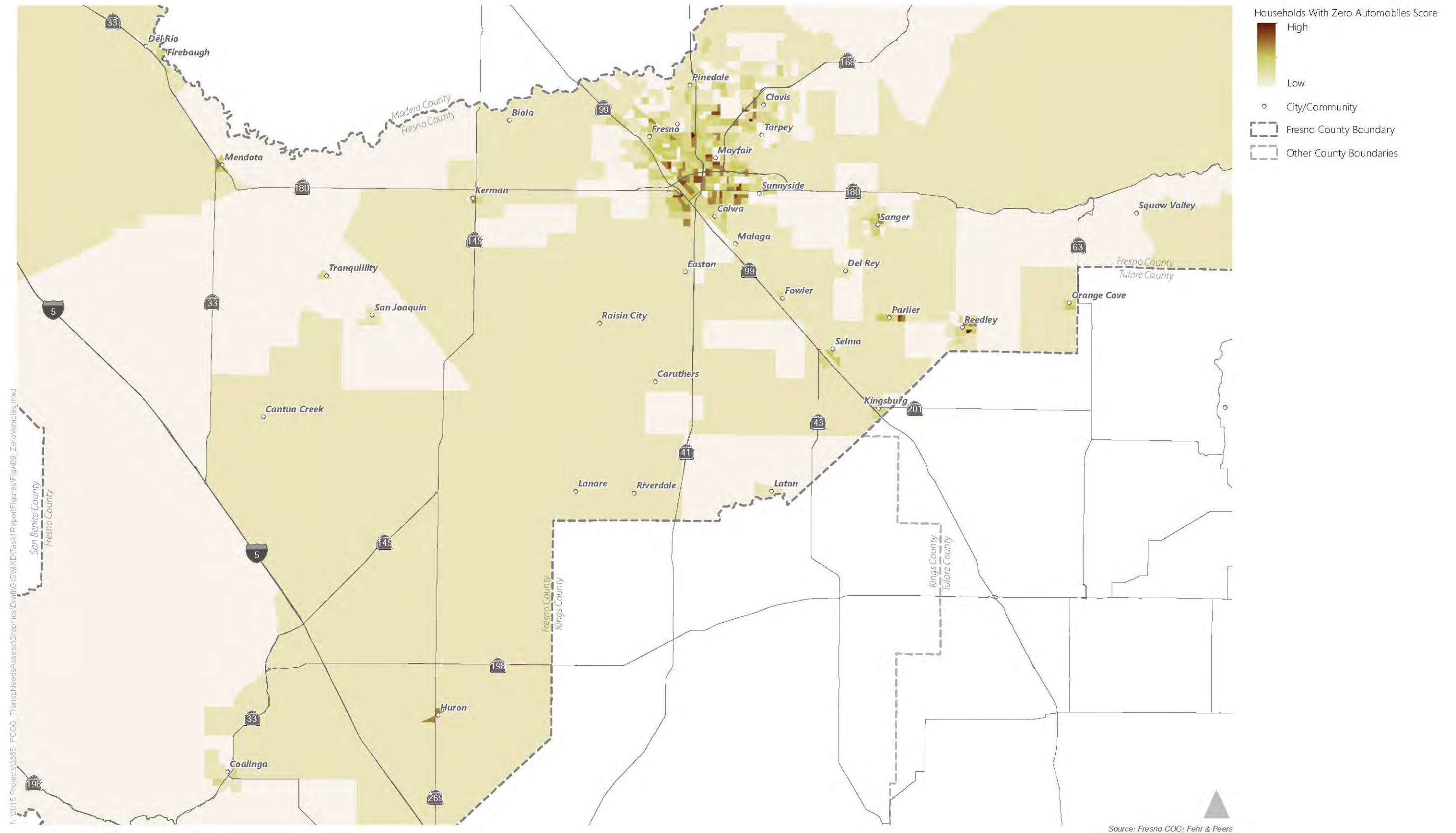


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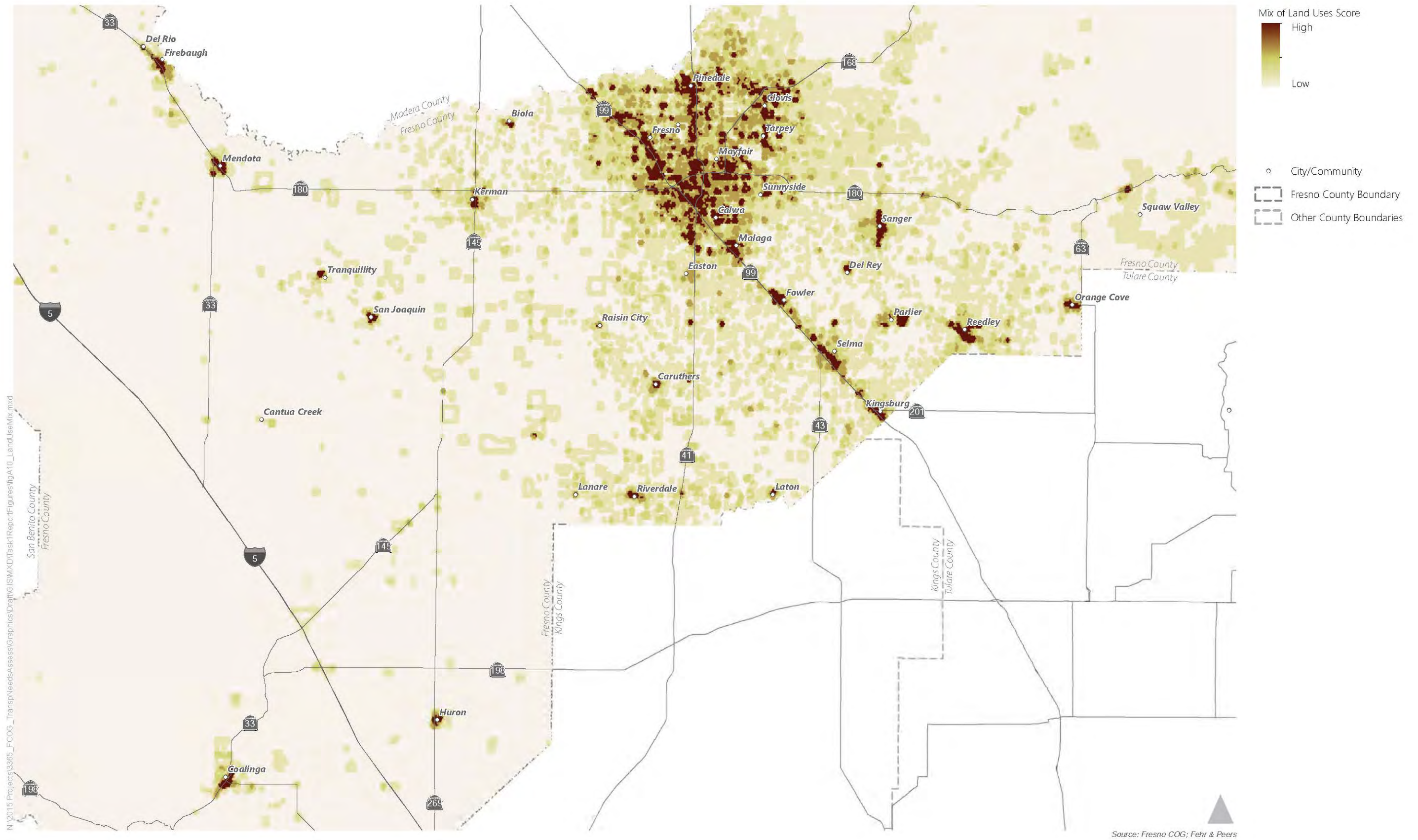


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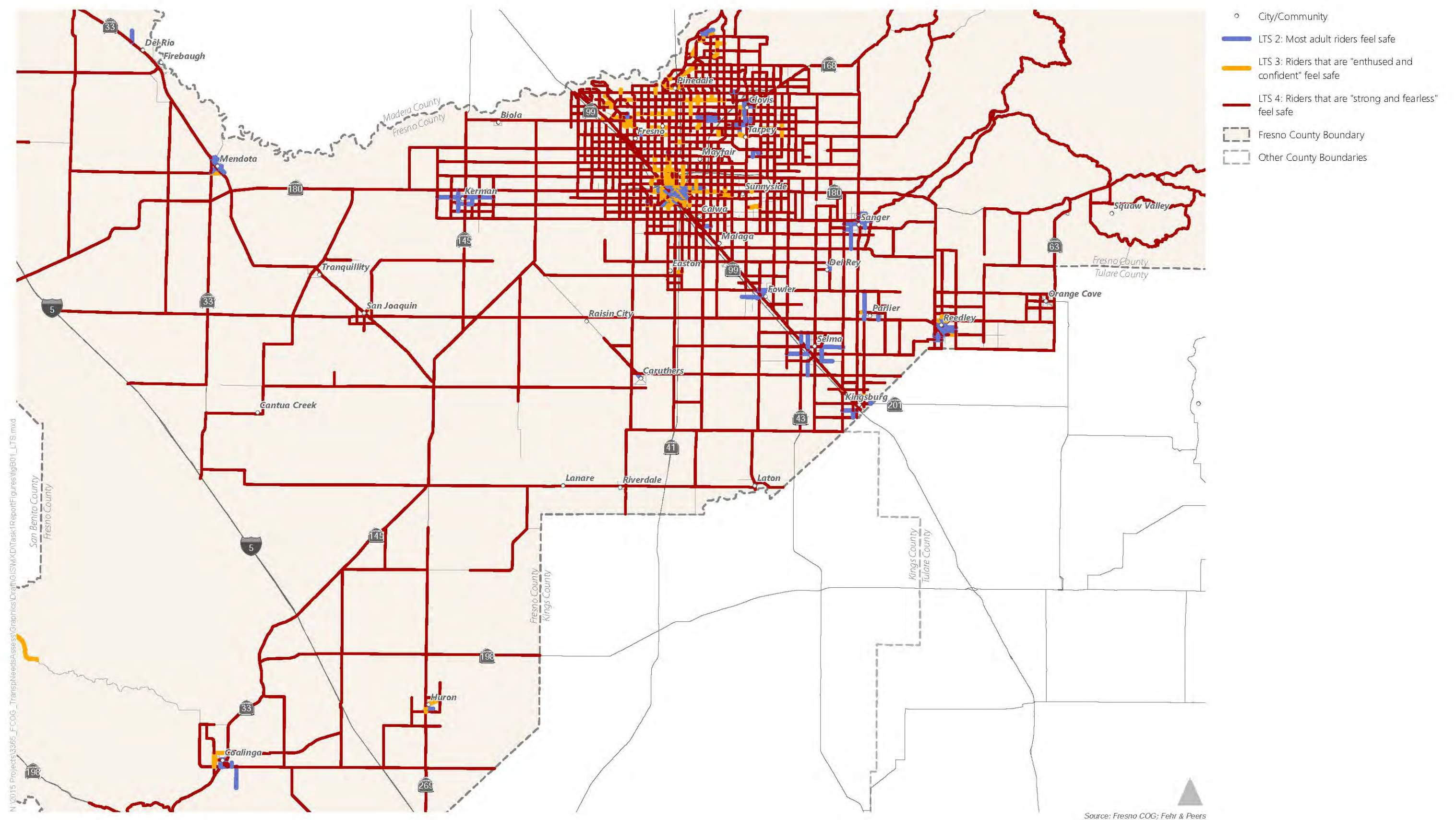


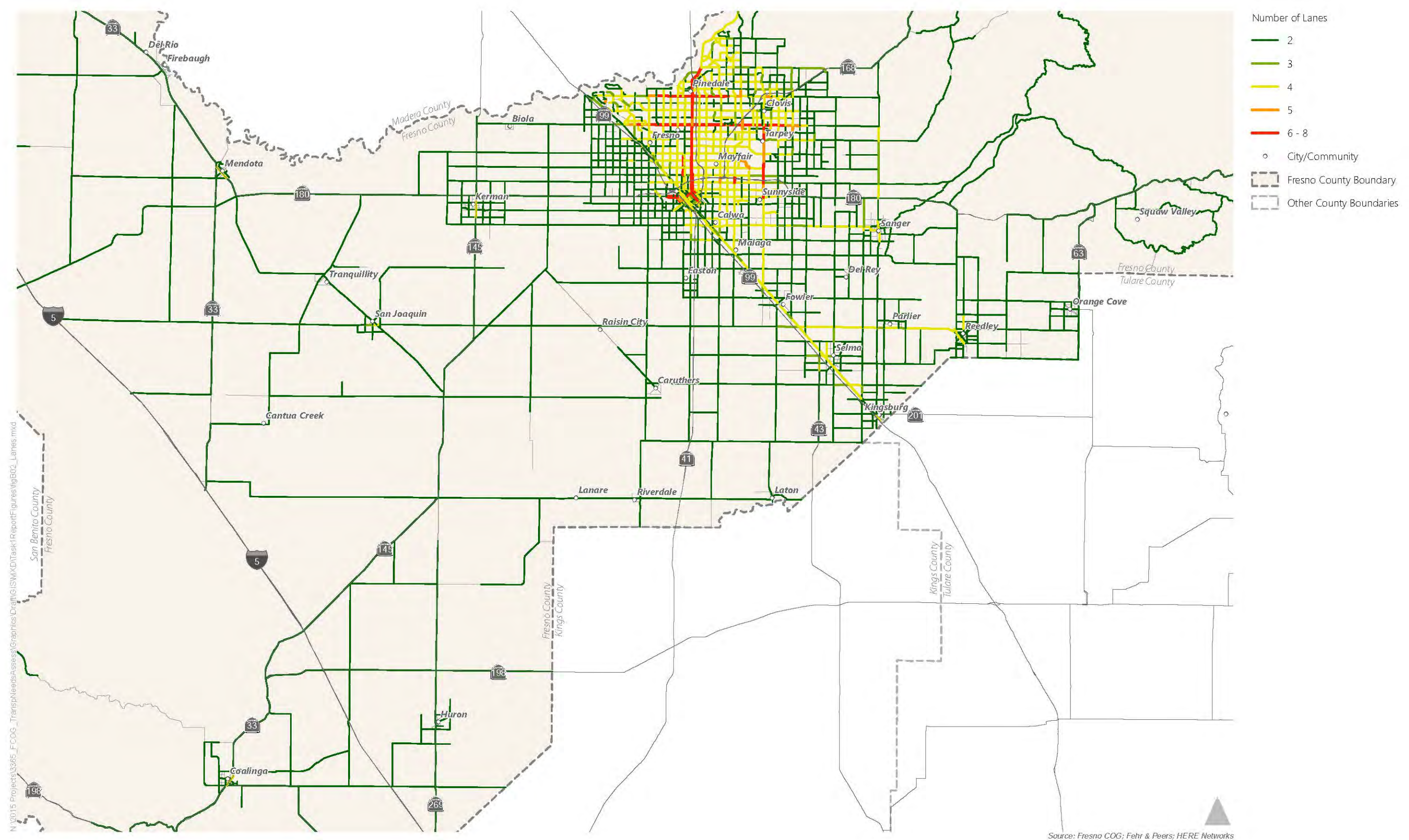
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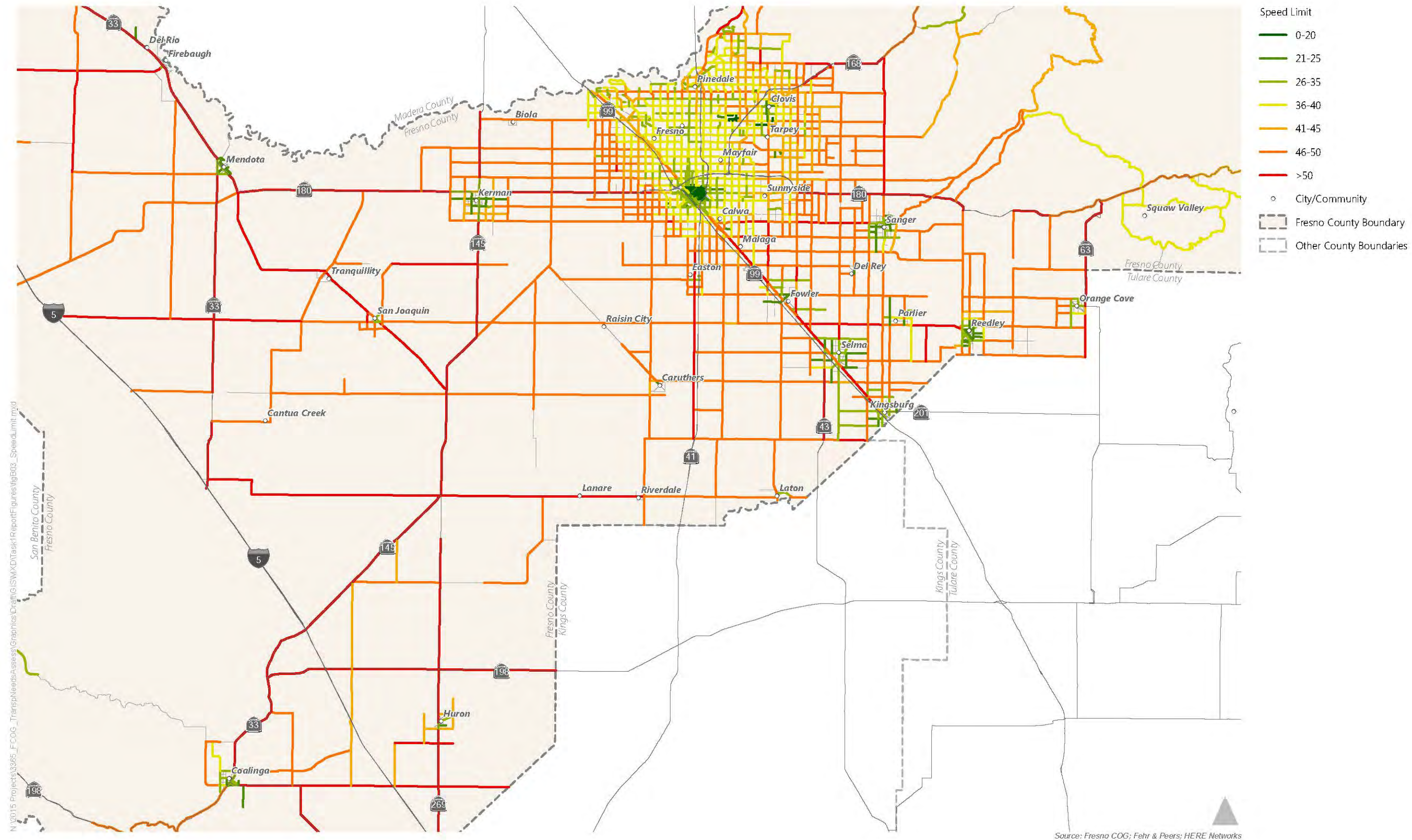


Fresno Council  
of Governments

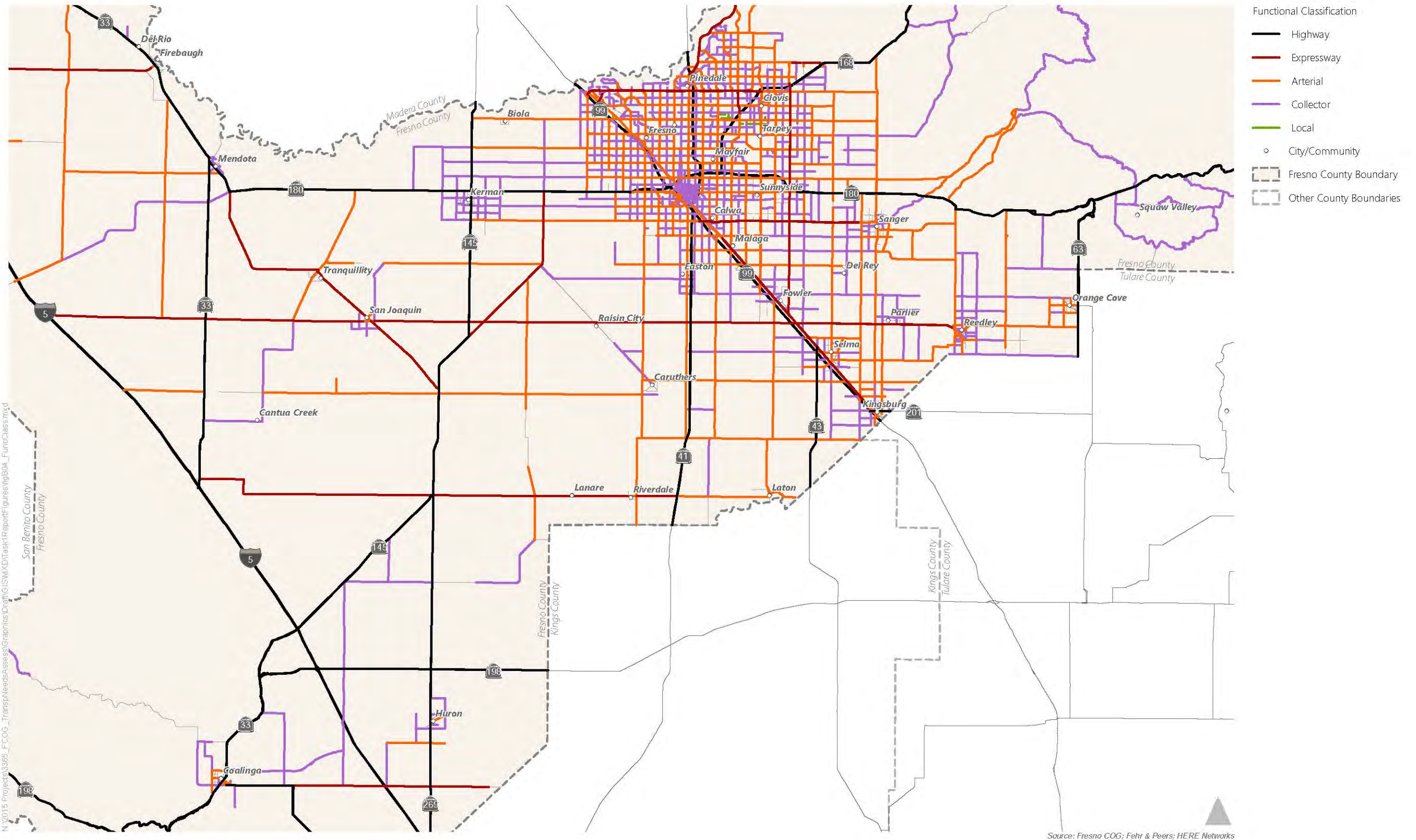
## **APPENDIX B: LEVEL OF TRAFFIC STRESS**







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## **APPENDIX C: PROJECT COST ESTIMATES**

Project 1 Parlier/Reedley/Orange Cove [Class II Bike Lanes] - Manning Ave, Hill Ave & South Av

Project Status:

Total Length (feet):	46000
% of Project Length Completed:	0%
Assumed Traffic Index:	12

Project Description:

Class II Bike Lanes on Manning Avenue from Parlier City Limit (S. Zediker Avenue) to Reedley City Limit (Kings River)
Class II Bike Lanes on Manning Avenue from Reedley City Limit (Buttonwillow Ave) to Hill Street
Class II Bike Lanes on Hill Avenue from Manning Avenue to South Avenue
Class II Bike Lanes on South Avenue Hill Street to Orange Cove Limits (Monson Avenue)

Project Sections:

	Manning Ave (Zediker to Kings River)	Manning Ave (Buttonwillow to Hill)	Hill Ave (Manning to South)	South Ave (Hill to Monson)		
Bike Facility Classification (Proposed):	Class II Bike Lanes	Class II Bike Lanes	Class II Bike Lanes	Class II Bike Lanes		
Section Length (feet):	14500	24000	5000	2500		
Percentage of Section Completed (%)	0%	0%	0%	0%		
Exist Pavement Width (ft.)	48	24	24	24		
Prop Pavement Width (ft.)	58	34	34	34		
Clearing and Grubbing Area (s.f.)	145,000	240,000	50,000	25,000		
Clearing and Grubbing Type	Rural with Orchard	Rural with Orchard	Rural with Orchard	Rural with Orchard		

Project Costs:

Description		Quantity	Unit	Unit Cost	Total Cost	Notes
Construction Costs	Bridge - New / Replacement	0	s.f.	\$225.00	\$0	
	Bridge - Widening	1,260	s.f.	\$175.00	\$220,500	Widen two existing structures on Manning and one structure on Hill Ave
	Other Structures	0	l.s.	\$0.00	\$0	
	Traffic control	46,000	l.f.	\$1.50	\$69,000	
	Construction Area Signs	46,000	l.f.	\$2.20	\$101,200	
	Clearing & Grubbing - Rural without Orchard	0.00	acre	\$1,000	\$0	
	Clearing & Grubbing - Rural with Orchard	10.56	acre	\$7,000	\$73,920	
	Clearing & Grubbing - Urban Streetscape	0.00	acre	\$57,940	\$0	
	Earthwork/Grading/Subgrade Prep (balanced)	29,815	c.y.	\$14.00	\$417,407	
	7" Asphalt Concrete (Type B)	460,000	s.f.	\$4.34	\$1,996,400	
	14" Aggregate Base (Class II)	460,000	s.f.	\$2.10	\$966,000	
	Signing, Striping & Pavement Markings	46,000	l.f.	\$2.10	\$96,600	Assumes two thermoplastic stripes, bike lane pavement markings, new bike lane signs
	Contingency	30%	1	\$1,182,308.22	\$1,182,308	
Total Project Construction Cost:					\$5,123,336	
Soft Costs	Engineering Design	7.5%	1	l.s.	\$384,250	\$384,250
	Project Management	7.5%	1	l.s.	\$384,250	\$384,250
	Administration	3.0%	1	l.s.	\$153,700	\$153,700
	Total Project Soft Cost:				\$922,200	

Project 1 Parlier/Reedley/Orange Cove [Class IV Cycle Tracks and Class II Bike Lanes] - Manning Ave, Hill Ave & South Ave

Project Status:

Total Length (feet):	46000
% of Project Length Completed:	0%
Assumed Traffic Index:	12

Project Description:

Class IV Cycle Track on Manning Avenue from Parlier City Limit (S. Zediker Avenue) to Reedley City Limit (Kings River)
Class IV Cycle Track on Manning Avenue from Reedley City Limit (Buttonwillow Ave) to Hill Street
Class II Bike Lanes on Hill Avenue from Manning Avenue to South Avenue
Class II Bike Lanes on South Avenue Hill Street to Orange Cove Limits (Monson Avenue)

Project Sections:

	Manning Ave (Zediker to Kings River)	Manning Ave (Buttonwillow to Hill)	Hill Ave (Manning to South)	South Ave (Hill to Monson)		
Bike Facility Classification (Proposed)	Class IV Cycle Track	Class IV Cycle Track	Class II Bike Lanes	Class II Bike Lanes		
Section Length (feet):	14500	24000	5000	2500		
Percentage of Section Completed (%)	0%	0%	0%	0%		
Exist Pavement Width (ft.)	48	24	24	24		
Prop Pavement Width (ft.)	64	40	34	34		
Clearing and Grubbing Area (s.f.)	232,000	384,000	50,000	25,000		
Clearing and Grubbing Type	Rural with Orchard	Rural with Orchard	Rural with Orchard	Rural with Orchard		

Project Costs:

Description		Quantity	Unit	Unit Cost	Total Cost	Notes
Construction Costs	Bridge - New / Replacement	0	s.f.	\$225.00	\$0	
	Bridge - Widening	1,540	s.f.	\$175.00	\$269,500	Widen two existing structures on Manning and one structure on Hill Ave
	Other Structures	0	l.s.	\$0.00	\$0	
	Traffic control	46,000	l.f.	\$1.50	\$69,000	
	Construction Area Signs	46,000	l.f.	\$2.20	\$101,200	
	Clearing & Grubbing - Rural without Orchard	0.00	acre	\$1,000	\$0	
	Clearing & Grubbing - Rural with Orchard	15.86	acre	\$7,000	\$111,020	
	Clearing & Grubbing - Urban Streetscape	0.00	acre	\$57,940	\$0	
	Earthwork/Grading/Subgrade Prep (balanced)	44,787	c.y.	\$14.00	\$627,019	
	7" Asphalt Concrete (Type B)	691,000	s.f.	\$4.34	\$2,998,940	
	14" Aggregate Base (Class II)	691,000	s.f.	\$2.10	\$1,451,100	
	Signing, Striping & Pavement Markings	46,000	l.f.	\$5.32	\$244,720	Assumes thermoplastic stripes, pavement markings, bike lane signs and delineators at 20'
	Contingency	30%	1	\$1,761,749.56	\$1,761,750	spacing (for Class IV facilities)
Total Project Construction Cost:					\$7,634,248	
Soft Costs	Engineering Design	7.5%	1	\$572,569	\$572,569	
	Project Management	7.5%	1	\$572,569	\$572,569	
	Administration	3.0%	1	\$229,027	\$229,027	
	Total Project Soft Cost:				\$1,374,165	

Project 2 Selma to Kingsburg [Class II Bike Lanes] - Dinuba Ave & Academy Ave

Project Status:

Total Length (feet):	16245
% of Project Length Completed:	0%
Assumed Traffic Index:	12

Project Description:

Class II Bike Lanes on E Dinuba Avenue from Selma City Limit (S Mill Ditch Avenue) to S Academy Avenue
Class II Bike Lanes on S Academy Avenue from E Mountain View Avenue to Kingsburg City Limits (Kamm Avenue)

Project Sections:

	Dinuba Ave (Mill Ditch to Academy)	Academy Ave (Mountain View to Kamm)				
Bike Facility Classification (Proposed):	Class II Bike Lanes	Class II Bike Lanes				
Section Length (feet):	11070	5175				
Percentage of Section Completed (%)	0%	0%				
Exist Pavement Width (ft.)	24	24				
Prop Pavement Width (ft.)	34	34				
Clearing and Grubbing Area (s.f.)	110,700	51,750				
Clearing and Grubbing Type	Rural with Orchard	Rural with Orchard				

Project Costs:

Description		Quantity	Unit	Unit Cost	Total Cost	Notes
Construction Costs	Bridge - New / Replacement	0	s.f.	\$225.00	\$0	
	Bridge - Widening	0	s.f.	\$175.00	\$0	
	Other Structures	0	l.s.	\$0.00	\$0	
	Traffic control	16,245	l.f.	\$1.50	\$24,368	
	Construction Area Signs	16,245	l.f.	\$2.20	\$35,739	
	Clearing & Grubbing - Rural without Orchard	0.00	acre	\$1,000	\$0	
	Clearing & Grubbing - Rural with Orchard	3.73	acre	\$7,000	\$26,110	
	Clearing & Grubbing - Urban Streetscape	0.00	acre	\$57,940	\$0	
	Earthwork/Grading/Subgrade Prep (balanced)	10,529	c.y.	\$14.00	\$147,408	
	7" Asphalt Concrete (Type B)	162,450	s.f.	\$4.34	\$705,033	
	14" Aggregate Base (Class II)	162,450	s.f.	\$2.10	\$341,145	
	Signing, Striping & Pavement Markings	16,245	l.f.	\$2.06	\$33,465	Assumes two thermoplastic stripes, bike lane pavement markings, new bike lane signs
	Contingency	30%	1	l.s.	\$393,980.26	\$393,980
Total Project Construction Cost:					\$1,707,248	
Soft Costs	Engineering Design	7.5%	1	l.s.	\$128,044	\$128,044
	Project Management	7.5%	1	l.s.	\$128,044	\$128,044
	Administration	3.0%	1	l.s.	\$51,217	\$51,217
	Total Project Soft Cost:				\$307,305	

Project 3 Firebaugh to Mendota [Option 1 - Class II Bike Lanes] - CA 33

Project Status:

Total Length (feet):	31250
% of Project Length Completed:	0%
Assumed Traffic Index:	12

Project Description:

Class II Bike Lanes on CA Route 33 from Mendota (Bass Avenue) to Firebaugh City Limits (Outside Canal)
--

Project Sections:

	CA 33 (Bass Ave to Outside Canal)					
Bike Facility Classification (Proposed):	Class II Bike Lanes					
Section Length (feet):	31250					
Percentage of Section Completed (%)	0%					
Exist Pavement Width (ft.)	40					
Prop Pavement Width (ft.)	50					
Clearing and Grubbing Area (s.f.)	312,500					
Clearing and Grubbing Type	Rural without Orchard					

Project Costs:

Description		Quantity	Unit	Unit Cost	Total Cost	Notes
Construction Costs	Bridge - New / Replacement	0	s.f.	\$225.00	\$0	
	Bridge - Widening	2,600	s.f.	\$175.00	\$455,000	Widen three existing structures on CA 33 (Main Lift Canal, First Lift Canal, Outside Canal)
	Other Structures	0	l.s.	\$0.00	\$0	
	Traffic control	31,250	l.f.	\$1.50	\$46,875	
	Construction Area Signs	31,250	l.f.	\$2.20	\$68,750	
	Clearing & Grubbing - Rural without Orchard	7.17	acre	\$1,000	\$7,170	
	Clearing & Grubbing - Rural with Orchard	0.00	acre	\$7,000	\$0	
	Clearing & Grubbing - Urban Streetscape	0.00	acre	\$57,940	\$0	
	Earthwork/Grading/Subgrade Prep (balanced)	20,255	c.y.	\$14.00	\$283,565	
	7" Asphalt Concrete (Type B)	312,500	s.f.	\$4.34	\$1,356,250	
	14" Aggregate Base (Class II)	312,500	s.f.	\$2.10	\$656,250	
	Signing, Striping & Pavement Markings	31,250	l.f.	\$2.06	\$64,375	Assumes two thermoplastic stripes, bike lane pavement markings, new bike lane signs
	Contingency	30%	1	l.s.	\$881,470.44	\$881,470
Total Project Construction Cost:					\$3,819,705	
Soft Costs	Engineering Design	7.5%	1	l.s.	\$286,478	\$286,478
	Project Management	7.5%	1	l.s.	\$286,478	\$286,478
	Administration	3.0%	1	l.s.	\$114,591	\$114,591
	Total Project Soft Cost:				\$687,547	

Project 3 Firebaugh to Mendota [Option 2 - Class IV Cycle Track] - CA 33

Project Status:

Total Length (feet):	31250
% of Project Length Completed:	0%
Assumed Traffic Index:	12

Project Description:

Class IV Cycle Track on CA Route 33 from Mendota (Bass Avenue) to Firebaugh City Limits (Outside Canal)
---

Project Sections:

	CA 33 (Bass Ave to Outside Canal)					
Bike Facility Classification (Proposed):	Class IV Cycle Track					
Section Length (feet):	31250					
Percentage of Section Completed (%)	0%					
Exist Pavement Width (ft.)	40					
Prop Pavement Width (ft.)	56					
Clearing and Grubbing Area (s.f.)	500,000					
Clearing and Grubbing Type	Rural without Orchard					

Project Costs:

Description		Quantity	Unit	Unit Cost	Total Cost	Notes
Construction Costs	Bridge - New / Replacement	0	s.f.	\$225.00	\$0	
	Bridge - Widening	4,160	s.f.	\$175.00	\$728,000	Widen three existing structures on CA 33 (Main Lift Canal, First Lift Canal, Outside Canal)
	Other Structures	0	l.s.	\$0.00	\$0	
	Traffic control	31,250	l.f.	\$1.50	\$46,875	
	Construction Area Signs	31,250	l.f.	\$2.20	\$68,750	
	Clearing & Grubbing - Rural without Orchard	11.48	acre	\$1,000	\$11,480	
	Clearing & Grubbing - Rural with Orchard	0.00	acre	\$7,000	\$0	
	Clearing & Grubbing - Urban Streetscape	0.00	acre	\$57,940	\$0	
	Earthwork/Grading/Subgrade Prep (balanced)	32,407	c.y.	\$14.00	\$453,704	
	7" Asphalt Concrete (Type B)	500,000	s.f.	\$4.34	\$2,170,000	
	14" Aggregate Base (Class II)	500,000	s.f.	\$2.10	\$1,050,000	
	Signing, Striping & Pavement Markings	31,250	l.f.	\$5.81	\$181,563	Assumes thermoplastic stripes, pavement markings, bike lane signs and delineators at 20'
	Contingency	30%	1	l.s.	\$1,413,111.36	spacing (for Class IV facilities)
				Total Project Construction Cost:	\$6,123,483	
Soft Costs	Engineering Design	7.5%	1	l.s.	\$459,261	
	Project Management	7.5%	1	l.s.	\$459,261	
	Administration	3.0%	1	l.s.	\$183,704	
					Total Project Soft Cost:	\$1,102,227

Project 4 Kerman to Biola [Class II Bike Lanes] - Goldenrod Ave, Belmont St, Howard Ave, G Street & Biola Ave

Project Status:

Total Length (feet):	33170
% of Project Length Completed:	3%
Assumed Traffic Index:	12

Project Description:

Class II Bike Lanes on Goldenrod from Kerman (Whitesbridge Ave ) to Belmont Avenue
Class II Bike Lanes on Belmont Avenue from Goldenrod Avenue to Howard Avenue ; Class II Bike Lanes on Howard Avenue from Belmont Avenue to Biola (G Street)
Class II Bike Lanes on G Street from Howard to Biola Street [200 feet previously constructed]
Class II Bike Lanes on Biola Avenue from G Street to Shaw [750 feet previously constructed]

Project Sections:

	Goldenrod (Whitesbridge to Belmont)	Belmont Ave (Goldenrod to Howard)	Howard Ave (Belmont to G St)	G Street (Howard to Biola)	Biola Ave (G St to Shaw)	
Bike Facility Classification (Proposed):	Class II Bike Lanes	Class II Bike Lanes	Class II Bike Lanes	Class II Bike Lanes	Class II Bike Lanes	
Section Length (feet):	5160	5230	18950	1960	1870	
Percentage of Section Completed (%)	0%	0%	0%	10%	40%	
Exist Pavement Width (ft.)	20	24	24	20	20	
Prop Pavement Width (ft.)	30	34	34	30	30	
Clearing and Grubbing Area (s.f.)	51,600	52,300	189,500	17,600	11,200	
Clearing and Grubbing Type	Rural with Orchard	Rural with Orchard	Rural with Orchard	Rural without Orchard	Rural without Orchard	

Project Costs:

Description		Quantity	Unit	Unit Cost	Total Cost	Notes
Construction Costs	Bridge - New / Replacement	1,280	s.f.	\$225.00	\$288,000	Replace culvert on Goldenrod Ave & culvert on Howard Ave
	Bridge - Widening	0	s.f.	\$175.00	\$0	
	Other Structures	0	l.s.	\$0.00	\$0	
	Traffic control	33,170	l.f.	\$1.50	\$49,755	
	Construction Area Signs	33,170	l.f.	\$2.20	\$72,974	
	Clearing & Grubbing - Rural without Orchard	0.66	acre	\$1,000	\$660	
	Clearing & Grubbing - Rural with Orchard	6.74	acre	\$7,000	\$47,180	
	Clearing & Grubbing - Urban Streetscape	0.00	acre	\$57,940	\$0	
	Earthwork/Grading/Subgrade Prep (balanced)	20,883	c.y.	\$14.00	\$292,367	
	7" Asphalt Concrete (Type B)	322,200	s.f.	\$4.34	\$1,398,348	
	14" Aggregate Base (Class II)	322,200	s.f.	\$2.10	\$676,620	
	Signing, Striping & Pavement Markings	33,170	l.f.	\$2.10	\$69,657	Assumes two thermoplastic stripes, bike lane pavement markings, new bike lane signs
	Contingency	30%	1	\$868,668.20	\$868,668	
Total Project Construction Cost:					\$3,764,229	
Soft Costs	Engineering Design	7.5%	1	l.s.	\$282,317	\$282,317
	Project Management	7.5%	1	l.s.	\$282,317	\$282,317
	Administration	3.0%	1	l.s.	\$112,927	\$112,927
	Total Project Soft Cost:				\$677,561	

Project 5 Fresno to Easton [Class II Bike Lanes] - Elm Avenue & Lincoln Avenue

Project Status:

Total Length (feet):	17900
% of Project Length Completed:	11%
Assumed Traffic Index:	12

Project Description:

Class II Bike Lanes on Elm Avenue from Fresno (North Avenue) to Easton (Lincoln Avenue)
Class II Bike Lanes on Lincoln Avenue from Clara Avenue to Lily Avenue [Only Widen where no C&G exists]

Project Sections:

	Elm Ave (North to Lincoln)	Lincoln Ave (Clara to Lily)				
Bike Facility Classification (Proposed):	Class II Bike Lanes	Class II Bike Lanes				
Section Length (feet):	15400	2500				
Percentage of Section Completed (%)	0%	76%				
Exist Pavement Width (ft.)	26	37				
Prop Pavement Width (ft.)	36	42				
Clearing and Grubbing Area (s.f.)	154,000	3,000				
Clearing and Grubbing Type	Rural with Orchard	Urban Streetscape				

Project Costs:

Description		Quantity	Unit	Unit Cost	Total Cost	Notes
Construction Costs	Bridge - New / Replacement	0	s.f.	\$225.00	\$0	
	Bridge - Widening	0	s.f.	\$175.00	\$0	
	Other Structures	0	l.s.	\$0.00	\$0	
	Traffic control	17,900	l.f.	\$1.50	\$26,850	
	Construction Area Signs	17,900	l.f.	\$2.20	\$39,380	
	Clearing & Grubbing - Rural without Orchard	0.00	acre	\$1,000	\$0	
	Clearing & Grubbing - Rural with Orchard	3.54	acre	\$7,000	\$24,780	
	Clearing & Grubbing - Urban Streetscape	0.07	acre	\$57,940	\$4,056	
	Earthwork/Grading/Subgrade Prep (balanced)	10,176	c.y.	\$14.00	\$142,463	
	7" Asphalt Concrete (Type B)	157,000	s.f.	\$4.34	\$681,380	
	14" Aggregate Base (Class II)	157,000	s.f.	\$2.10	\$329,700	
	Signing, Striping & Pavement Markings	17,900	l.f.	\$2.10	\$37,590	Assumes two thermoplastic stripes, bike lane pavement markings, new bike lane signs
	Contingency	30%	1	\$385,859.63	\$385,860	
Total Project Construction Cost:					\$1,672,058	
Soft Costs	Engineering Design	7.5%	1	l.s.	\$125,404	\$125,404
	Project Management	7.5%	1	l.s.	\$125,404	\$125,404
	Administration	3.0%	1	l.s.	\$50,162	\$50,162
	Total Project Soft Cost:				\$300,971	

Project 5 Fresno to Easton [Class II Bike Lanes & Class III Bikeway] - Elm Avenue & Lincoln Avenue

Project Status:

Total Length (feet):	17900
% of Project Length Completed:	0%
Assumed Traffic Index:	12

Project Description:

Class II Bike Lanes on Elm Avenue from Fresno (North Avenue) to Easton (Lincoln Avenue)
Class III Bikeway on Lincoln Avenue from Clara Avenue to Lily Avenue [No Pavement Widening]

Project Sections:

	Elm Ave (North to Lincoln)	Lincoln Ave (Clara to Lily)				
Bike Facility Classification (Proposed):	Class II Bike Lanes	Class III Bikeway [Sharrows]				
Section Length (feet):	15400	2500				
Percentage of Section Completed (%)	0%	0%				
Exist Pavement Width (ft.)	26	37				
Prop Pavement Width (ft.)	36	37				
Clearing and Grubbing Area (s.f.)	154,000	0				
Clearing and Grubbing Type	Rural with Orchard	Urban Streetscape				

Project Costs:

Description		Quantity	Unit	Unit Cost	Total Cost	Notes
Construction Costs	Bridge - New / Replacement	0	s.f.	\$225.00	\$0	
	Bridge - Widening	0	s.f.	\$175.00	\$0	
	Other Structures	0	l.s.	\$0.00	\$0	
	Traffic control	17,900	l.f.	\$1.50	\$26,850	
	Construction Area Signs	17,900	l.f.	\$2.20	\$39,380	
	Clearing & Grubbing - Rural without Orchard	0.00	acre	\$1,000	\$0	
	Clearing & Grubbing - Rural with Orchard	3.54	acre	\$7,000	\$24,780	
	Clearing & Grubbing - Urban Streetscape	0.00	acre	\$57,940	\$0	
	Earthwork/Grading/Subgrade Prep (balanced)	9,981	c.y.	\$14.00	\$139,741	
	7" Asphalt Concrete (Type B)	154,000	s.f.	\$4.34	\$668,360	
	14" Aggregate Base (Class II)	154,000	s.f.	\$2.10	\$323,400	
	Signing, Striping & Pavement Markings	17,900	l.f.	\$2.10	\$37,590	Assumes two thermoplastic stripes, bike lane pavement markings, new bike lane signs
	Contingency	30%	1	\$378,030.22	\$378,030	
Total Project Construction Cost:					\$1,638,131	
Soft Costs	Engineering Design	7.5%	1	l.s.	\$122,860	\$122,860
	Project Management	7.5%	1	l.s.	\$122,860	\$122,860
	Administration	3.0%	1	l.s.	\$49,144	\$49,144
	Total Project Soft Cost:				\$294,864	

## **APPENDIX D: PROJECT FACT SHEETS**

# FRESNO TRANSPORTATION NEEDS ASSESSMENT –

## Preliminary High Priority Project Routes:



### Parlier/Reedley/Orange Cove (Project # 1)



Notes: South Avenue is an alternative route between Reedley and Orange Cove.  
Seven-foot protected bikeways may be considered as an option for all or portions of cycle tracks.

### Existing Roadway Cross Sections



### Project Statistics

Population Served by Project Route	<b>47,766</b>
Median Household Income	<b>\$40,524</b>
Percent of Population Age 10-17	<b>15.0%</b>
CalEnviroScreen 2.0 Percentile Range	<b>81-100%</b>
Student Enrollment Served by Project Route	<b>13,078</b>
Percent of Students Eligible for Free or Reduced Meals	<b>90%</b>
Number of Injury Collisions Involving Bike/Ped Along Project Route '08-'11	<b>1Bike/1Ped</b>

### Potential Benefits

- Connects two small cities (Parlier and Orange Cove) with one medium city (Reedley)
- Provides access to medical, educational and government services

### Census Tracts IDs Along Project Route

06019006802, 06019006501, 06019006300

### Connections to Existing Facilities?

**YES** at South Ave/Monson Ave in Orange Cove

### Disadvantaged Community Indicators

#### CalEnviroScreen 2.0



#### Median Income Comparison



### Potential Project Options

#### Option 1 - Cycle Track/Bike Lane



Total Length	<b>9.0 miles</b>
Existing Pavement Width	<b>24 ft - 48 ft</b>
Proposed Pavement Width	<b>34 ft - 64 ft</b>
<b>Total Cost</b>	<b>\$9,008,413</b>

#### Option 2 - Bike Lane



Total Length	<b>9.0 miles</b>
Existing Pavement Width	<b>24 ft - 48 ft</b>
Proposed Pavement Width	<b>34 ft - 58 ft</b>
<b>Total Cost</b>	<b>\$6,045,536</b>

# FRESNO TRANSPORTATION NEEDS ASSESSMENT –

Preliminary High Priority Project Routes:



## Selma/Kingsburg/Parlier (Project # 2)



## Existing Roadway Cross Sections



## Project Statistics

Population Served by Project Route	<b>49,095</b>
Median Household Income	<b>\$43,428</b>
Percent of Population Age 10-17	<b>14.6%</b>
CalEnviroScreen 2.0 Percentile Range	<b>86-100%</b>
Student Enrollment Served by Project Route	<b>13,653</b>
Percent of Students Eligible for Free or Reduced Meals	<b>75%</b>
Number of Injury Collisions Involving Bike/Ped Along Project Route '08-'11	<b>0 Bike/0 Ped</b>

## Potential Benefits

- Connects three small cities (Selma, Kingsburg and Parlier) together
- Extends existing bicycle facility in Parlier

## Census Tracts IDs Along Project Route

06019008501, 06019007004, 06019007201

## Connections to Existing Facilities?

**YES** on South Academy Ave at Dinuba Ave and Mountain View Ave

## Disadvantaged Community Indicators

### CalEnviroScreen 2.0



### Median Income Comparison



## Potential Project Options

### Option 1 - Bike Lane



Total Length	<b>3.1 miles</b>
Existing Pavement Width	<b>24 ft</b>
Proposed Pavement Width	<b>34 ft</b>
<b>Total Cost</b>	<b>\$2,014,553</b>

# FRESNO TRANSPORTATION NEEDS ASSESSMENT –

Preliminary High Priority Project Routes:



## Firebaugh/Mendota (Project # 3)



Note: Seven-foot protected bikeways may be considered as an option for all or portions of cycle tracks.

## Existing Roadway Cross Sections



## Project Statistics

Population Served by Project Route	<b>18,563</b>
Median Household Income	<b>\$28,131</b>
Percent of Population Age 10-17	<b>14.9%</b>
CalEnviroScreen 2.0 Percentile Range	<b>71-95%</b>
Student Enrollment Served by Project Route	<b>4,695</b>
Percent of Students Eligible for Free or Reduced Meals	<b>95%</b>
Number of Injury Collisions Involving Bike/Ped Along Project Route '08-'11	<b>0 Bike/1 Ped</b>

## Potential Benefits

- Connects two small cities (Firebaugh and Mendota)
- Provides access to educational and government services

## Census Tracts IDs Along Project Route

060190018301, 06019008302, 6019008401

## Connections to Existing Facilities?

**NO**

## Disadvantaged Community Indicators

### CalEnviroScreen 2.0



### Median Income Comparison



## Potential Project Options

### Option 1 - Bike Lane



Total Length	<b>6.0 miles</b>
Existing Pavement Width	<b>40 ft</b>
Proposed Pavement Width	<b>50 ft</b>
<b>Total Cost</b>	<b>\$4,507,252</b>

### Option 2 - Cycle Track



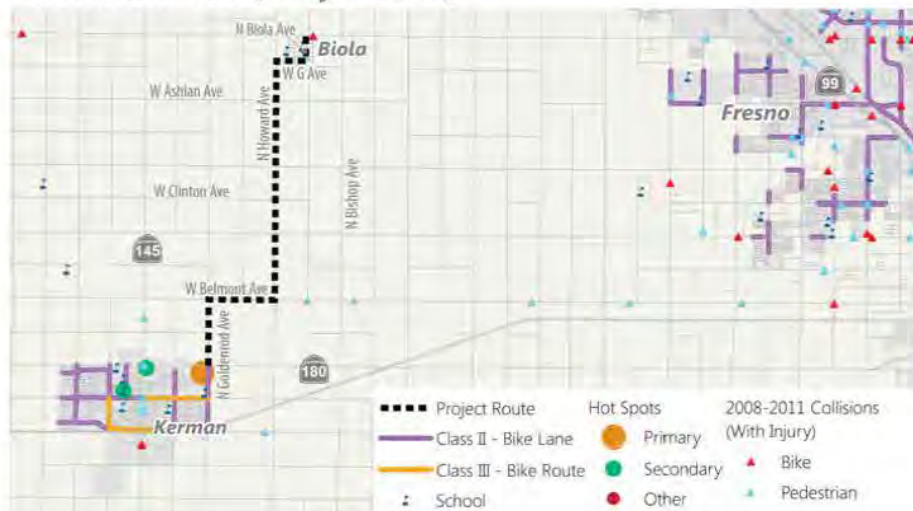
Total Length	<b>6.0 miles</b>
Existing Pavement Width	<b>40 ft</b>
Proposed Pavement Width	<b>56 ft</b>
<b>Total Cost</b>	<b>\$7,225,710</b>

# FRESNO TRANSPORTATION NEEDS ASSESSMENT –

Preliminary High Priority Project Routes:



## Biola/Kerman (Project # 4)



## Existing Roadway Cross Sections

All Project Roads



## Project Statistics

Population Served by Project Route	<b>15,167</b>
Median Household Income	<b>\$41,402</b>
Percent of Population Age 10-17	<b>14.8%</b>
CalEnviroScreen 2.0 Percentile Range	<b>66-100%</b>
Student Enrollment Served by Project Route	<b>4,664</b>
Percent of Students Eligible for Free or Reduced Meals	<b>88%</b>
Number of Injury Collisions Involving Bike/Ped Along Project Route '08-'11	<b>1 Bike/1 Ped</b>

## Potential Benefits

- Connects one unincorporated community (Biola) with small city (Kerman)
- Provides access to retail, health and educational services

## Census Tracts IDs Along Project Route

06019001800, 06019001000

## Connections to Existing Facilities?

**YES** on North Goldenrod Ave at State Route 180 in Kerman

## Disadvantaged Community Indicators

### CalEnviroScreen 2.0



### Median Income Comparison



## Potential Project Options

### Option 1 - Bike Lane

All Project Roads



Total Length	<b>6.5 miles</b>
Existing Pavement Width	<b>20 ft - 24 ft</b>
Proposed Pavement Width	<b>30 ft - 34 ft</b>
<b>Total Cost</b>	<b>\$4,441,790</b>

# FRESNO TRANSPORTATION NEEDS ASSESSMENT –

Preliminary High Priority Project Routes:



## Easton/Fresno (Project # 5)



## Existing Roadway Cross Sections



## Project Statistics

Population Served by Project Route	<b>2,083*</b>
Median Household Income	<b>\$37,149</b>
Percent of Population Age 10-17	<b>13.1%</b>
CalEnviroScreen 2.0 Percentile Range	<b>96-100%</b>
Student Enrollment Served by Project Route	<b>3,052</b>
Percent of Students Eligible for Free or Reduced Meals	<b>91%</b>
Number of Injury Collisions Involving Bike/Ped Along Project Route '08-'11	<b>4 Bike/3 Ped</b>

\*Project Population includes only the census designated place of Easton.

## Potential Benefits

- Connects one unincorporated community (Easton) to one large city (Fresno)
- Extends existing bicycle facility in Fresno

## Census Tracts IDs Along Project Route

06019001800, 06019001000

## Connections to Existing Facilities?

**YES** on South Elm Ave at West North Ave in Fresno

## Disadvantaged Community Indicators

### CalEnviroScreen 2.0



### Median Income Comparison



## Potential Project Options

### Option 1 - Bike Lane



Total Length	<b>3.5 miles</b>
Existing Pavement Width	<b>26 ft - 37 ft</b>
Proposed Pavement Width	<b>36 ft - 42 ft</b>
<b>Total Cost</b>	<b>\$1,973,029</b>

### Option 2 - Bike Lane/ Sharrows



Total Length	<b>3.5 miles</b>
Existing Pavement Width	<b>26 ft - 37 ft</b>
Proposed Pavement Width	<b>36 ft - 37 ft</b>
<b>Total Cost</b>	<b>\$1,932,995</b>