

Fresno COG Transportation Needs Assessment – ESRI 2016

Carrie Carsell
June 28, 2016



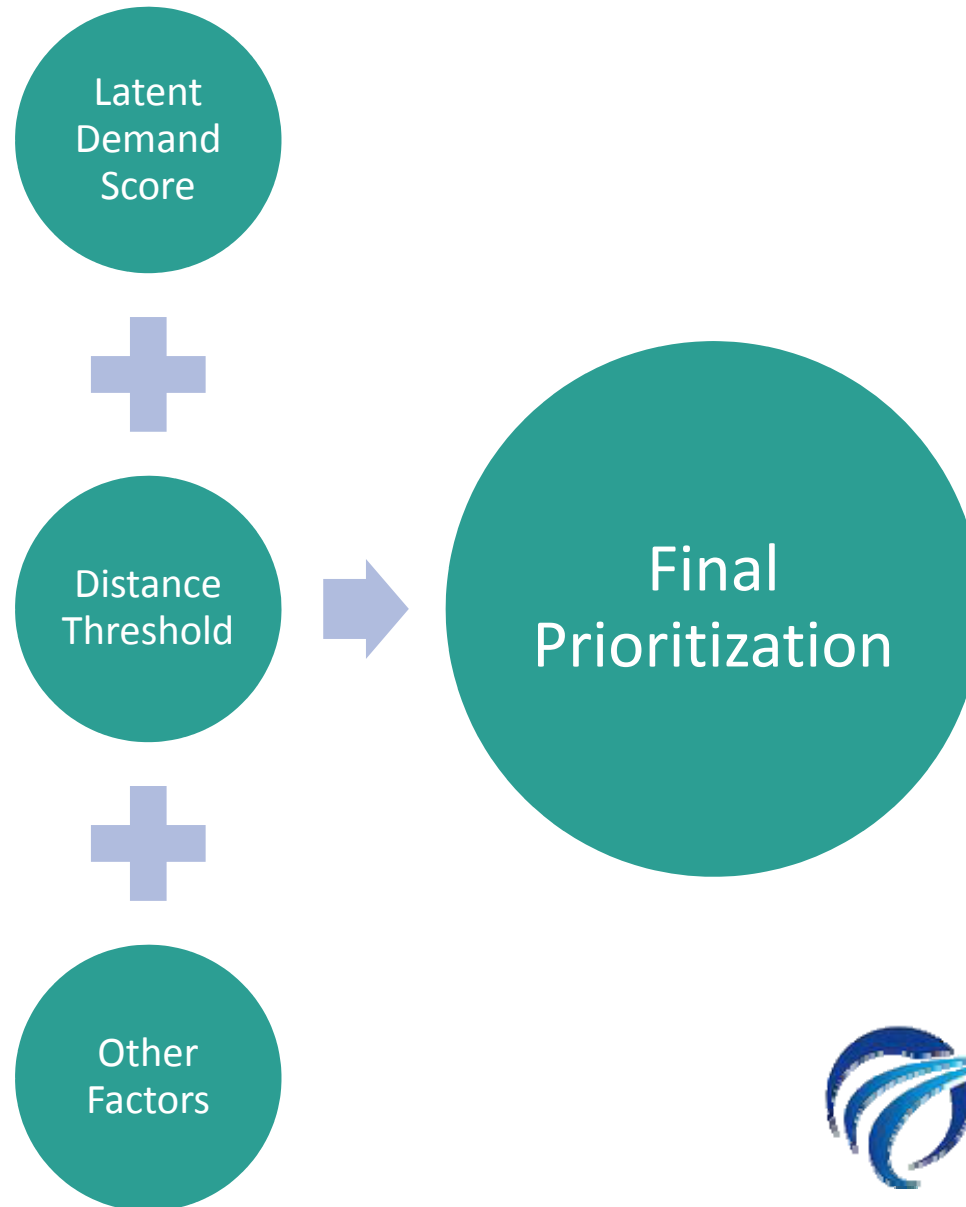
Project Background: Needs Assessment

- Program formed in 2014 to evaluate how to connect the community basic needs
- Two part study:
 - Regional gap analysis
 - Transportation connectivity/accessibility analysis
- Special focus on disadvantaged communities
 - Annual median household income less than 80% of statewide median
 - Lowest scoring 25% census tracts per CalEnviroScreen 2.0

Task 1: Regional Gap Analysis for Bike & Trail Facilities

- Identify gaps or barriers that disrupt the continuity of biking and walking
- Focus on projects that will provide regional/inter-city connectivity
- Take into account the feasibility of traveling long distance by such modes
- Identify potential sources of funding

Methodology

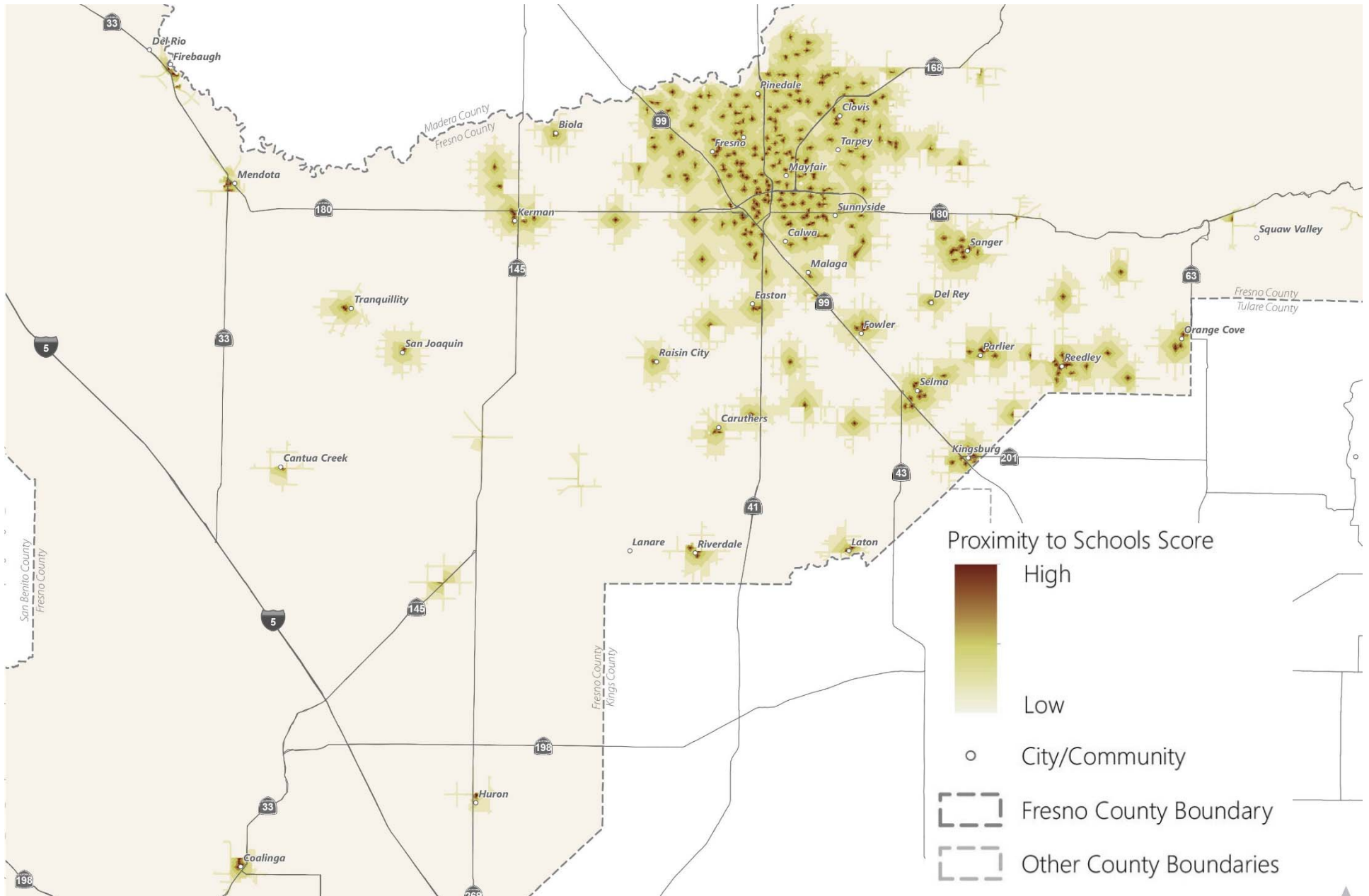


Methodology: Latent Demand

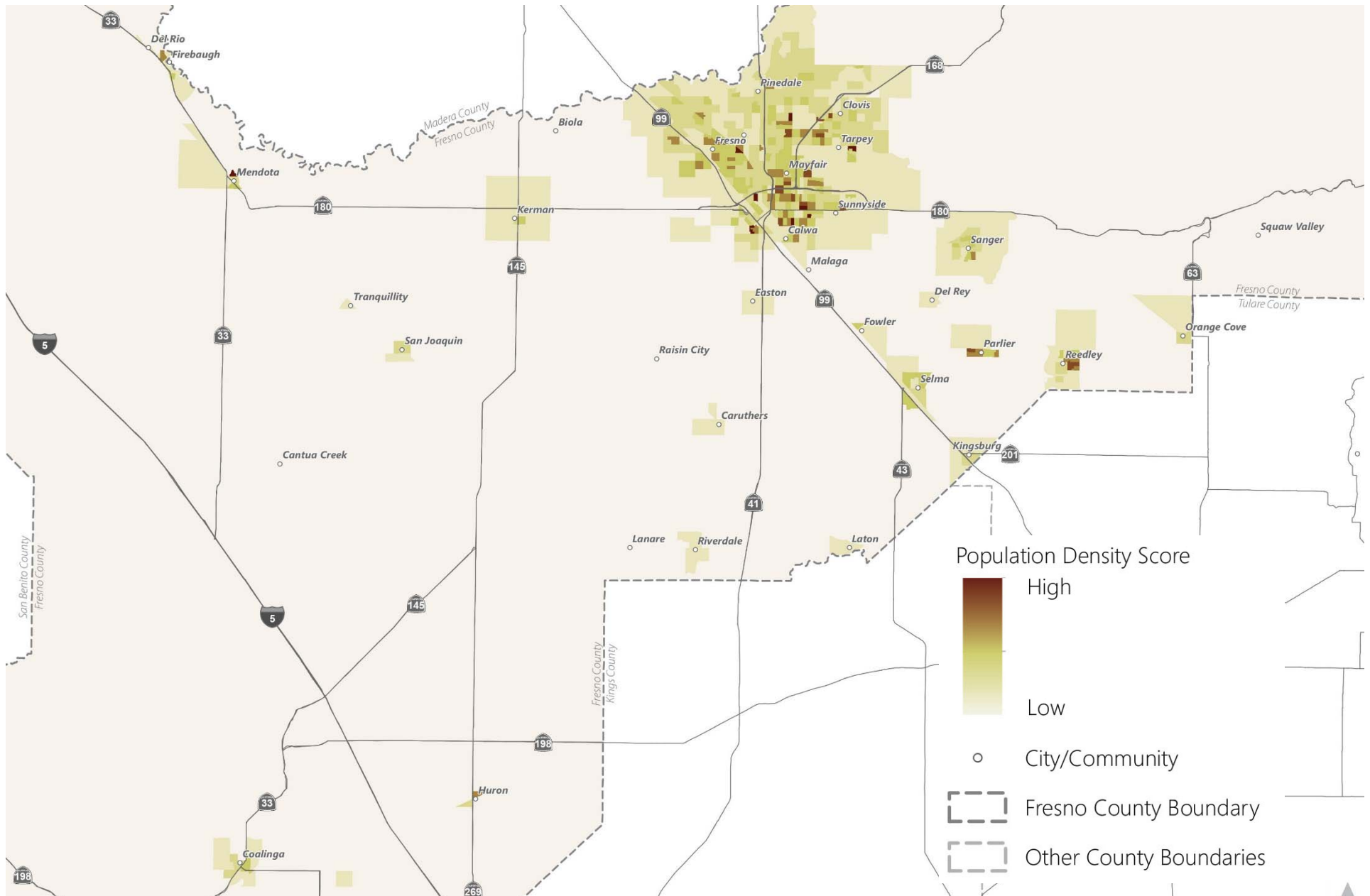
Comprehensive demand score

- Proximity factors
 - Hot spots
 - Schools
 - Transit stops
 - Parks
 - Other key destinations
- Demographic factors
 - Employment density
 - Population density
 - Population 10-17 years old density
 - Percentage of households with zero vehicles
 - Land use mix

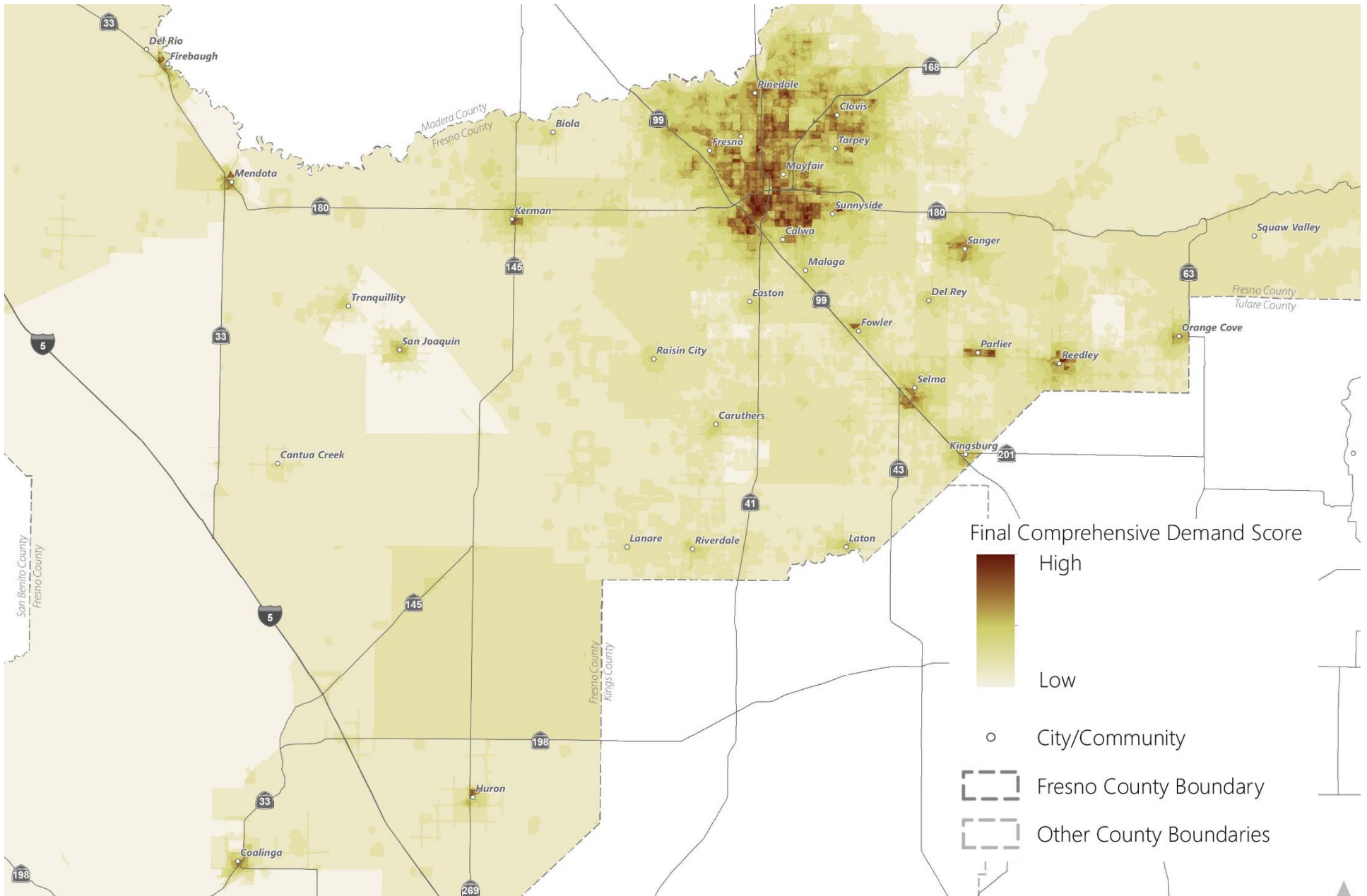
Proximity Factors: Schools



Demographic Factors: Population Density



Comprehensive Demand Score



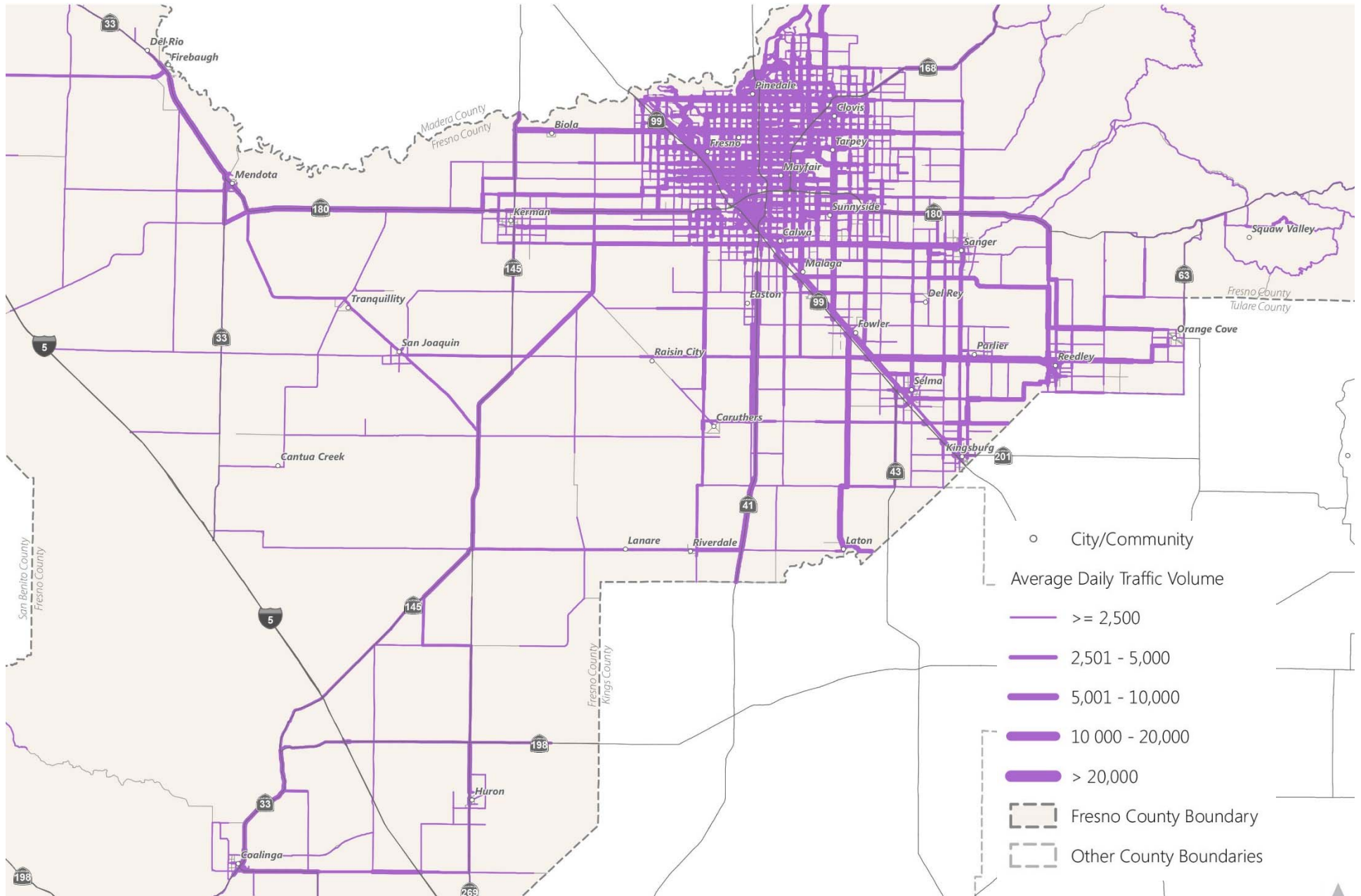
Methodology: Distance Threshold

- Establish reasonable boundaries for the gap and barrier analysis
- Maximum distances that bicyclists are likely to travel
- 2012 California Household Travel Survey (Central Valley Region)
- 6 miles encompasses 90% - 95% of all trips

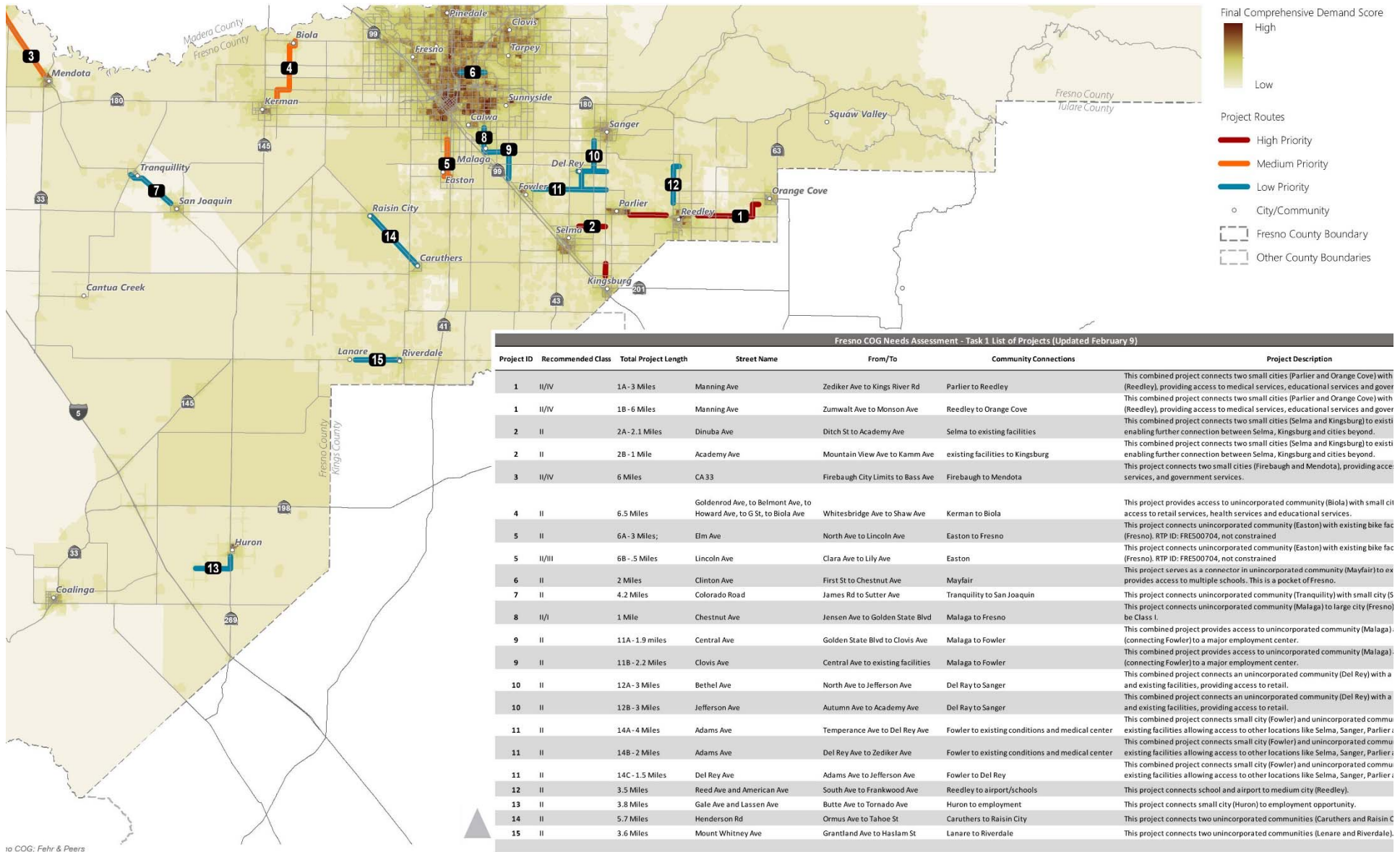
Methodology: Other Factors

- Existing bike and trail network
- Bike related collisions
- Number of lanes
- Traffic volume
- Level of traffic stress
- Limit of incorporated areas

Other Factors: Traffic Volume



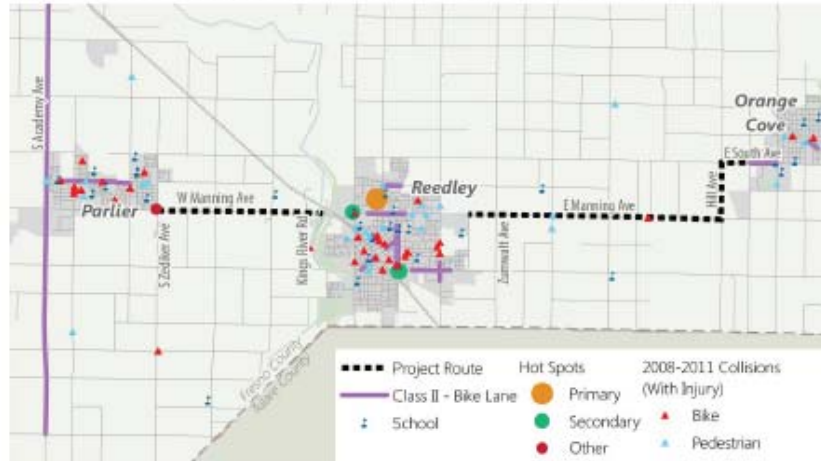
Final Prioritization



FRESNO TRANSPORTATION NEEDS ASSESSMENT – Preliminary High Priority Project Routes:



Parlier/Reedley/Orange Cove (Project # 1)



Existing Roadway Cross Sections



Project Statistics

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

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

Option 2 - Bike Lane

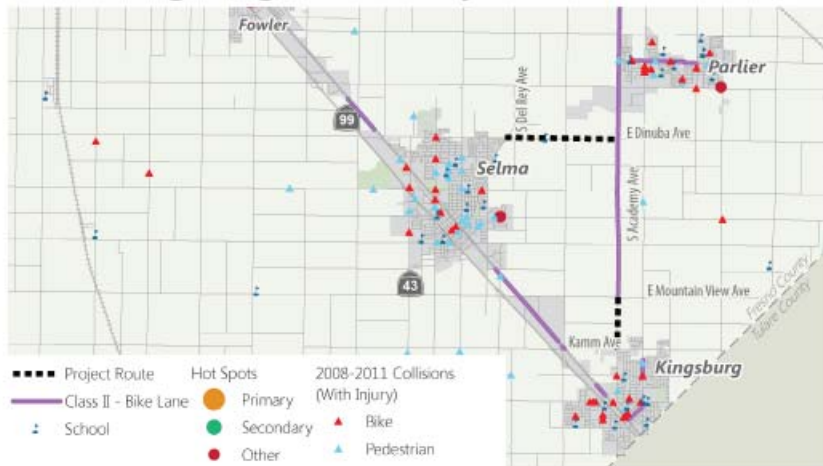


Total Length	9.0 miles
Existing Pavement Width	24 ft - 48 ft
Proposed Pavement Width	34 ft - 58 ft
Total Cost	\$6,045,536

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

Potential Benefits

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

Census Tracts IDs Along Project Route

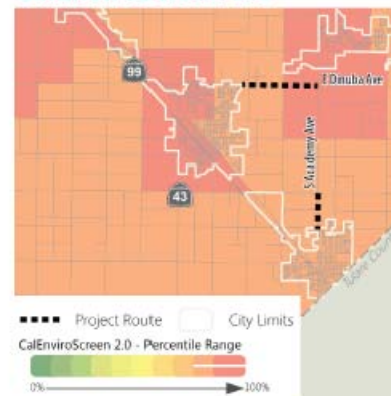
06019008501, 06019007004, 06019007201

Connections to Existing Facilities?

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

Disadvantaged Community Indicators

CalEnviroScreen 2.0

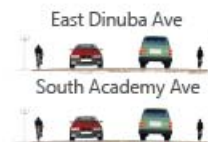


Median Income Comparison



Potential Project Options

Option 1 - Bike Lane



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

FRESNO TRANSPORTATION NEEDS ASSESSMENT – Preliminary High Priority Project Routes:



Firebaugh/Mendota (Project # 3)



Existing Roadway Cross Sections



Project Statistics

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

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	6.0 miles
Existing Pavement Width	40 ft
Proposed Pavement Width	50 ft
Total Cost	\$4,507,252

Option 2 - Cycle Track



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

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

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?

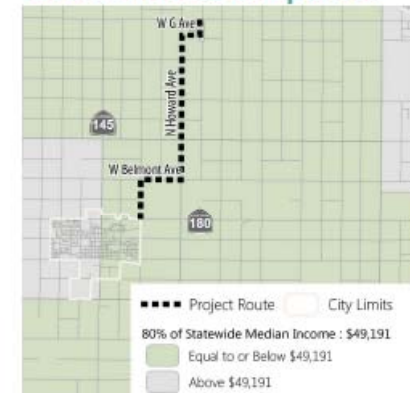
YES on North Goldenrod Ave at State Route 180 in Kerman

Disadvantaged Community Indicators

CalEnviroScreen 2.0



Median Income Comparison



Potential Project Options

Option 1 - Bike Lane

All Project Roads



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

FRESNO TRANSPORTATION NEEDS ASSESSMENT – Preliminary High Priority Project Routes:



Easton/Fresno (Project # 5)



Existing Roadway Cross Sections



Project Statistics

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

*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

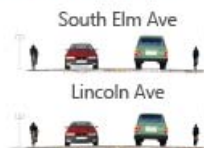


Median Income Comparison



Potential Project Options

Option 1 - Bike Lane

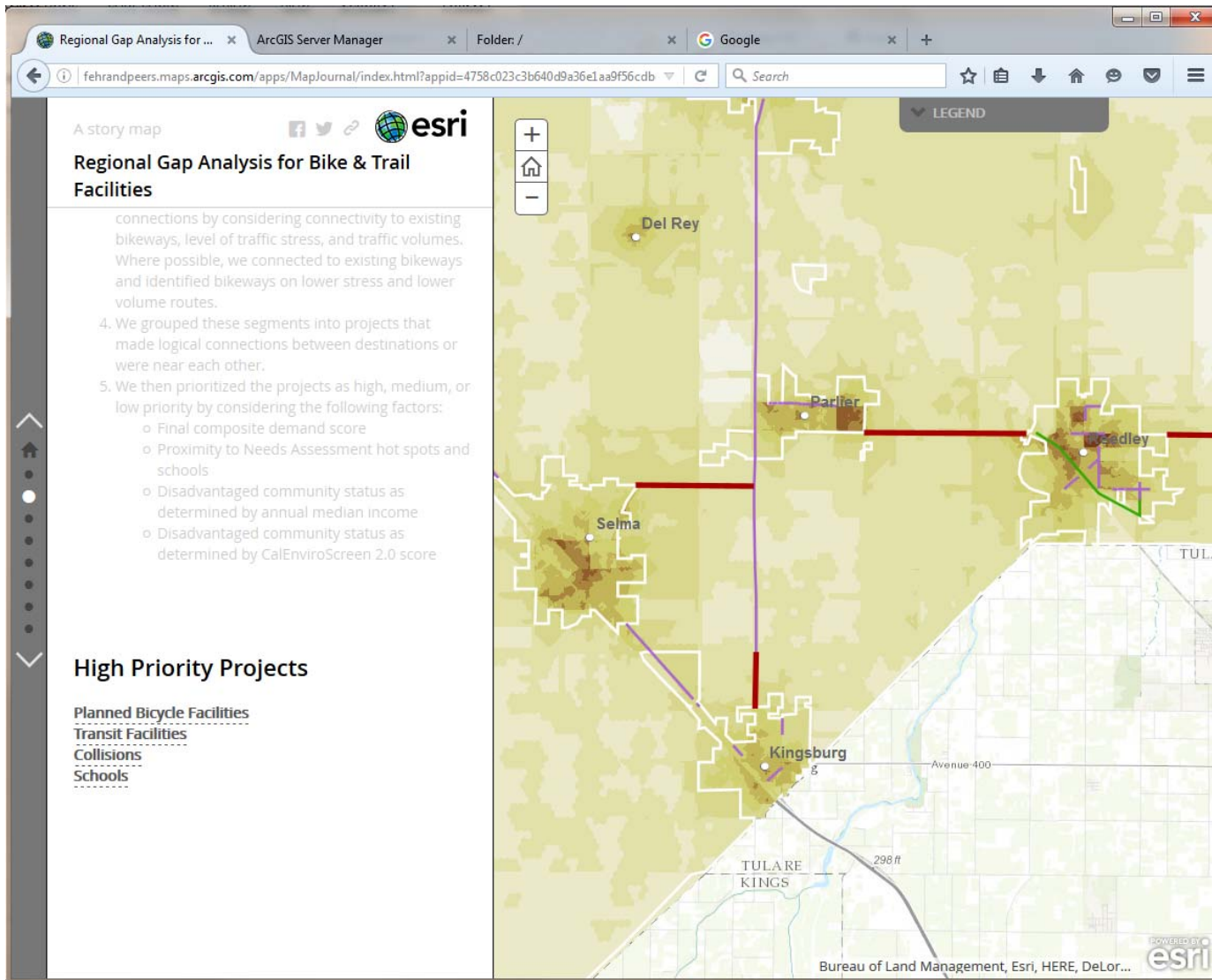


Total Length	3.5 miles
Existing Pavement Width	26 ft - 37 ft
Proposed Pavement Width	36 ft - 42 ft
Total Cost	\$1,973,029

Option 2 - Bike Lane/ Sharrows



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



Task 2: Transportation Connectivity and Accessibility Analysis

- Evaluate the transportation system's ability to get people to basic services
- Ten major regional/sub-regional facilities (hot spots)
- All modes
 - Bus
 - Biking
 - Walking
 - Private cars
- Focus on disadvantaged communities

Ten Major Hot Spots

Metropolitan area:

- **Fashion Fair Mall**, 645 E. Shaw Ave., Fresno
- **Fresno City College**, Fresno, 1101 E. University Ave., Fresno
- **Fresno County Superior Court**, 1100 Van Ness Ave., Fresno
- **Wawona Frozen Foods**, 100 W. Alluvial Ave., Clovis

Northwest areas:

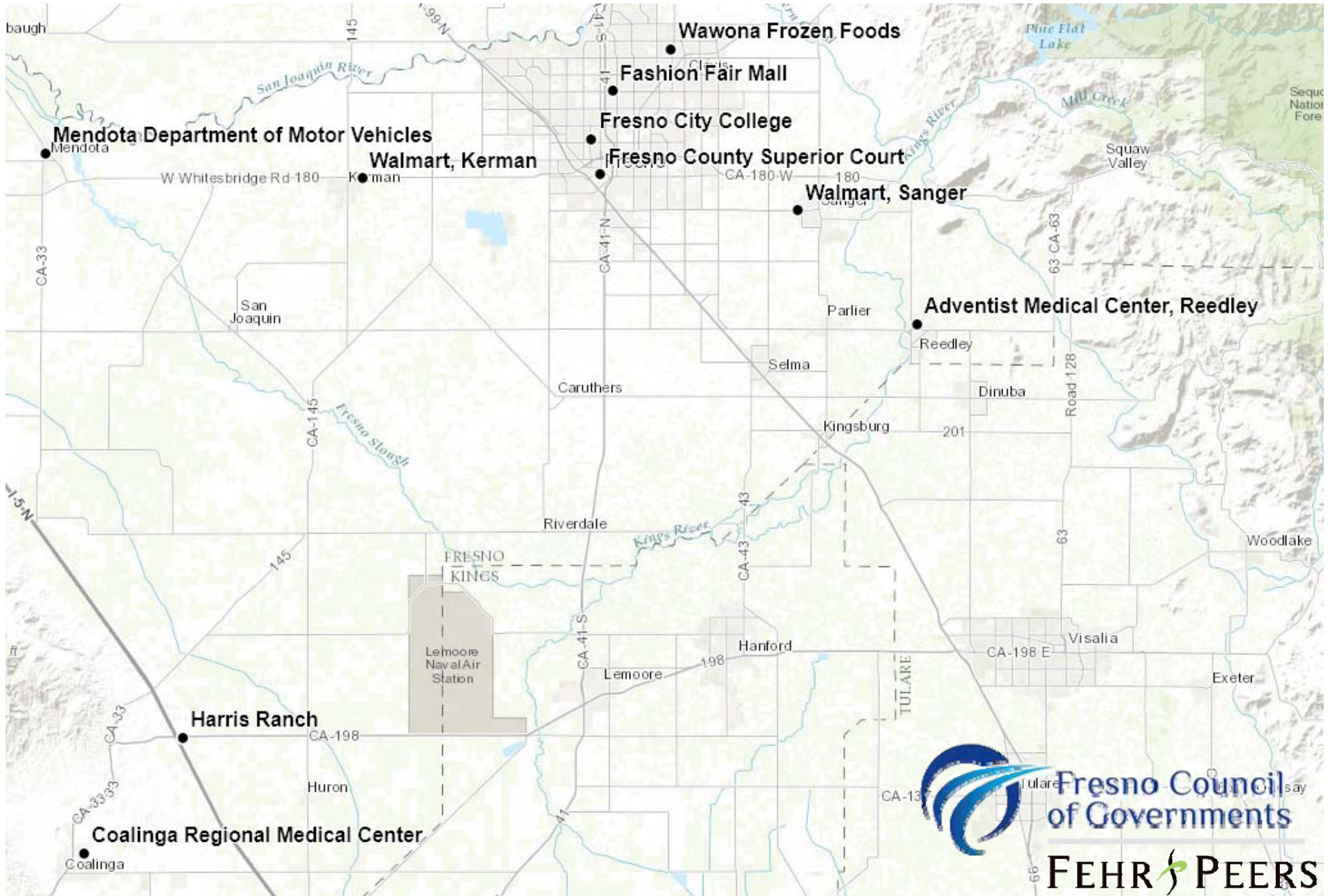
- **Mendota Department of Motor Vehicles**, 642 Pucheu St., Mendota
- **Kerman Walmart**, 14061 W. Whitesbridge Ave., Kerman

Southwest areas:

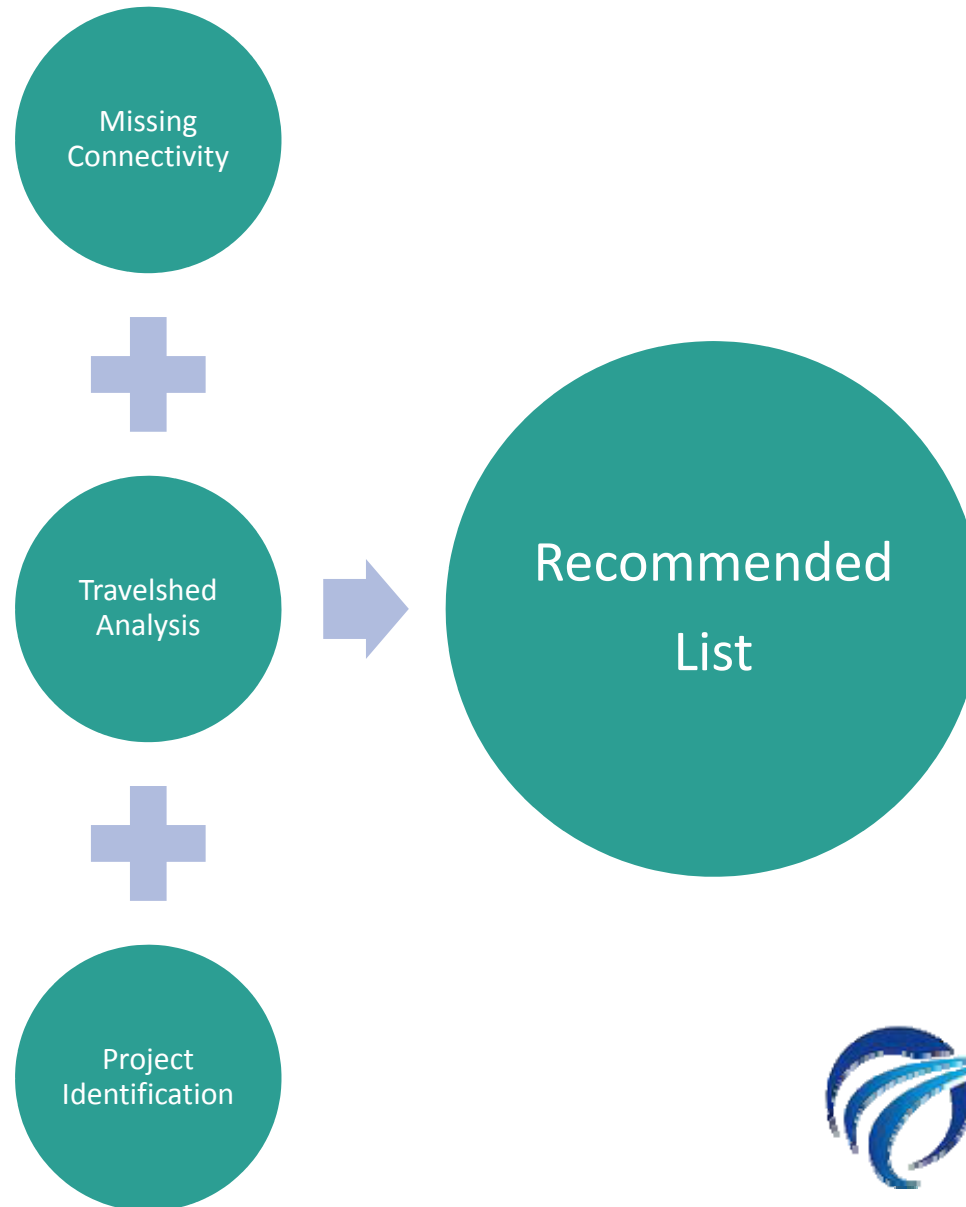
- **Coalinga Regional Medical Center**, 1191 Phelps Ave., Coalinga
- **Harris Ranch Inn & Restaurant/Dorris Avenue Interchange Commercial Center**, Interstate 5 and State Route 198

East areas:

- **Adventist Medical Center**, 372 W. Cypress Ave., Reedley
- **Sanger Walmart Supercenter**, 2761 Jensen Ave., Sanger



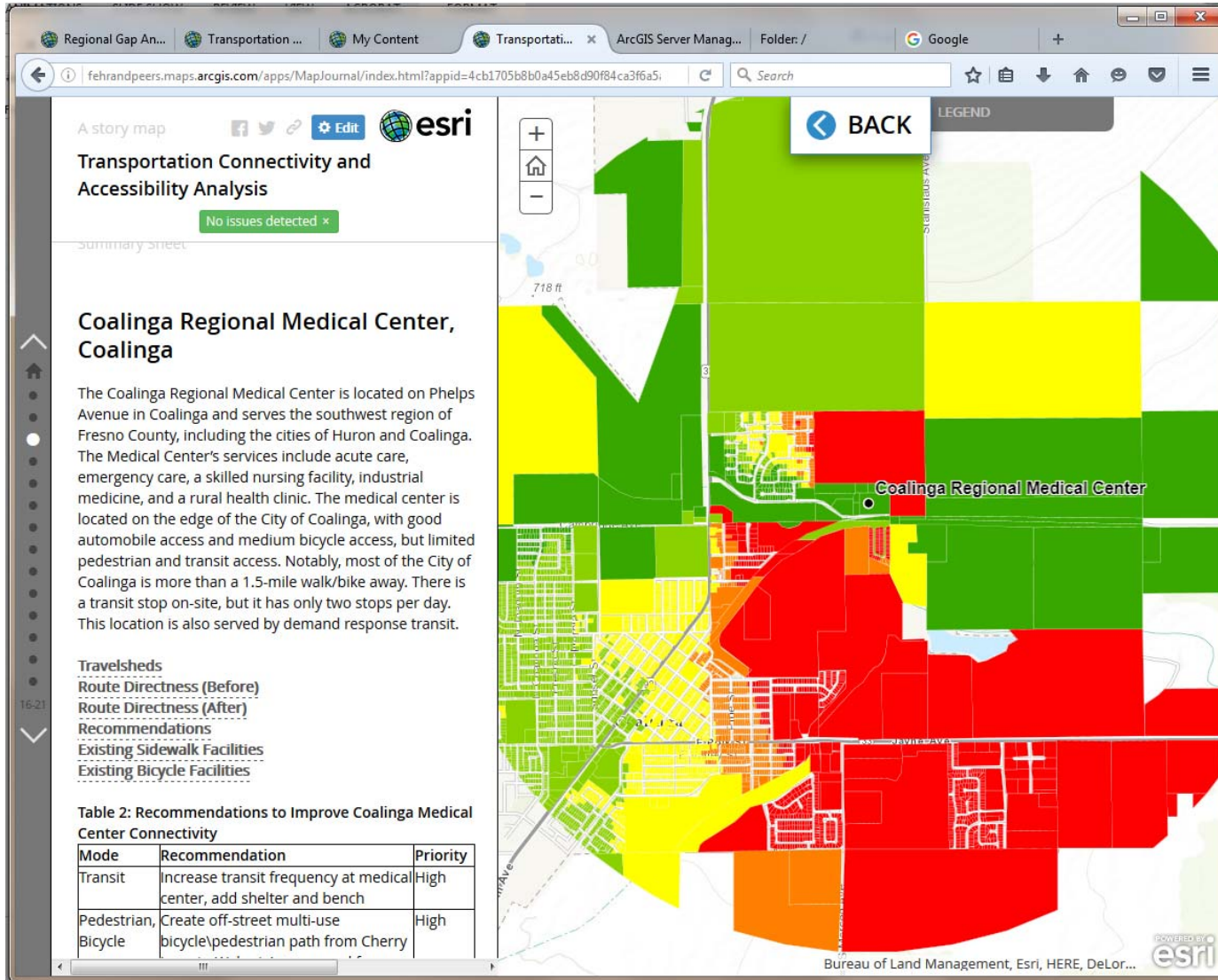
Methodology

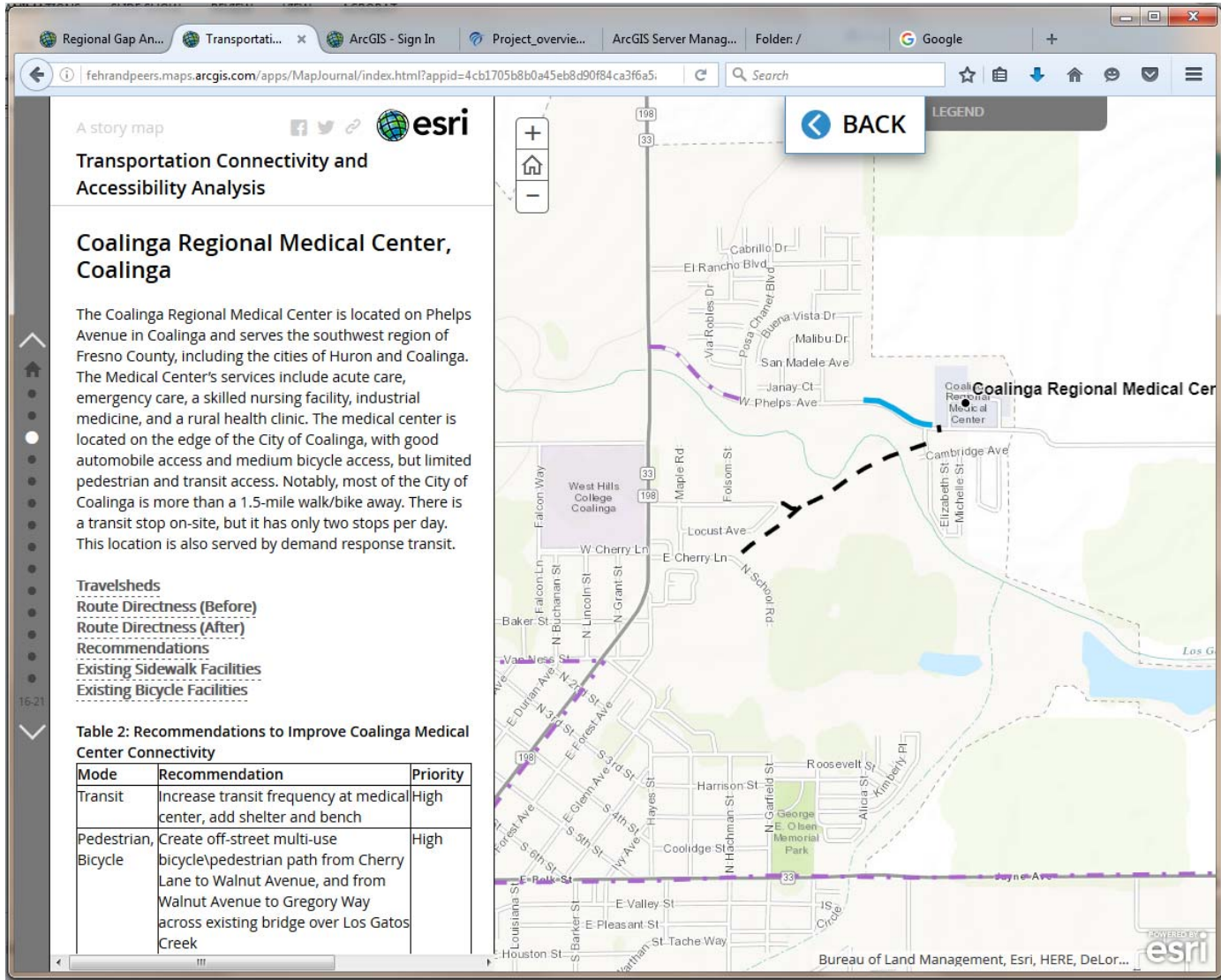


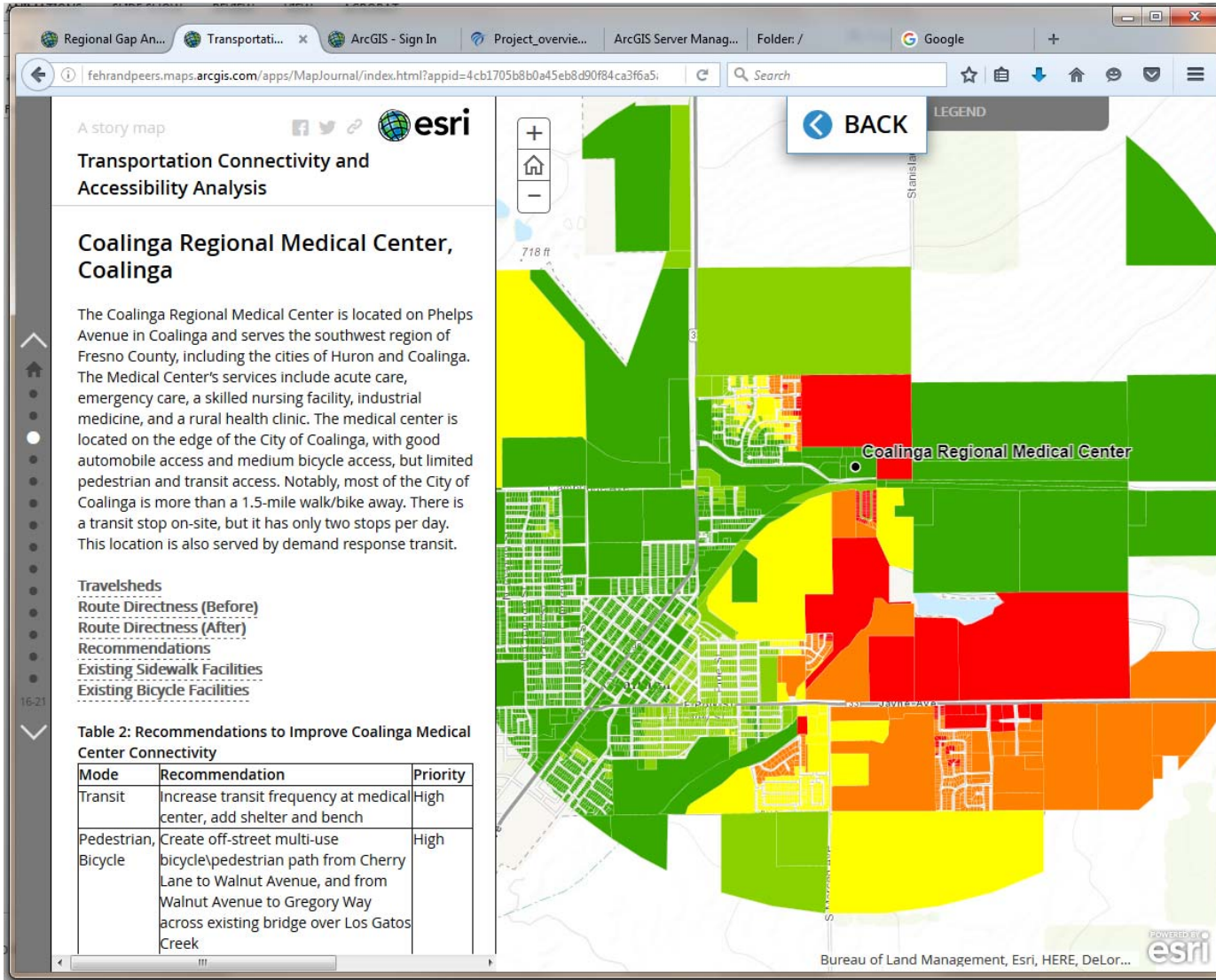
Methodology: Step 1

Missing connectivity and barrier analysis

- Mapped existing connectivity by mode
- Mapped collision locations for pedestrians, bicycles and automobiles
- Evaluated route directness
- Examined the proximity of the hotspot for missing network connections



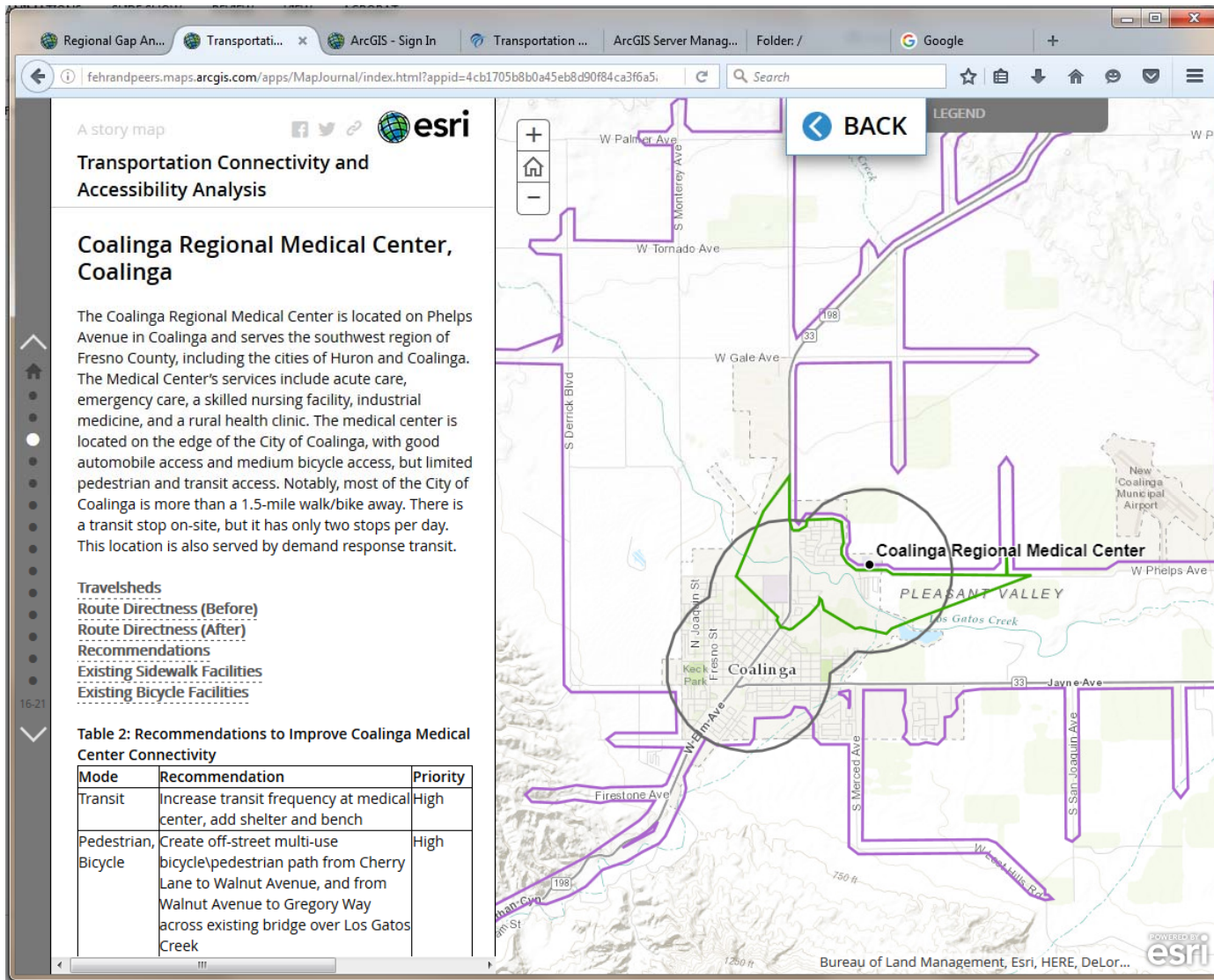


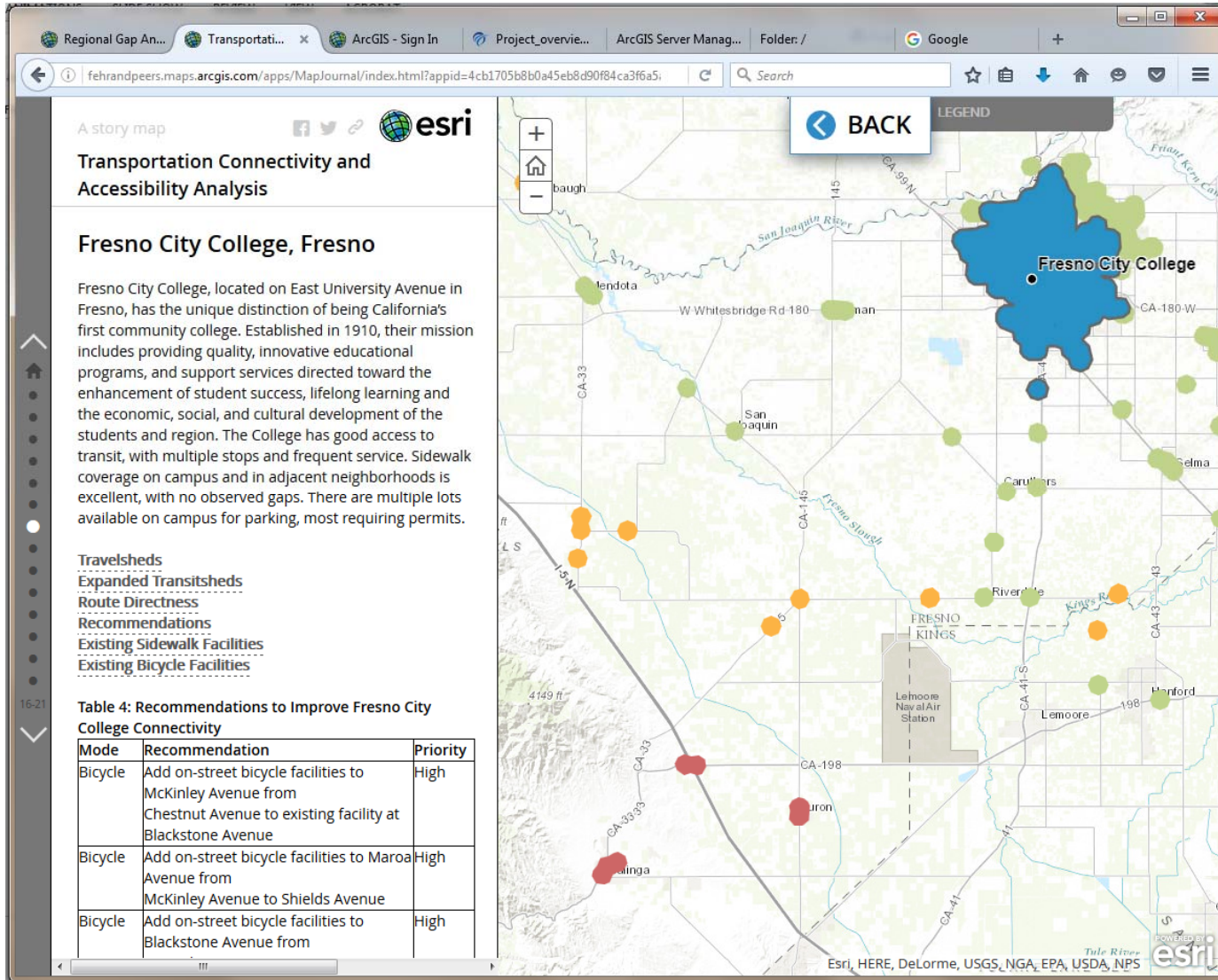


Methodology: Step 2

Travelshed analysis

- Walkshed (1.5 miles)
- Bikeshed (6 Miles)
- Transitshed (1 hour) and – if necessary – regional transitshed (4 hours)

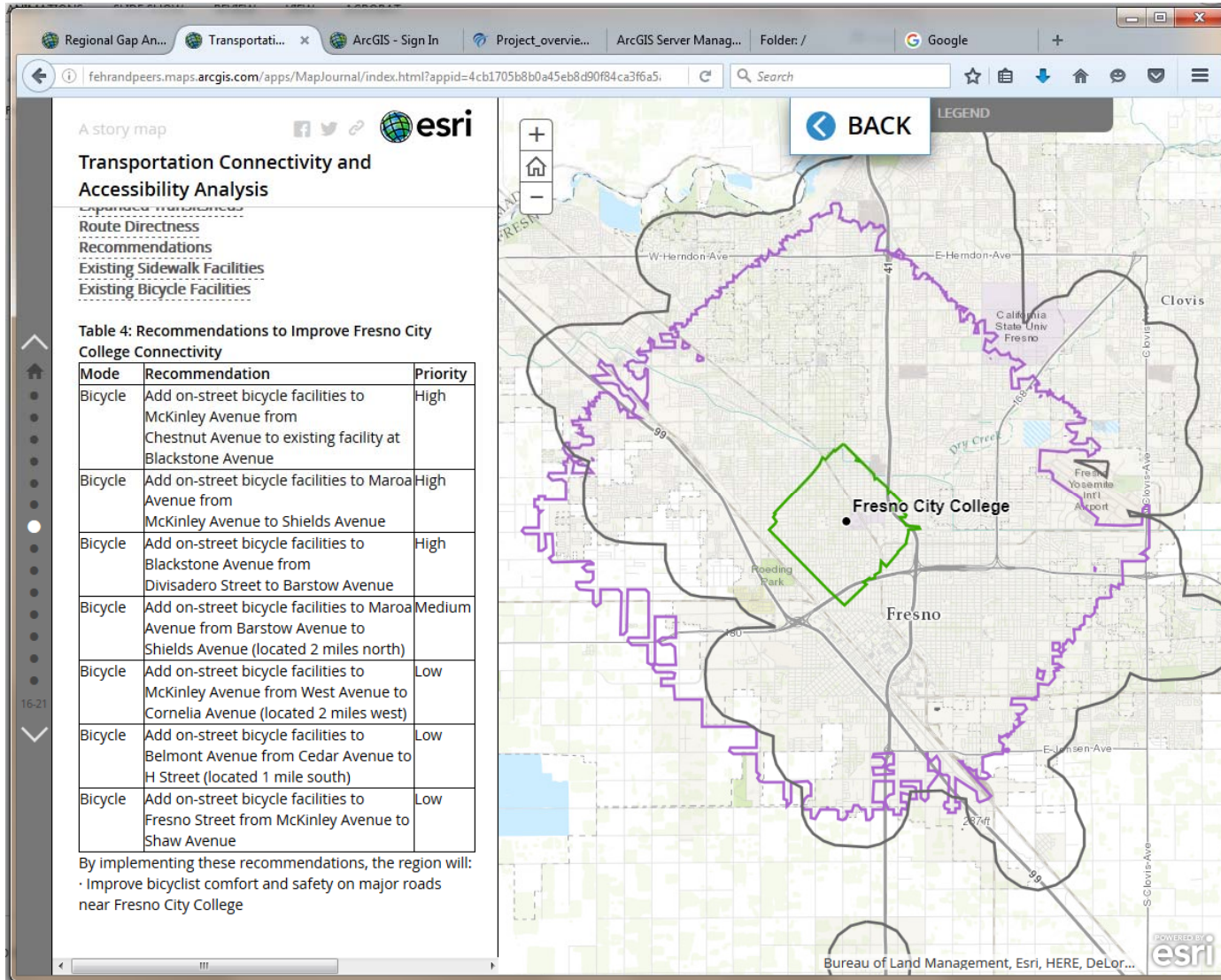




Methodology: Step 3

Project Identification

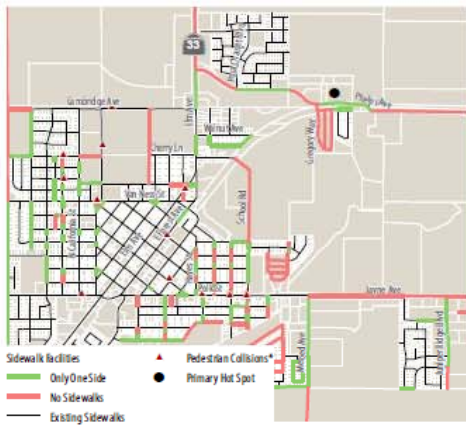
- Recommendations to better serve county residents likely to need access
- Scope did not include a review of full system benefits and costs, further analysis needed to ensure
 - Federal and state ridership thresholds are met
 - Minimum requirement for 10% rural / 20% urban farebox recovery
- Opportunities exist for more detailed system analysis as funding is available for system improvements



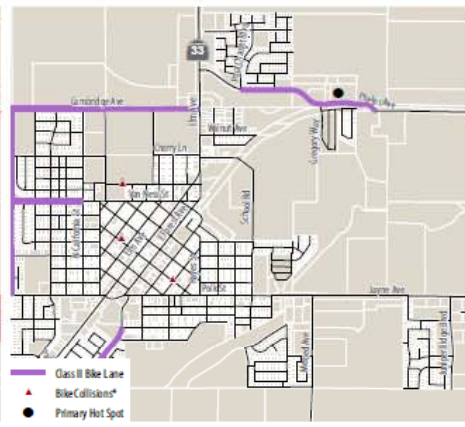


Coalinga Regional Medical Center

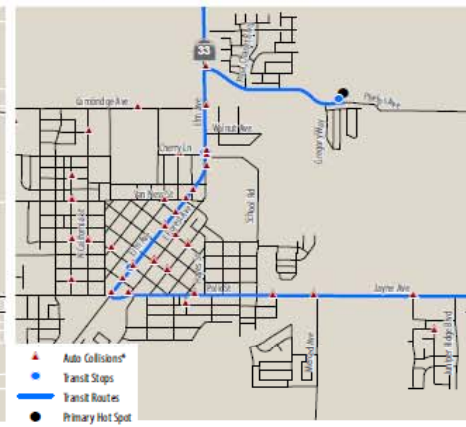
Existing Pedestrian Facilities



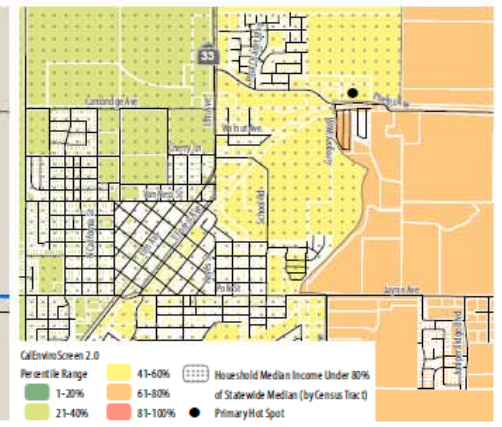
Existing Bike Facilities



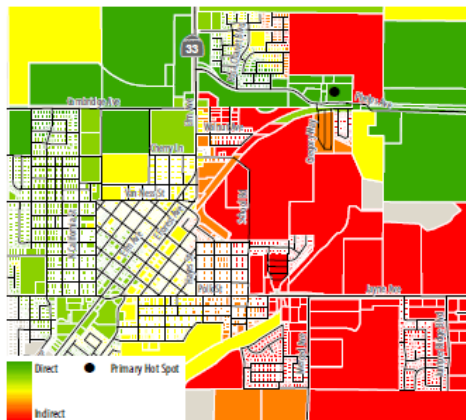
Existing Transit and Auto Facilities



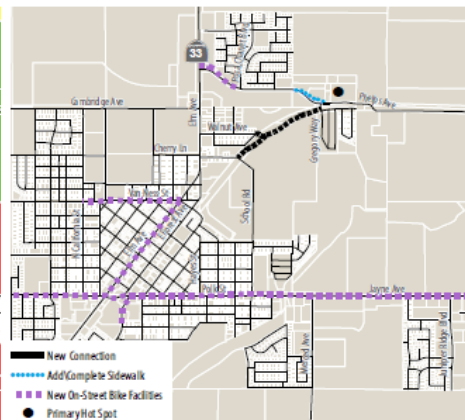
CalEnviroScreen 2.0 Percentile and Low Median Income



Route Directness (Existing Conditions)



Findings and Recommendations



*Collisions shown are from 2008-2012. Priority listed in all caps.

New Bike/Ped Connection:

- Create off-street multi-use bike/ped path from Cherry Ln to Walnut Ave, and from Walnut Ave to Gregory Wy across existing bridge over Los Gatos Creek - **HIGH**
- Add pedestrian crossing at Gregory Wy and Phelps Ave - **HIGH**

Add Complete Sidewalk:

- North side of Phelps Ave from Medical Center property boundary west to existing sidewalk - **HIGH**

New On-Street Bike Facilities:

- Van Ness St from California St to Elm Ave (SR 33) - **HIGH**
- Elm Ave (SR 33) from Polk St to Phelps Ave - **HIGH**
- Phelps Ave from Posa Chanet Blvd to Elm Ave (SR 33) - **MEDIUM**

Auto:

- Polk St from Monterey Ave to Enterprise Pkwy - **LOW**
- Forest Ave from Polk St to Houston St - **MEDIUM**

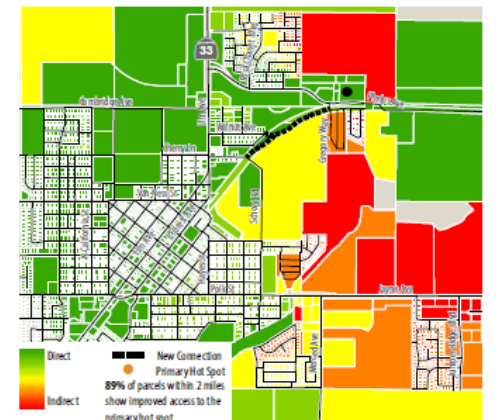
Transit:

- Increase transit frequency at the Medical Center, and add shelter and bench - **HIGH**

Auto:

- Good access to major roadways
- Parking on location an available nearby

Route Directness with Enhancements



Next Steps

With this information.....

- Local Jurisdictions can Identify Funding
 - Active Transportation Program
 - Measure C
 - San Joaquin Valley Air Pollution Control District (SJVAPCD) Bikeway Incentive Program
 - Other Available Programs
- Identify Opportunities for Further Study
- Final Decisions Made by Cities/County

Questions?

<http://www.fresnocog.org/transportation-needs-assessment>

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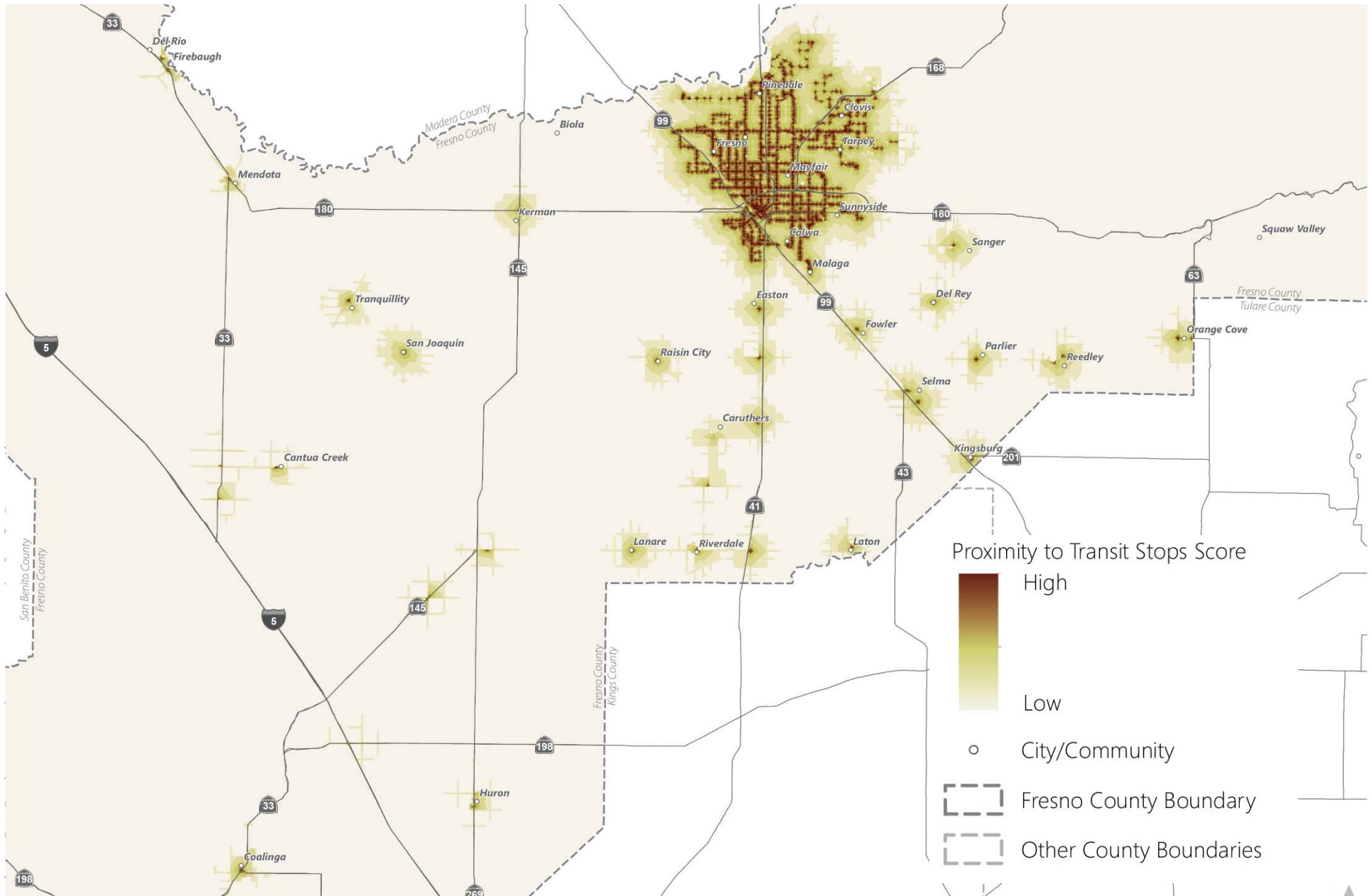


Backup slides

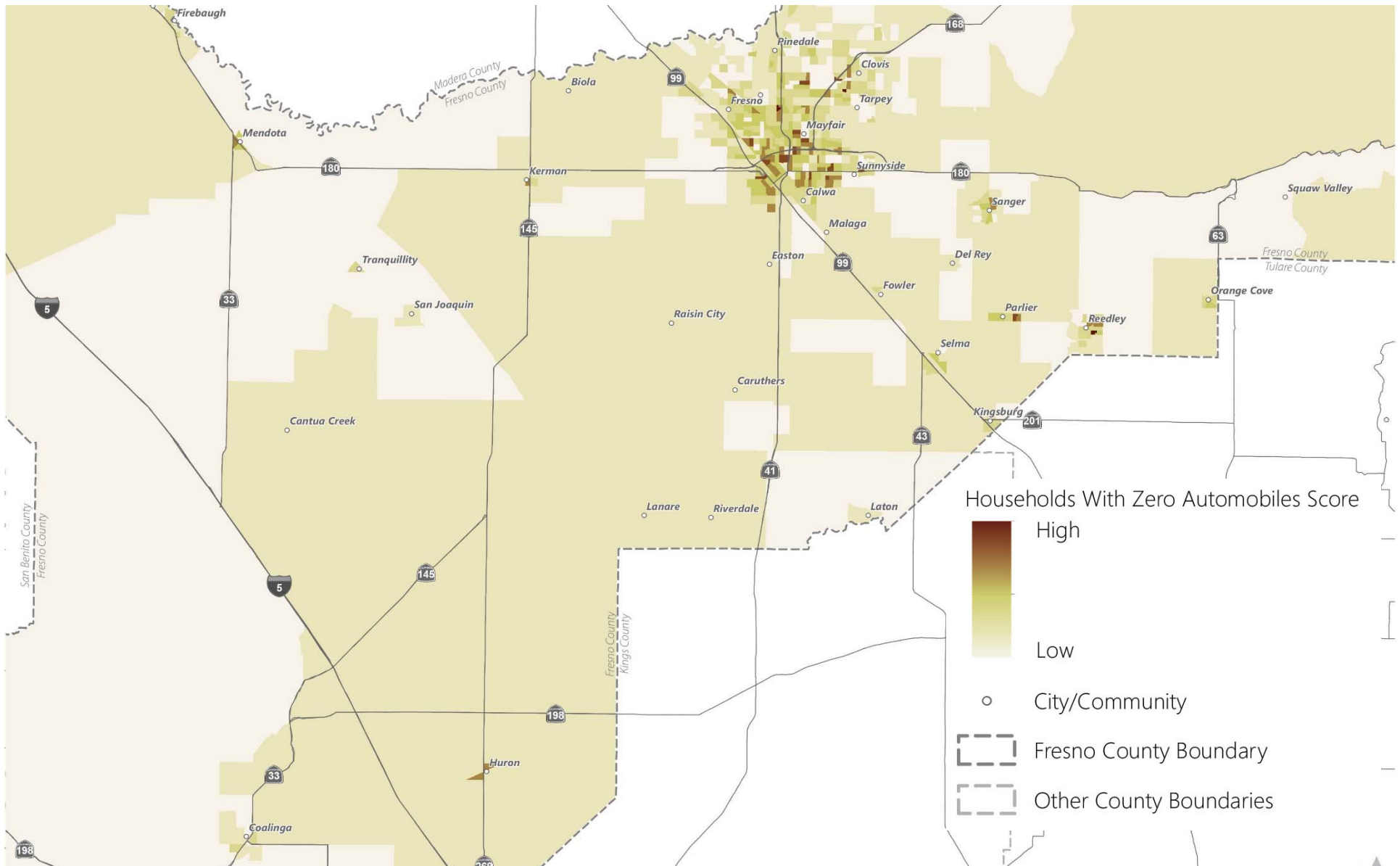
Project Background (KC)

- Needs Assessment program formed in 2014 as part of the implementation of the RTP/SCS
- Two part study:
 - Regional gap analysis
 - Transportation connectivity/accessibility analysis
- Special focus on disadvantaged communities
 - Annual median household income less than 80% of statewide
 - Lowest scoring 25% census tracts per CalEnviroScreen 2.0

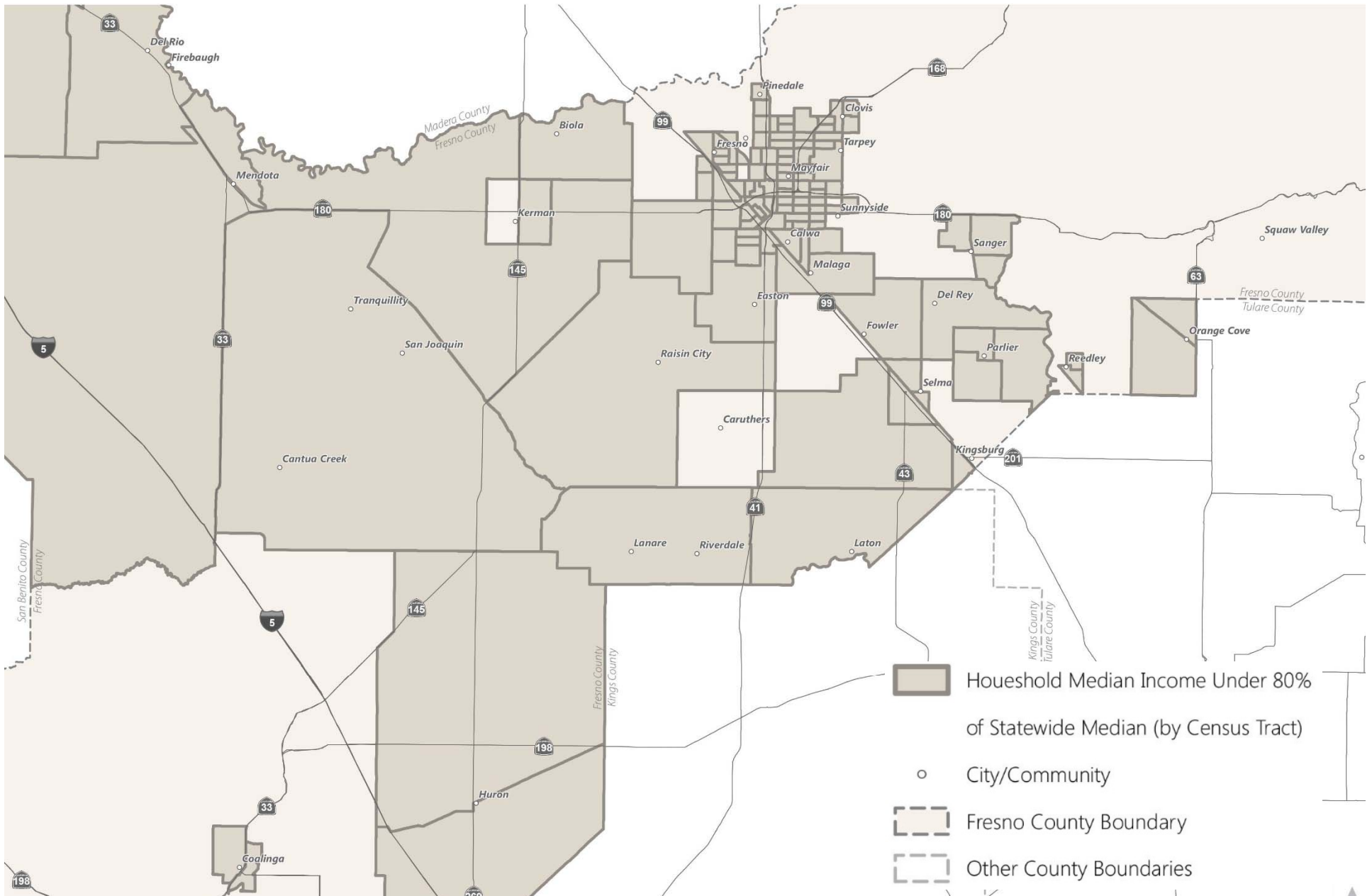
Proximity Factors: Transit Stops



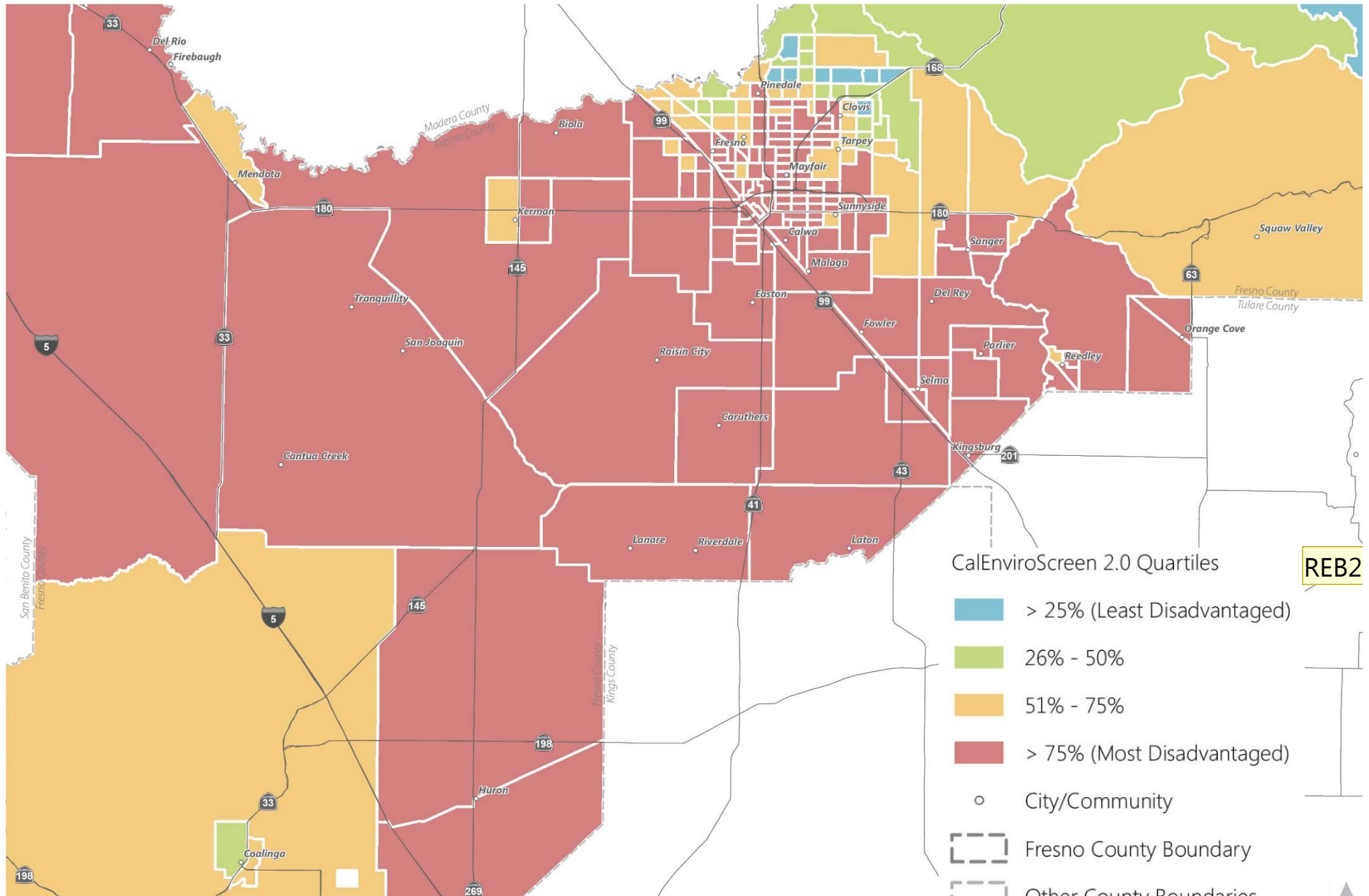
Demographic Factors: Households with Zero Autos



Household Median Income



Cal EnviroScreen 2.0



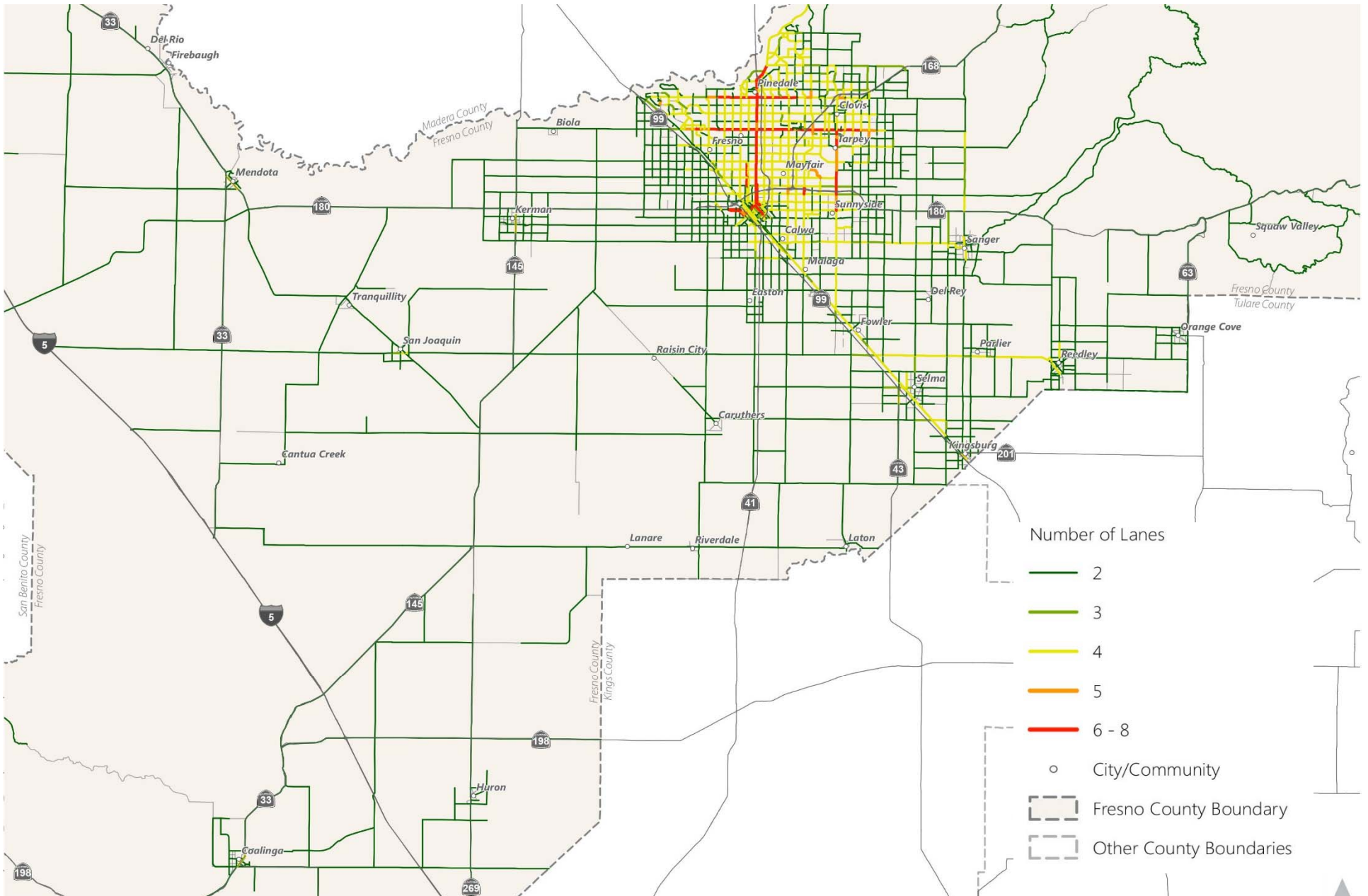
Slide 40

REB2

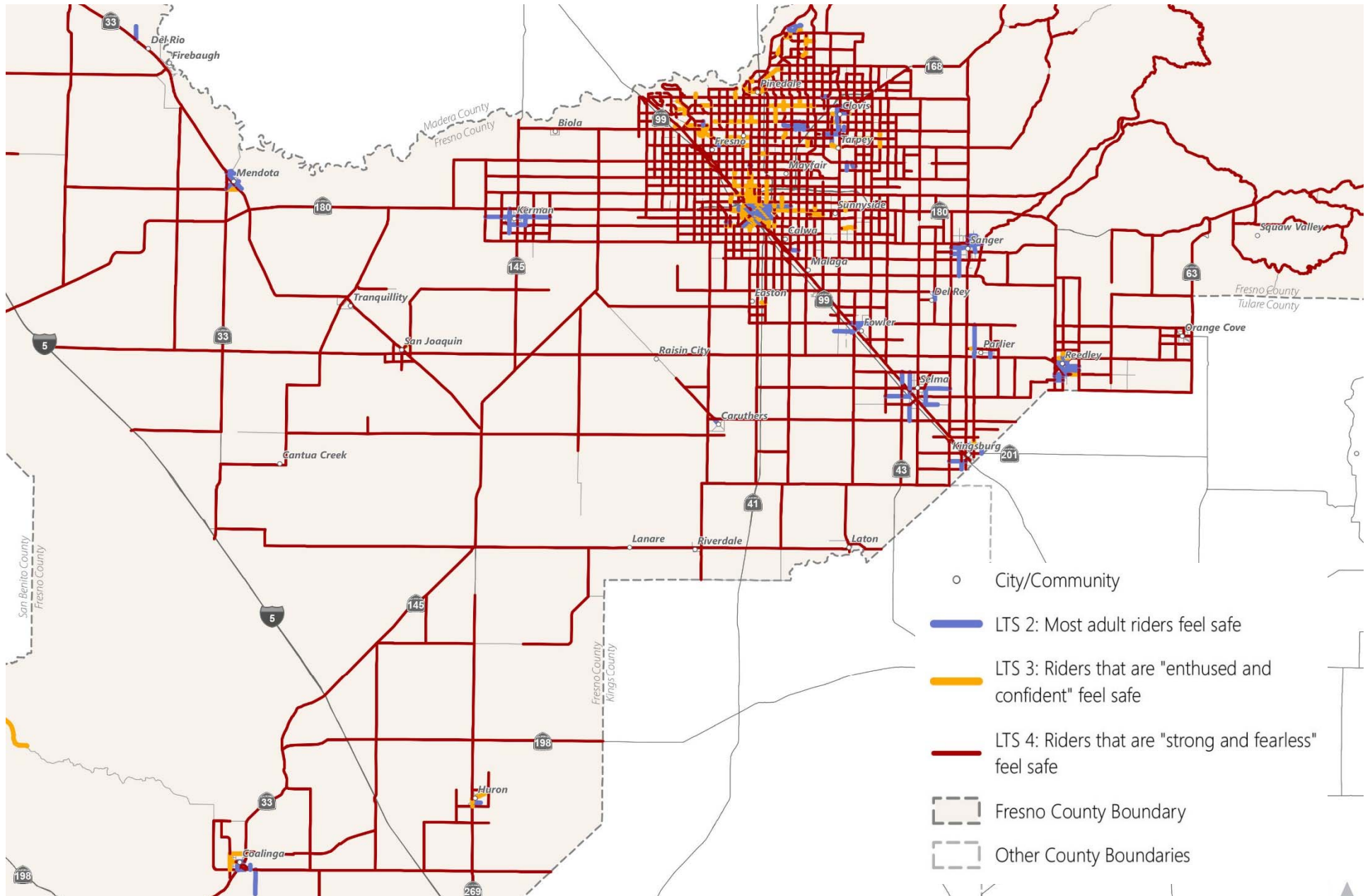
Should be <25%, not >

Rod Brown, 6/2/2016

Other Factors



Other Factors



Questions?

Task 1 (Regional Gap Analysis) story map:

<http://gis.fehrandpeers.com/fresnocogtask1>

Task 2 (Connectivity and Accessibility) story map:

<http://gis.fehrandpeers.com/fresnocogtask2>

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