

Regional Planning Advisory Committee

Balancing a State Designated “Best Practice” Integrated Performance Measures Analysis with an “Exemplary” Public Outreach/Educational Process



Transportation Modeling Committee Oversight

Regional Planning Advisory Committee (RPAC) Members:

3 community at large members
12 Local government planning directors or the designee

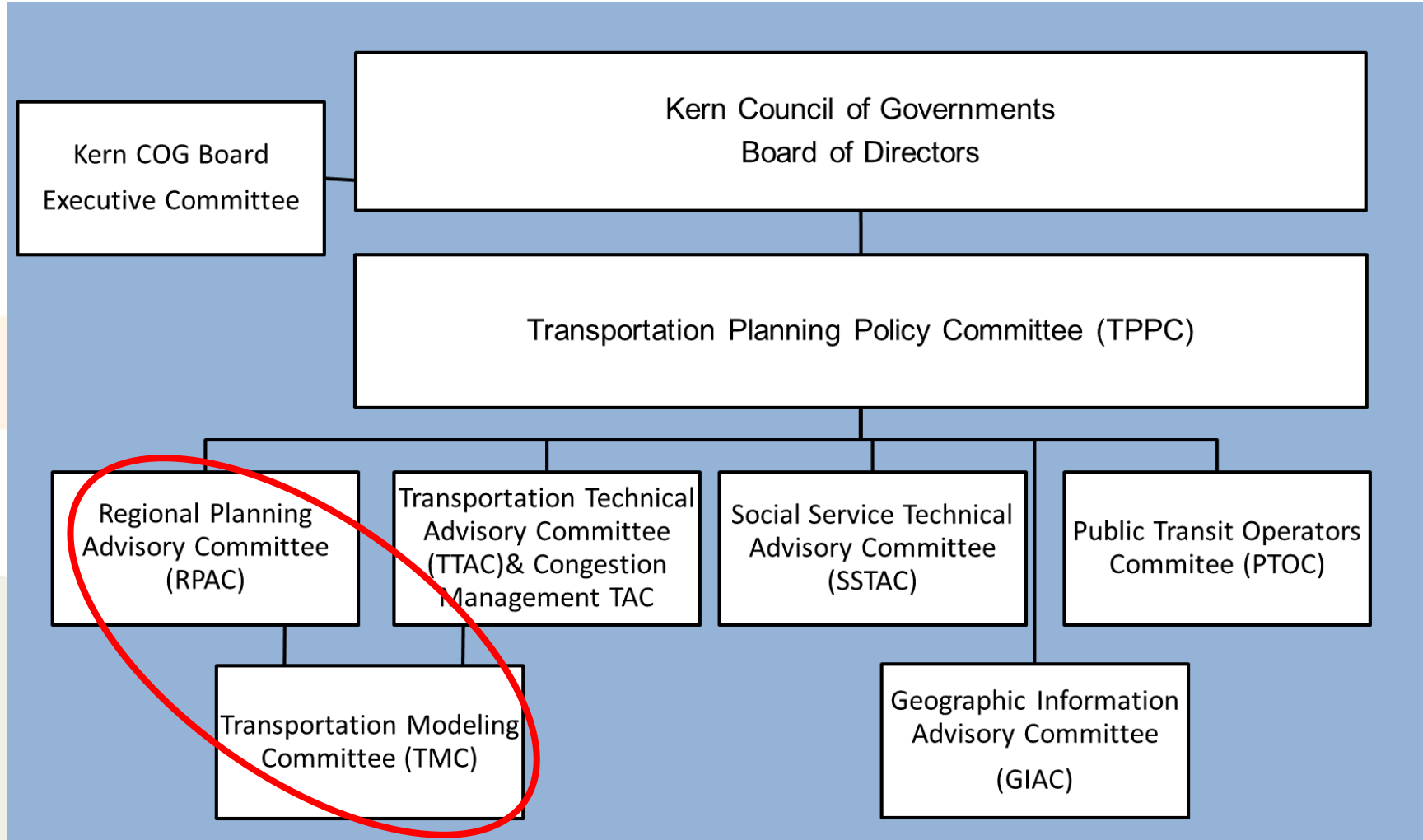
Ex-officio representatives:

Golden Empire Transit
Caltrans
LAFCO
KEDC

Regional Transportation Modeling Committee (TMC) Participants:

Local government public works staff that deal with transportation modeling
(Bakersfield, Kern County, Caltrans)

**RPAC/TMC
usually have
joint meetings**



Public Input: Integrated Performance Measure Analysis

27+ People/Groups Participated in Roundtable Process

Environment and Social Equity Roundtable Participants:

Tejon Tribe, Lamont/Weedpatch Collaborative, North of the River Recreation and Park District, Kern County Department of Public Health, Caltrans, Greater Bakersfield Legal Assistance, First 5 Kern, Bike Bakersfield, Garden Pathways, the Center for Race Poverty and the Environment, California Walks, the Leadership Counsel for Justice and Accountability, Bike Bakersfield, the Delores Huerta Foundation, Kern County Black Chamber of Commerce, City of Bakersfield, GET Bus, Sequoia Riverland Trust, others...

Business & Industry Roundtable:

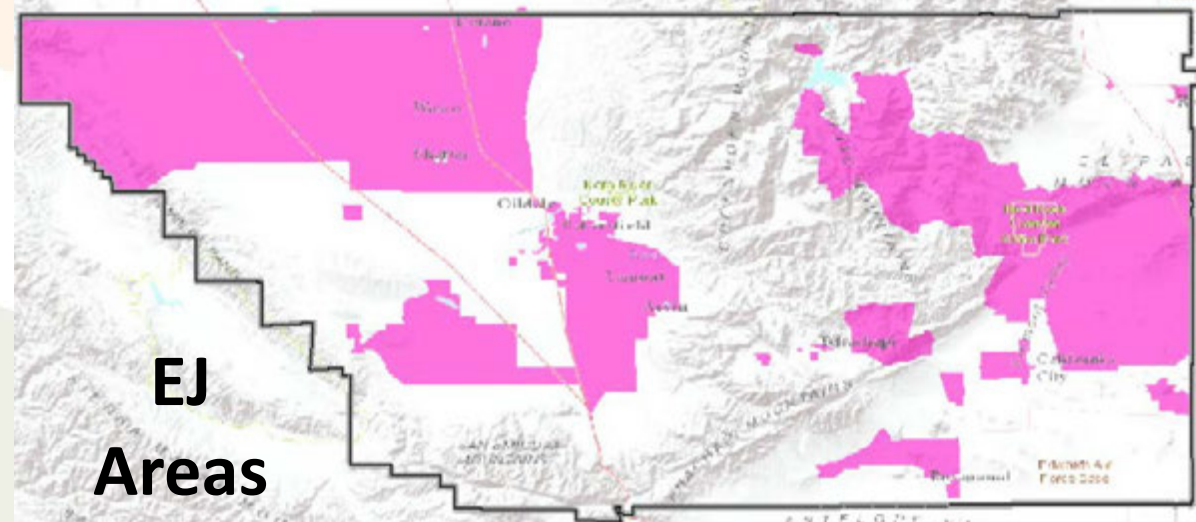
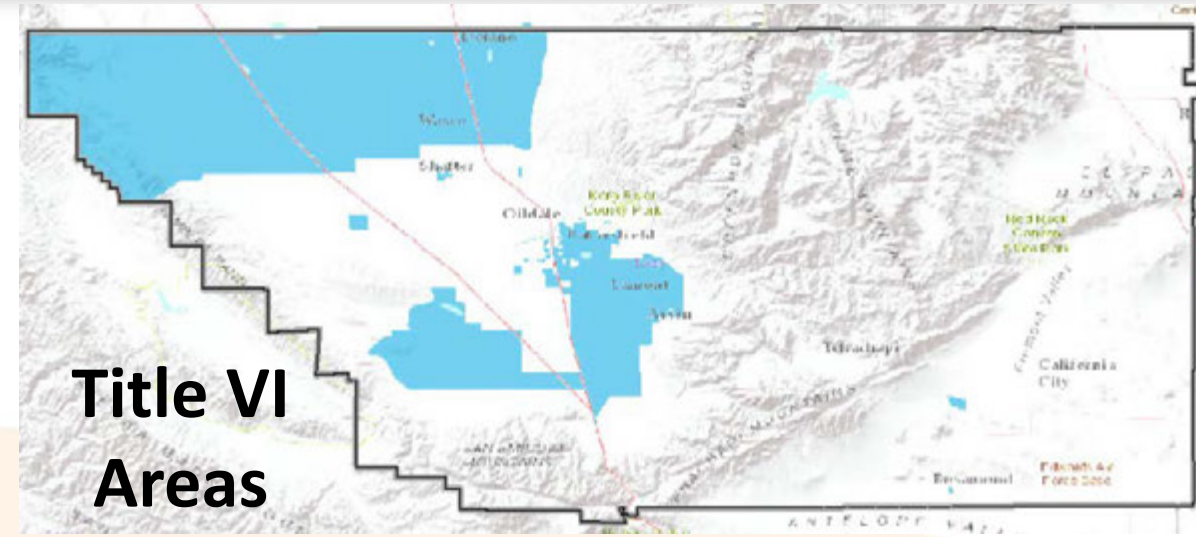
California Trucking Association, Frito Lay, Tejon Ranch, City of Bakersfield, Fehr & Peers, Cambridge Systematics, Tioga, Larry Pickett Public Relations, others...

- Dec. 2015 – Environ. & Social Equity Roundtable
- Mar. 2016 – Environ. & Social Equity Roundtable
- May. 2016 – Report to RPAC and COG Board on EJ Recommended Methodology Change
- Jul. 2016 – Business & Industry Roundtable
- Aug. 2017 – Combined E&S/B&I Roundtable
- Sept. 2017 – Update to RPAC and COG Board on addition of new Federal Required Safety Performance Measure

Kern COG is the ONLY MPO listed in the 2010 RTP Guidelines adopted by the State as a “Best Practice” for Environmental Justice Analysis

Federal Performance Measure Analysis Areas Revised Using U.S. EPA EJ Screen Tool and 2016 Census Data

- o **Title VI – Predominantly Minority Areas** – Title VI, 42 U.S.C. § 2000d et seq. 1964 Civil Rights Act. No person, on the grounds of race, color, or national origin, is excluded from participation in, denied the benefits of, or subjected to discrimination under any program or activity receiving Federal financial assistance.
- o **Environmental Justice (EJ) – Predominantly Minority and/or Low Income Areas** – Executive Order 12898 issued by President Clinton in 1994. Its purpose is to focus attention on the environmental and human health effects of federal actions on minority and low-income populations ONLY with the goal of achieving environmental protection for all communities.



Balancing Environmental Justice Analysis with Meaningful Opportunities for Public Involvement



Federal Environmental Justice (EJ)

- o Executive Order 12898 issued by President Clinton in 1994, **in 2012, U.S. DOT Order 5610.2(a), clarified EJ procedures for federal transportation planning processes.**
- o EJ principles are to be considered throughout planning and decision-making process
- o **EJ Procedures shall provide meaningful opportunities for public involvement** during the planning and development of programs, policies, and activities, including potential effects, alternatives, and mitigation measures.

Over 6,000 Participated in Meaningful Opportunities for Public Involvement with Appropriate Translation Services



Over 100 Public Outreach Opportunities Over Past 4-Years*

- 1 Website, 600 Played an Interactive Survey Game Tool
- 4 Annual Phone/Text Surveys – over-sampled in outlying areas
- 25 Public Regional Planning Advisory Committee meetings
- 24 City Council and Board of Supervisor Presentations
- 23 Festivals, Fairs, Farmer's Markets and Other Events
- 17 Stakeholder Hosted Mini-Grant Workshops
- 9 Active Transportation Workshop Walk Audits
- 5 Environment/Social Equity; Business/Ind. Roundtable Mtgs.
- 3 Publicly Advertised Hearings in Ridgecrest, Arvin, Bakersfield
- 1 Co-Presentation with the Tejon Tribe in Lamont

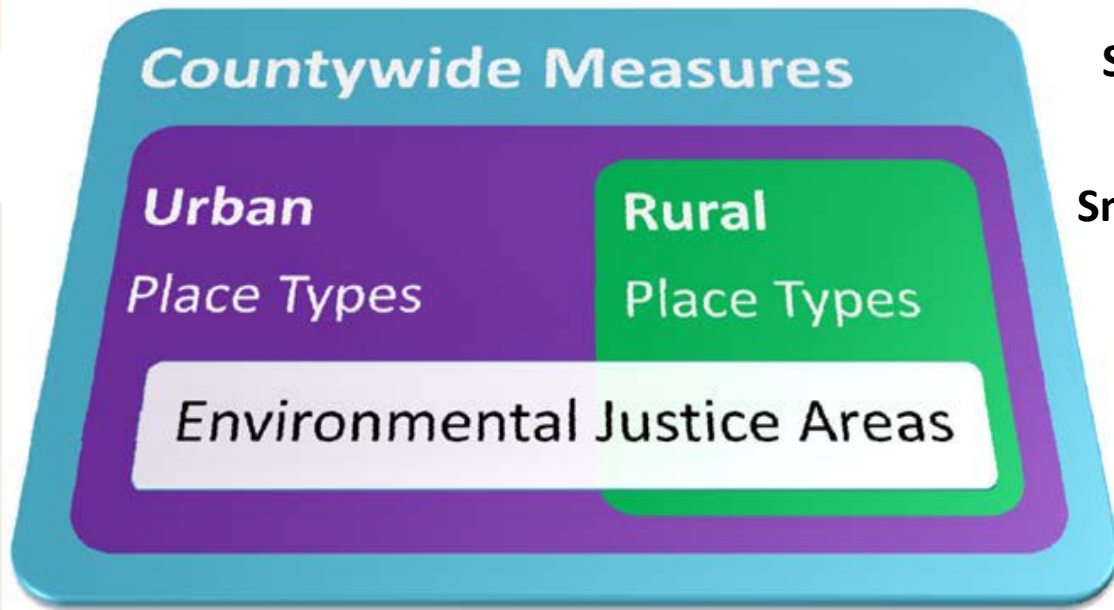
Kern is the ONLY Small/Medium MPO listed in 2017 State RTP Guidelines as an **“Exemplary Planning Practice”** For Educational Outreach. <http://www.dot.ca.gov/hq/tpp/offices/orip/rtp/docs/2017RTPGuidelinesforMPOs.pdf>

EJ Analysis Got a Little More Complicated This Time

Federally Requested Changes to EJ Performance Measures Process

- Added performance measure tables for Federal Title VI “Minority Areas Only”
- Added performance measures for Health Equity and Safety
- Increased Total Performance Measures by more than 40% over the 2014 RTP

2014 RTP



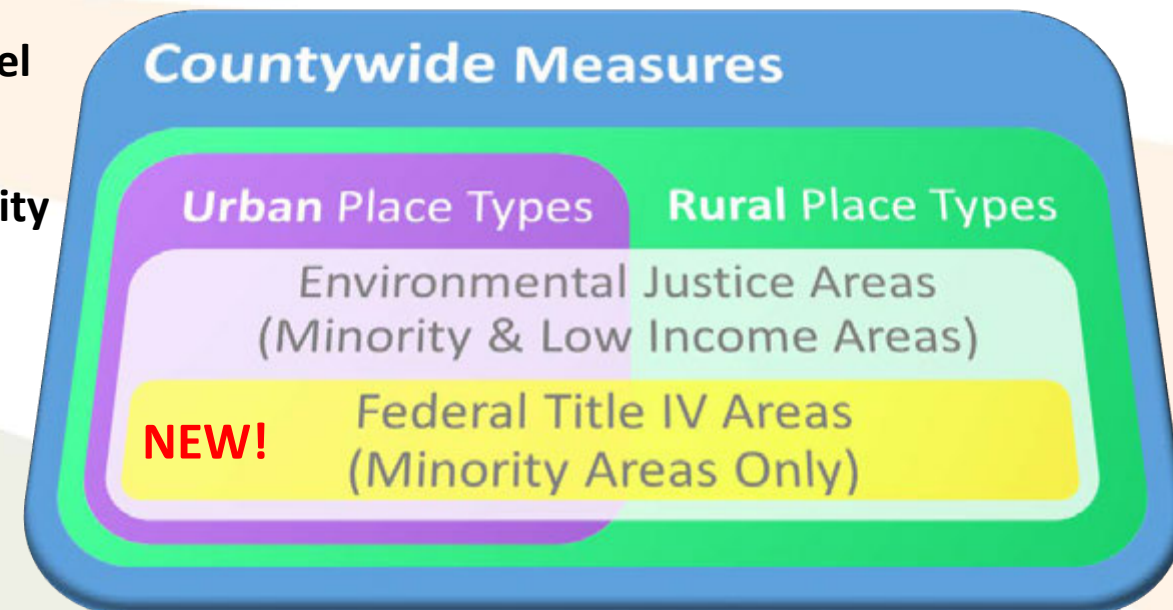
System Level

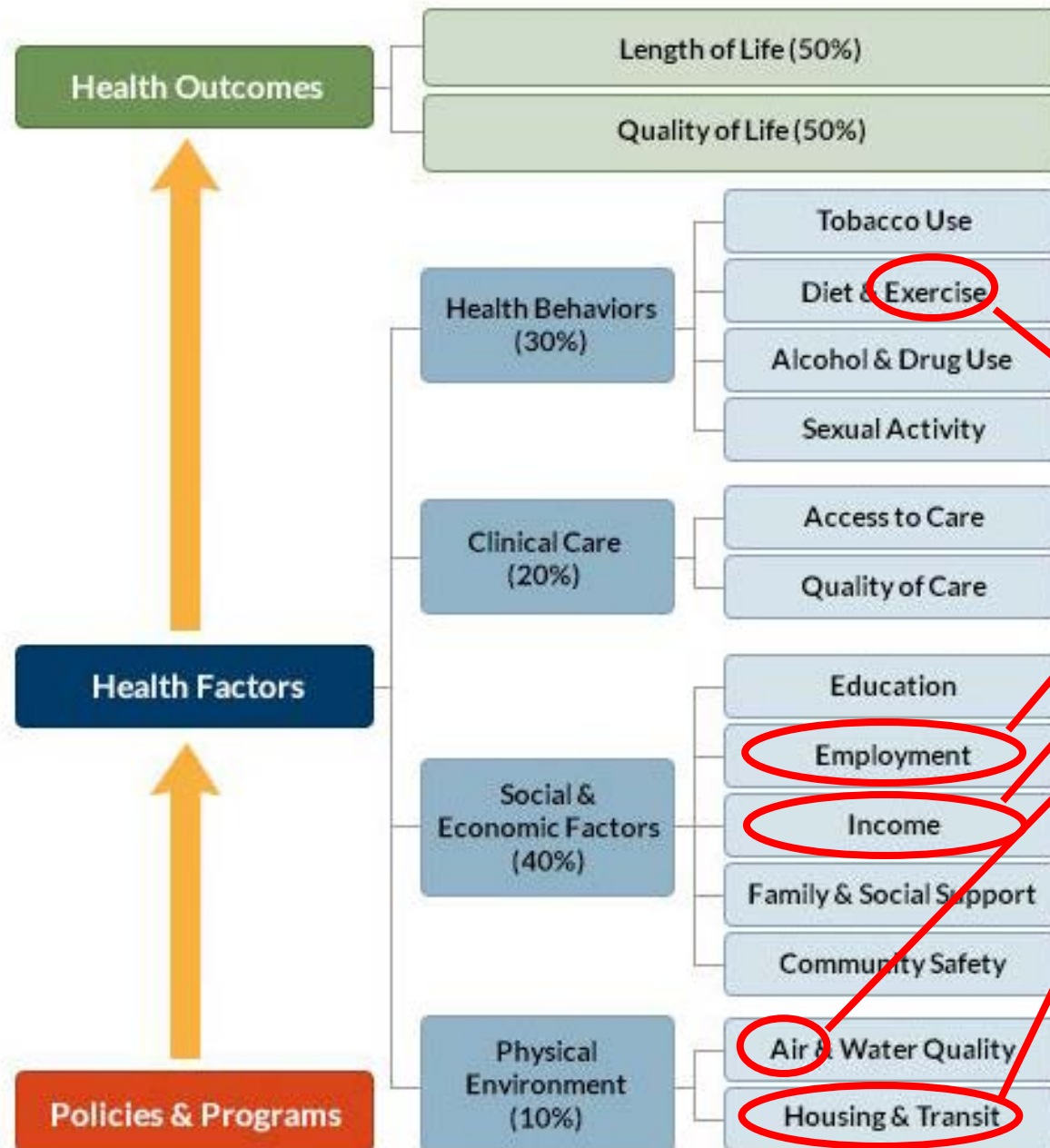
Smart Mobility

EJ

Title VI

2018 RTP





State Goal: Consider Health In All Policies

San Joaquin Valley Counties Health Ranking Consistently at or Near State's Worst Since 2010

Transportation Related Factors affect less than 30% of the region's health ranking:

- 4% - Exercise (walking, biking)
- **8% - Employment (economic growth)**
- **8% - Income (economic growth)**
- 2.5% - Air (vehicle emissions)
- 5% - Housing & Transit (job access, walking)

More than half of the Transportation Related Factors are **economic growth** related.

Source:

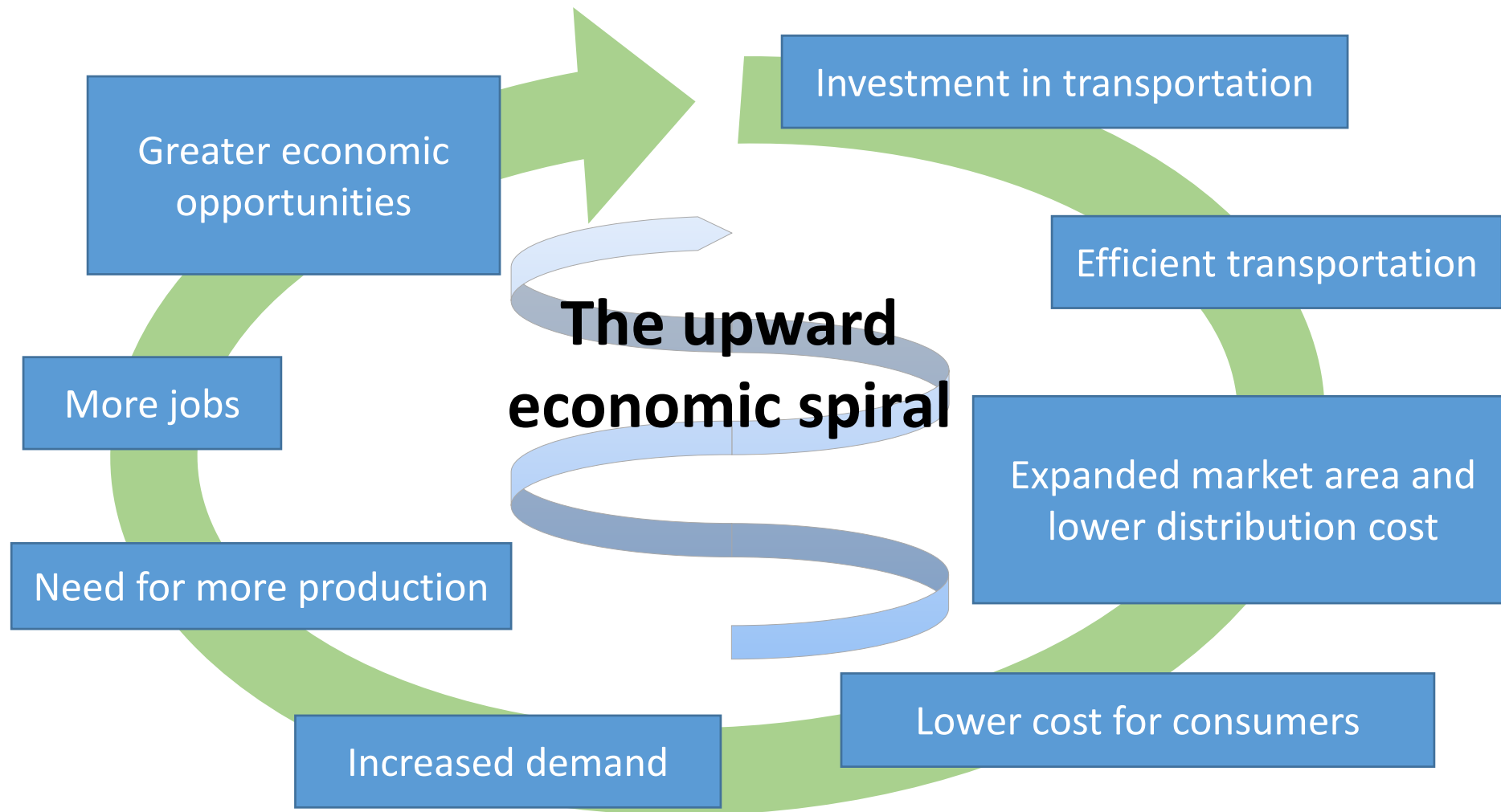
County Health
Rankings & Roadmaps

Building a Culture of Health, County by County

A Robert Wood Johnson Foundation program

<http://www.countyhealthrankings.org/explore-health-rankings/our-methods>

Why a Well Funded Transportation System Drives the Economy, Jobs and Health Equity



RTP Measures Correspond to RTP Goals

7 out of 10 Measures have a Health Equity Component



1. **Mobility/Health Equity** (transit) – Improve the mobility of people and freight;
2. **Accessibility/Economic Being/Health Equity** (transit) – Improve accessibility to, and the economic well being of, major employment and other regional activity centers;
3. **Efficiency/Cost Effectiveness/Health Equity** (transit) – Maximize the efficiency and cost effectiveness of the existing and future transportation system;
4. **Livability/Customer Satisfaction** – Promote livable communities and satisfaction of consumers with the transportation system;
5. **Environment/Health Equity** – Improve Local and Regional Air Quality
6. **Sustainability/Preservation** – Provide for preservation and expansion of the system while minimizing effects on the environment;
7. **Equity/Health Equity** (transit) – Ensure an equitable distribution of the benefits among various demographic and user groups.
8. **Land Consumption/Health Equity** – Promote walking and biking through more compact development options
9. **Health Equity** – Promote Health Care Cost Savings
10. **Reliability/Safety/Health Equity** – Improve the reliability and safety of the transportation system;

3 New Federal Performance Measures (PM)

Now Required

- PM-1 (Safety) Approved by RPAC/COG Board in February 2018 and included in the Draft RTP

Coming Soon (November 16, 2018)

- PM-2 (Pavement and Bridge Condition)
- PM-3 (System Performance, Freight, CMAQ)

Requires Annual Reporting

Integrated Performance Measure **Results** Summary

- 93% of the Measures Met the Targets
- 2 of the Measures Partially Met Targets
- **Partial** Target Attainment Indicates Area to Watch in Future RTP Cycles
- **Performance Measures Indicate the RTP is Generally Headed in the Right Direction!**



Table D-3: Performance Measure Analysis Summary by RTP Goals for System Level, Smart Mobility Framework, Health Equity, and Environmental Justice and Title VI Areas

Table No. (Apdx. D)	RTP Goal/Performance Measure (PM) Category	Smart Mobility Geographic Coverage Place type(PT)	Performance Measure Description	Performance Measure Target/Test	Target Met? (Yes/No/Partial)
D-4	Mobility / health equity (transit)	Urban, rural, countywide PT	Average Travel Time – Peak Highway Trips	Improvement over No Project Baseline	Yes
D-5			Average Travel Time – Peak Transit Trips	Improvement over No Project Baseline	Yes
D-6	Accessibility / economic well-being / health equity (transit)	Urban, rural, countywide PT	Average Travel Time to Job Centers – Highway Trips	Improvement over No Project Baseline	Yes
D-7			Average Travel Time to Job Centers – Transit Trips	Improvement over No Project Baseline	Yes
D-8	Efficiency / cost effectiveness / health equity (transit)	Urban, rural, countywide PT	Average Daily Investment per Passenger Mile Traveled – Highways	Improvement over Countywide Average	Yes
D-9			Average Daily Investment per Passenger Mile Traveled – Transit	Improvement over Countywide Average	Partial
D-10	Livability / customer satisfaction	Urban, rural, countywide PT	Average Trip Delay Time in Hours	Improvement over Countywide Average	Partial
D-11	Environment / health equity	3 Air Basins	% Change NOx/PM by air basin	Improvement over Base Year	Yes
D-12		Urban, rural, countywide PT	% Change in Households within 500 feet of Roadway Volumes > 50,000	Improvement over Base Year	Yes
D-13	Sustainability / preservation	Countywide PT	Percentage Change in Maintenance Dollars Per Lane Mile	Improvement over Base Year	Yes
D-14	Equity / health equity (transit)	Urban, rural, countywide PT	% of Expenditures versus Passenger Miles Traveled in 2035 – Highways	Improvement over Countywide Average	Yes
D-15			% of Expenditures versus Passenger Miles Traveled in 2035 – Transit	Improvement over Countywide Average	Yes
D-16	Land Consumption / health equity	Countywide PT	% change in Farmland consumed outside City Spheres of Influence	Improvement over Historic Baseline	Yes
D-17	Health equity	Countywide PT	Health Cost Savings	Improvement over No Project Baseline	Yes
D-18	Reliability / congestion	Urban, countywide PT	Average Level of Congestion in Hours	Improvement over Base Year	Yes
D-19	Reliability / safety / health equity	Urban, rural, countywide PT	Annualized Accident Statistics for Annual Average Daily Traffic	Improvement over Countywide Average	Yes
D-20	Federal PM-1 Safety/health equity	Countywide PT	Forecast of Accidents for Vehicles, Bicycles and Pedestrians	Improvement over 5 year running base	Yes

*Note: Due to data limitations Environmental Justice/Title VI areas were not able to be analyzed for performance measures D-11, D-13, D-16, D-17 and D-20.

Integrated Performance Measure Results (1 of 17 Result Tables)

MOBILITY (Average Travel Time) – All Targets Met!

Table D-4a: Average Travel Time – Peak Highway Trips (in minutes)

Place Type	2015	2042 Build	2042 No Build
Urban/Metro	13.56	14.53	14.93
Rural Areas	24.15	All TAZs 24.54	24.77
Countywide	16.42	17.7	18.05

- Travel times get worse in 2042 but No Build is Worse than Build.

Table D-4b: EJ TAZs Average Travel Time – Peak Highway Trips (in minutes)

Place Type	2015	2042 Build	2042 No Build
Urban/Metro	13.71	14.49	14.15
Rural Areas	22.88	EJ TAZs 21.42	21.61
Countywide	16.24	16.95	15.04

- EJ (Table D-4b)
Rural Areas fare better than All EJ Rural Areas

Table D-4c: Title VI TAZs Average Travel Time – Peak Highway Trips (in minutes)

Place Type	2015	2042 Build	2042 No Build
Urban/Metro	13.91	14.63	14.74
Rural Areas	23.62	T-VI TAZs 22.06	22.09
Countywide	16.22	16.68	16.75

- T-VI (Table D-4c)
Rural Areas fare better than All EJ Rural Areas



Integrated Performance Measure Results

Efficiency/Cost Effectiveness (Transit): Slight Issue in Rural Areas

- Investment Per Passenger Mile gets worse in 2042 for Rural Areas only
- However, Subsidies are 30% Less in Rural Areas by Law and Expenditures are more efficient /mile because of long hauls.
- EJ (Table D-9b) Rural Areas fare better than All Rural Areas
- T-VI (Table D-9c) Rural Areas fare better than All Rural Areas

Table D-9a: Average Daily Investment per Passenger Mile Traveled – Transit⁹

Place Type	2042
Urban/Metro	.32
Rural Areas	All TAZs .27
Countywide	.32

Table D-9b: EJ TAZs Average Daily Investment per Passenger Mile Traveled – Transit

Place Type	2042
Urban/Metro	.43
Rural Areas	EJ TAZs .20
Countywide	.38

Table D-9c: Title VI TAZs Average Daily Investment per Passenger Mile Traveled – Transit

Place Type	2042
Urban/Metro	.49
Rural Areas	T-VI TAZs .13
Countywide	.40



Integrated Performance Measure Results Summary

LIVABILITY (Trip Delay): Slight Issue in EJ Urban Area

Table D-10a: Average Vehicle Delay Time in Hours

- Vehicle delay gets slightly worse in Urban EJ Areas

- Probably due to increased infill

- EJ (Table D-10b) All Urban Areas fare slightly better than EJ Urban Areas

- T-VI (Table D-10c) Urban Areas fare better than All Urban Areas

Place Type	Delay Hours 2015	Delay Hours 2042	Total Hours 2042	Percentage Delayed
Urban/Metro	20,150	40,595	448,359	All TAZs 9
Rural Areas	7,147	21,343	454,698	5
Countywide	27,353	62,099	905,292	7

Table D-10b: EJ TAZs Average Vehicle Delay Time in Hours

Place Type	Delay Hours 2015	Delay Hours 2042	Total Hours 2042	Percentage Delayed
Urban/Metro	10,419	21,186	222,907	EJ TAZs 10
Rural Areas	4,042	12,171	252,016	5
Countywide	14,474	33,390	476,722	7

Table D-10c: Title VI Average Vehicle Delay Time in Hours

Place Type	Delay Hours 2015	Delay Hours 2042	Total Hours 2042	Percentage Delayed
Urban/Metro	7,326	13,304	163,916	T-VI TAZs 8
Rural Areas	2,626	6,773	155,387	4
Countywide	9,959	20,095	320,284	6



New Federal **Safety** Performance Measures (PM)

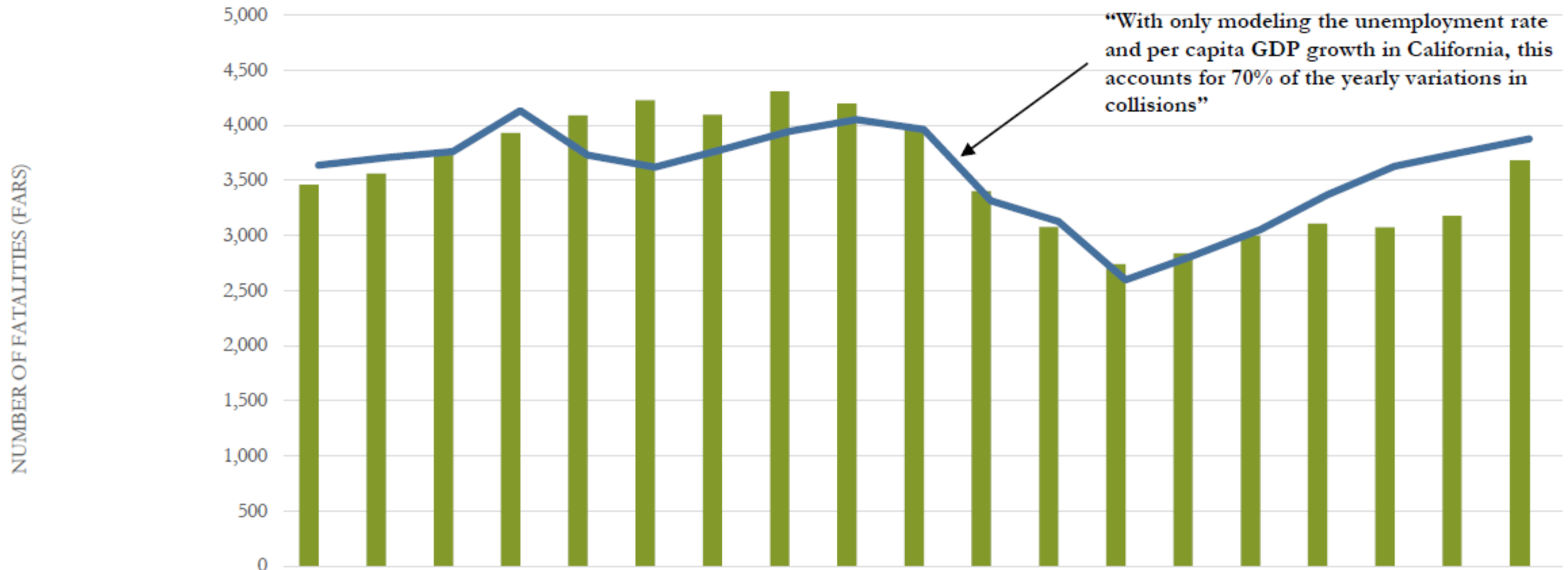
Now Required

- PM-1 (Safety) Approved by RPAC/COG Board in February 2018 and included in the Draft RTP

New Federal Safety Performance Measure – Uses Historic Trends

Statewide

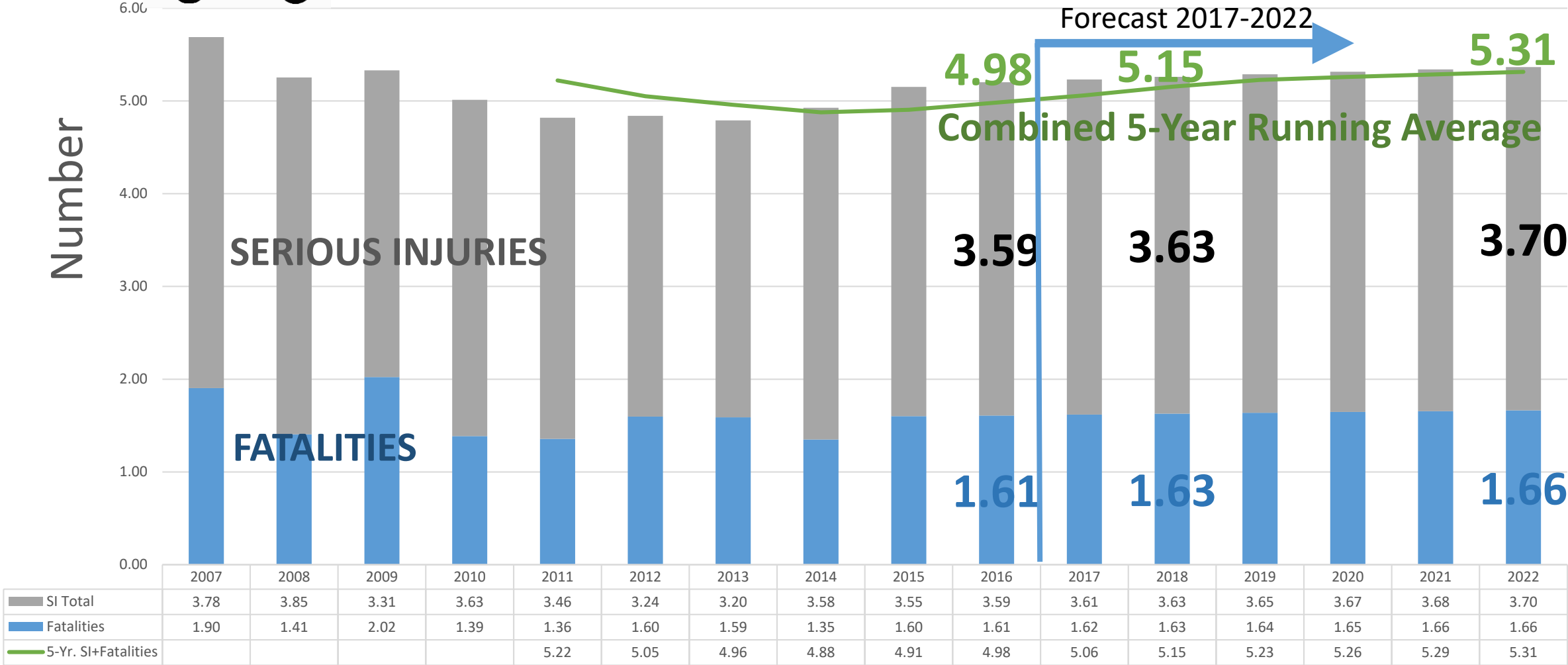
Economic Determinism (1998-2016)



	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Fatalities	3,459	3,559	3,730	3,926	4,089	4,225	4,094	4,304	4,197	3,976	3,401	3,076	2,739	2,835	2,995	3,107	3,074	3,176	3,680
Unemployment Rate (%)	5.70%	5.00%	4.70%	6.40%	6.80%	6.60%	5.80%	5.10%	4.90%	6.00%	9.30%	12.10%	12.10%	11.00%	9.60%	8.20%	6.90%	5.90%	5.20%
Per Capita GDP Growth	4.9%	5.9%	6.0%	-1.7%	1.3%	2.9%	3.2%	3.2%	2.7%	0.9%	-0.5%	-5.4%	-0.1%	0.4%	1.4%	1.6%	2.1%	3.2%	3.7%
Model (R2=0.7)	3636	3705	3761	4132	3728	3619	3777	3944	4050	3961	3315	3127	2597	2813	3049	3367	3627	3754	3874

Vehicle - Rate of Motorized Serious Injuries + Fatalities

Rates Per 100M Miles Traveled Annually



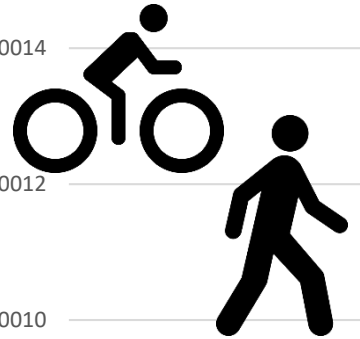
Source: CHP SWITRS data, Kern COG Travel Model

Forecast years assume 2015 fatality rates per mile of travel (VMT) stay same.

Target assumes we will do better than the base year model rate.

Ped + Bike Injuries + Fatalities Rate Per 1000 Population

Kern



Rate

SERIOUS INJURIES

FATALITIES

Forecast 2017-2022

0.000105
Combined 5-Year Running Average

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Bike+Ped SI/1000	0.00004	0.00005	0.00006	0.00006	0.00005	0.00006	0.00005	0.00007	0.00006	0.00008	0.00007	0.00007	0.00007	0.00007	0.00006	0.00006
Bike+Ped Fatal/1000	0.00002	0.00003	0.00003	0.00003	0.00003	0.00003	0.00004	0.00003	0.00004	0.00004	0.00004	0.00004	0.00004	0.00004	0.00004	0.00004
5-yr Bike+Ped SI+Fatal/1000					0.000082	0.000087	0.000089	0.000089	0.000090	0.000099	0.000104	0.000107	0.000110	0.000112	0.000109	0.000105

Source: CHP SWITRS data, Kern COG Travel Model
Forecast years assume 2015 fatality rates per mile of travel (VMT) stay same.
Target assumes we will do better than the base year model rate.

New Federal Safety Performance Measure – State vs. Kern

Statewide

The Five Performance Targets for 2018 (5-Yr)



Number of Fatalities = 3590.8



Rate of Fatalities per 100 Million VMT = 1.029



Number of Serious Injuries = 12,823.4



Rate of Serious Injuries per 100 Million VMT = 3.831



Number of Non-Motorized Fatalities and Non-Motorized Serious Injuries (Bicycles and Pedestrians) = 4271.1

Kern

Five Performance Targets for 2018 (5-yr)



Number of Fatalities = 148 (4.1% of the State)



Rate of Fatalities per 100 Million VMT = 1.63



Number of Serious Injuries = 329 (2.6% of the State)



Rate of Serious Injuries per 100 Million VMT = 3.63



Number of Non-Motorized Fatalities and Non-Motorized Serious Injuries (Bicycles and Pedestrians) = 98 (2.3% of the State)

Balancing Analysis with Public Outreach – 5 Examples of Exemplary Outreach Efforts & How the Results Were Used

1. Federally Required Urban Simulation Computer Modeling To Help Public Visualize Representations of the SCS at Public Workshops
2. Real-time Voting Using Clicker Technology and Dot Board Scenario Comparison Activity at Workshops and Event Booths.
3. Interactive Website “Play the Game” available 24/7
4. Project Map Activity at Workshops and Event Booths
5. Annual Phone/Texting Survey with Oversampling in All Outlying Communities including Disadvantaged

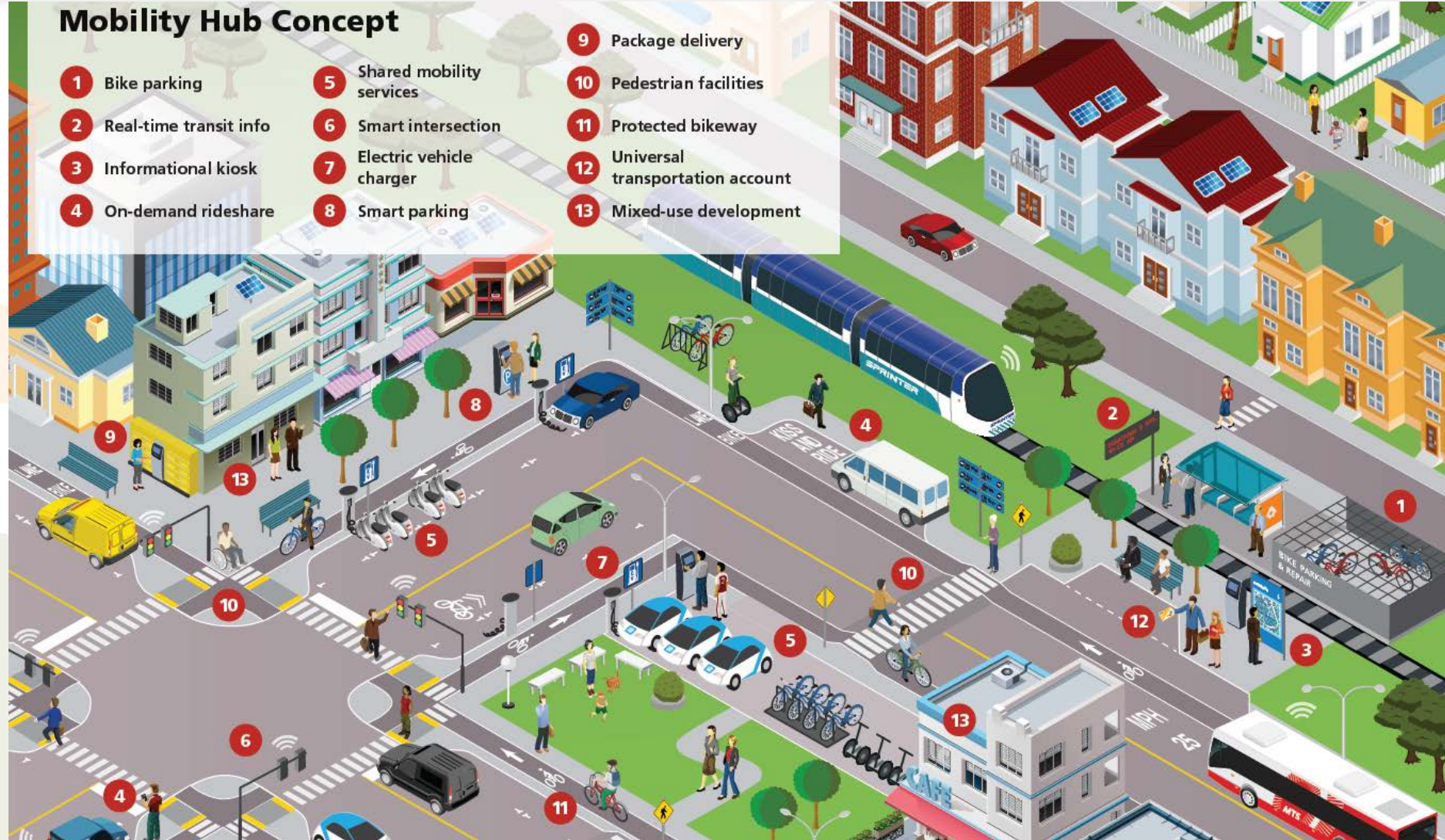
1. Computer Visualization Models -- “Leverage Technology: More Efficient/Clean Transportation” Transit Priority Place Types = Mobility Hub

Transit Priority Place Types



Mobility Hub Concept

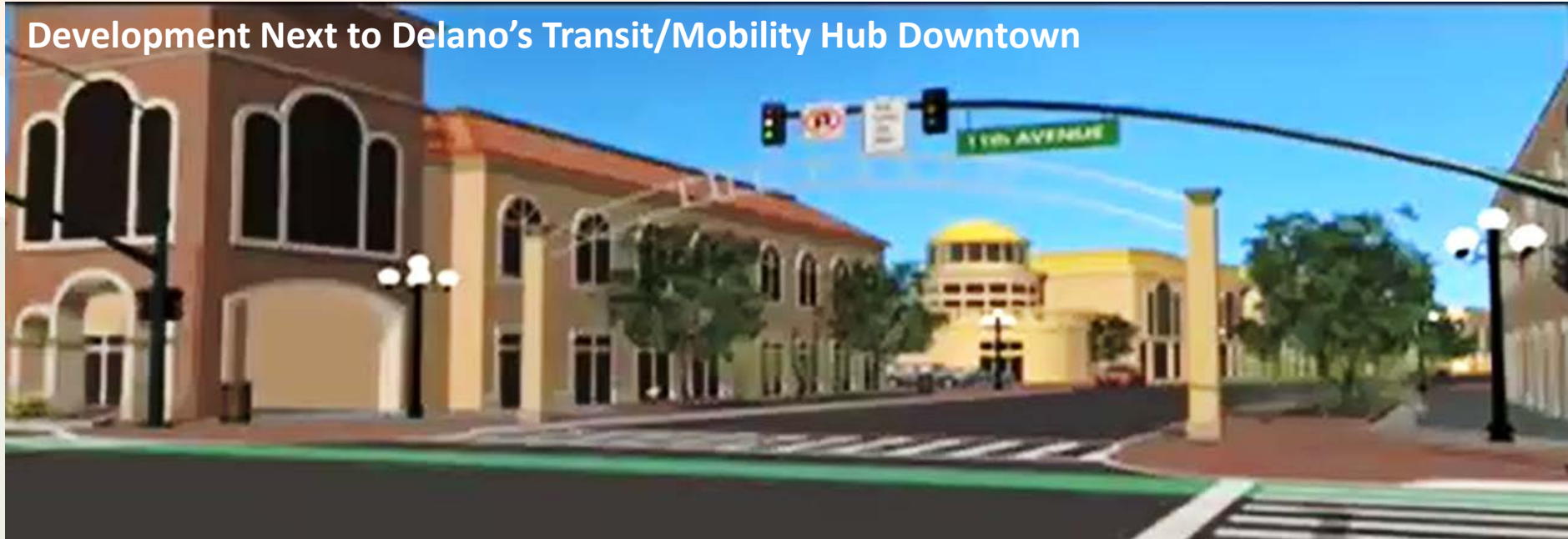
- | | | |
|--------------------------|----------------------------|-------------------------------------|
| 1 Bike parking | 5 Shared mobility services | 9 Package delivery |
| 2 Real-time transit info | 6 Smart intersection | 10 Pedestrian facilities |
| 3 Informational kiosk | 7 Electric vehicle charger | 11 Protected bikeway |
| 4 On-demand rideshare | 8 Smart parking | 12 Universal transportation account |
| | | 13 Mixed-use development |



Visualizing Providing Housing Closer to Jobs - 2025 (Delano Transit Priority Place Type)



Development Next to Delano's Transit/Mobility Hub Downtown



Visualizing Providing Jobs Closer to Housing (Wasco Transit Priority Place Type)



Visualizing Provide Housing Closer to Jobs – 2025 (S.E. Bakersfield Transit Priority Place Type)

2017



2025



Visualizing Providing Housing Closer to Jobs - 2045 (Downtown Bakersfield Transit Priority Place Type)

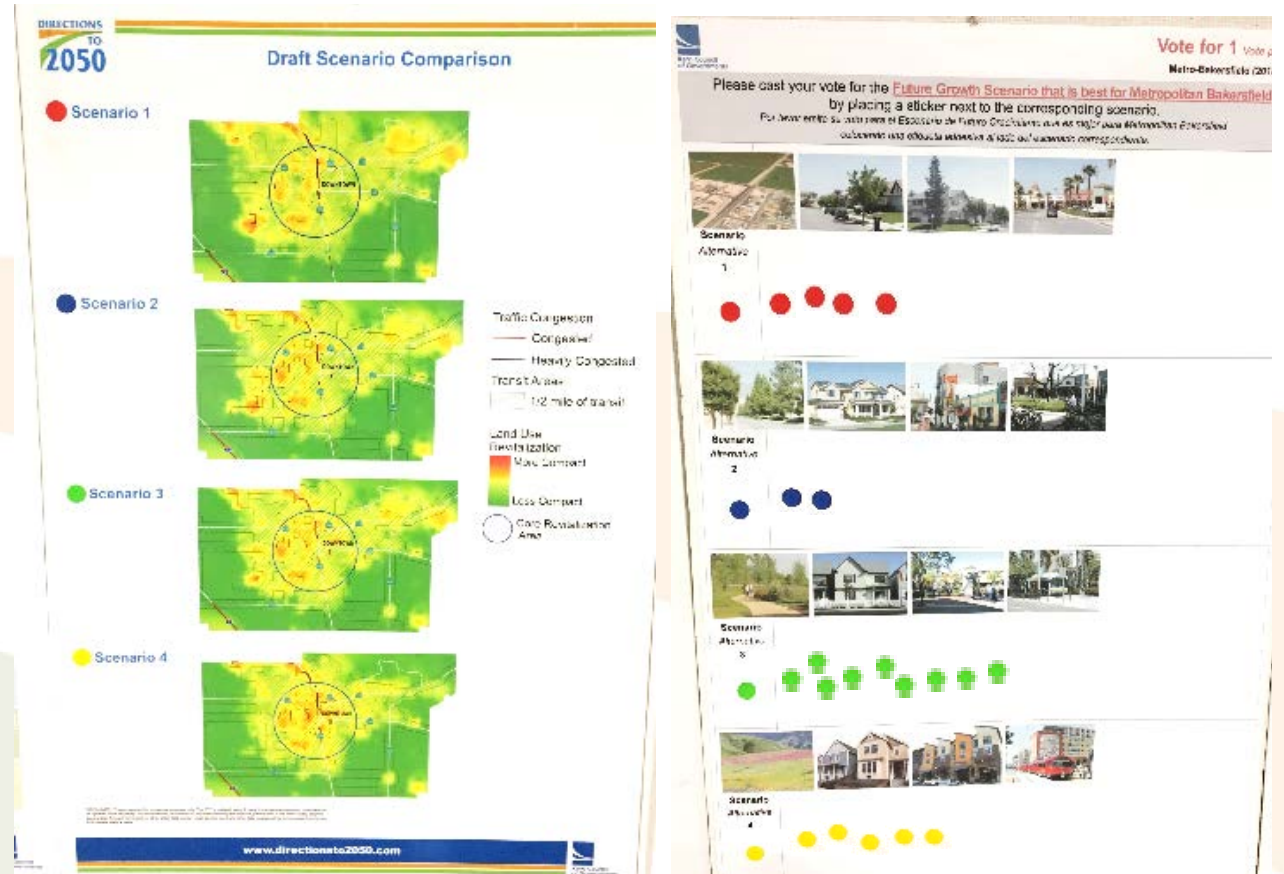


Visualizations Helped Inform Workshop Voting on Principles, Strategies and Scenarios: Results Found in RTP Appendix C

Real-time Clicker Voting

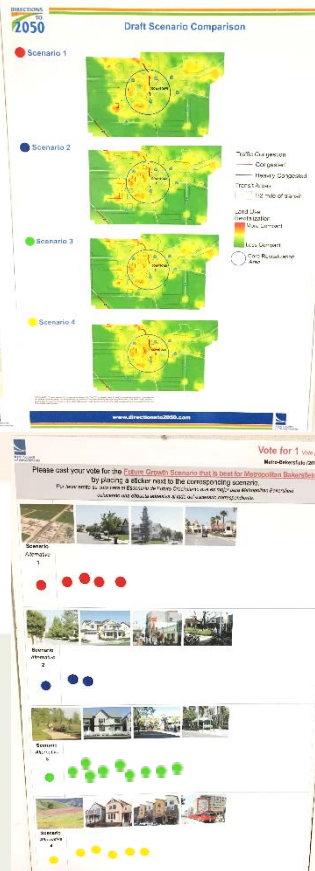


Real-time Dot Board Voting



2. Dot Board Exercise at Events/Mini-Grant Workshops

- Comparing Scenarios with Performance Measures



- Process used 4 scenarios each progressively more ambitious in terms of density and strategy implementation
- Scenario's similar to 2014 RTP educational outreach process
- Scenario votes weighted to develop the preferred alternative, allowing a range of results well beyond the 4 alternatives
- Preferred or "Plan" scenario had very similar results as the 2014 RTP, at about scenario 3
- Twice as many participated this time as in 2014

HIPÓTESIS 1

Extiende las opciones de inversión en desarrollo de terrenos y transporte de las últimas décadas hasta el año 2035 y más. Supone las tendencias históricas de crecimiento periférico del área metropolitana.

- Las inversiones en transporte favorecen la infraestructura de la calzada.
- Inversión modesta en estrategias para peatones y bicicletas.
- Carece de mejoras de servicio significativas para el transporte público.
- En cuanto a las opciones de vivienda, no cumple con las tendencias observadas en el mercado con respecto a viviendas ubicadas en zonas donde sea posible trasladarse preferentemente a pie.
- Inversión concentrada en mejoras de seguridad y capacidad, que incluye la circunvalación del sur (South Beltway) para 2040.
- Fondos para mantenimiento insuficientes en un 22%.
- Supone una renovación menor de la zona céntrica (Downtown).
- Supone un aumento de 2/3 en los costos de combustible para 2035.

HIPÓTESIS 2

Plan de inversión similar al de la hipótesis 1. Aumenta la inversión en mantenimiento de calzada e infraestructura para transporte público, bicicletas y peatones. Supone la renovación de zonas desocupadas y subutilizadas para respaldar la inversión en la ampliación de las opciones de transporte.

- Inversión concentrada en el mantenimiento y en comunidades más aptas para la circulación de transporte público, bicicletas y peatones.
- Mejora en la conectividad entre modos de viaje.
- Contempla calles más seguras y un movimiento de mercancías más eficiente.
- Cambio modesto en la demanda de opciones de vivienda más aptas para la circulación de transporte público, bicicletas y peatones, que se encuentren más cerca de los trabajos y los centros de compras.
- Posterga la circunvalación del sur (South Beltway).

HIPÓTESIS 3

Plan de inversión similar al de la hipótesis 2. Supone la renovación de la zona céntrica (Downtown) y de zonas desocupadas y subutilizadas para respaldar la ampliación de las opciones de transporte.

- Aumento moderado en la demanda de opciones de vivienda más aptas para la circulación de transporte público, bicicletas y peatones, que se encuentren más cerca de los trabajos y los centros de compras.

HIPÓTESIS 4

Acelera la inversión en infraestructura para transporte público, bicicletas y peatones en 15 años, a 2020. Extiende la renovación a las zonas con mayor servicio de transporte público.

- Cambio radical en la demanda de opciones de vivienda más aptas para la circulación de transporte público, bicicletas y peatones, que se encuentren más cerca de los trabajos y los centros de compras.
- Requiere una nueva inversión en infraestructura con un plazo más corto.

Todas las hipótesis suponen un crecimiento este crecimiento se producirá dentro del Área de la tierra

METRO BAKERSFIELD—2035 COUNTYWIDE SCENARIO CHARACTERISTICS

SCENARIO 1

Extends land development and transportation investment choices of past decades out to 2035 and beyond. Assumes historic trends in peripheral growth in the metropolitan area.

- Transportation investments favor roadway infrastructure.
- Modest investment in walk and bike strategies.
- Lacks major service improvements to transit.
- Housing choice does not meet observed market trends for more walkable housing choices.
- Investment focused on capacity and safety improvements including a South Beltway by 2040.
- Maintenance underfunded by 22%.
- Minor revitalization of Downtown assumed.
- Assumes 2/3 increase in fuel costs by 2035.

SCENARIO 2

Investment plan similar to Scenario 1. Increases investment in roadway maintenance and transit, bike, and walk infrastructure. Assumes revitalizations of vacant and underused areas to support investment in broader transportation choices.

- Investment focused on maintenance and more transit, bike, and walk friendly communities.
- Improved connectivity between modes of travel.
- Provides safer roads and more streamlined goods movement.
- Modest change in demand for more transit, bike and walk friendly housing choices closer to jobs and shopping.
- Postpones South Beltway.

SCENARIO 3

Investment plan similar to Scenario 2. Assumes revitalization of Downtown, vacant, and underused areas to support the broader transportation choices.

- Moderate increase in demand for more transit, bike, and walk friendly housing choices closer to jobs and shopping.

SCENARIO 4

Accelerates investment in transit, bike, walk infrastructure by 15 years to 2020. Expands revitalization to areas with increased transit service.

- Major shift in demand for more transit, bike and walk friendly housing choices closer to jobs and shopping.
- Requires new investment in infrastructure with an expedited time frame.

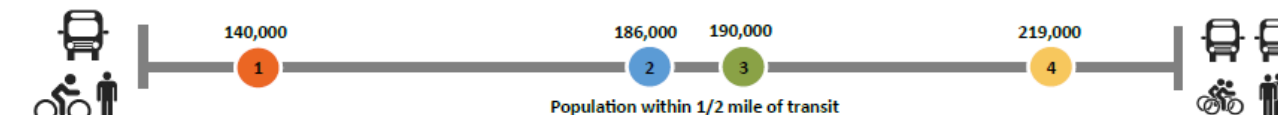
% of Maintenance Funded



Transportation Investment



Bike/Walk/Transit Infrastructure



Traffic Impact



Timeline



Housing Choice



All scenarios assume growth to 1.3 million people; 417,000 households; and 461,000 jobs in Kern county by 2035. Approximately 2/3 of this growth is within Metropolitan Bakersfield. Scenarios analyze changes in Metro growth using Kern Council of Governments' land use and transportation modeling tools. Modeling documentation is available online at:

<http://www.kerncog.org/transportation-modeling>

Todas las hipótesis suponen el mismo crecimiento general en términos de población, viviendas y empleo.



Costos de infraestructura local

HIPÓTESIS 1 Extiende las opciones de inversión en desarrollo de terrenos y transporte de las últimas décadas hasta el año 2035 y más. Supone las tendencias históricas de crecimiento periférico del área metropolitana.

\$1.9
mil millones

HIPÓTESIS 2 Plan de inversión similar al de la Hipótesis 1. Aumenta la inversión en mantenimiento de calzada e infraestructura para transporte público, bicicletas y peatones. Supone la renovación de zonas desocupadas y subutilizadas para respaldar la inversión en la ampliación de las opciones de transporte.

\$1.90
mil millones

HIPÓTESIS 3 Plan de inversión similar al de la Hipótesis 2. Supone la renovación de la zona céntrica (Downtown) y de zonas desocupadas y subutilizadas para respaldar la ampliación de las opciones de transporte.

\$1.83
mil millones

HIPÓTESIS 4 Acelera la inversión en infraestructura para transporte público, bicicletas y peatones en 15 años, a 2020. Extiende la renovación a las zonas con mayor servicio de transporte público.

\$1.68
mil millones

¹ En dólares de 2012 (acumulado a 2035)

METRO BAKERSFIELD—2035 COUNTYWIDE SCENARIO OUTCOMES

All Scenario assume same overall growth in population, households, and jobs.



Local Infrastructure Costs¹



Water Use²



Energy Independence³



Vehicle Miles Traveled (VMT) & Fuel Consumption⁴



Public Health Cost⁵



Household Transportation Costs⁶



Automobile Air Emissions⁷



Land Consumption⁸

SCENARIO 1 Extends land development and transportation investment choices of past decades out to 2035 and beyond. Assumes historic trends in peripheral growth in the metropolitan area.

\$1.98
billion

1,042
million gallons

35,243
billion Btu

13.28
billion VMT

7.85
billion gallons

\$3.26
million

0Base Reduced Annual Respiratory Incidences

\$22,904

18.32
tons NOx

14.31
lbs CO₂ per capita

83.09
sq. miles

SCENARIO 2 Investment plan similar to Scenario 1. Increases investment in roadway maintenance and transit, bike, and walk infrastructure. Assumes revitalization of vacant and underused areas to support investment in broader transportation choices.

\$1.90
billion

925
million gallons

34,574
billion Btu

13.13
billion VMT

7.74
billion gallons

\$3.13
million

-329 Reduced Annual Respiratory Incidences

\$22,647

18.10
tons NOx

14.12
lbs CO₂ per capita

71.93
sq. miles

SCENARIO 3 Investment plan similar to Scenario 2. Assumes revitalization of Downtown, vacant, and underused areas to support the broader transportation choices.

\$1.83
billion

892
million gallons

34,253
billion Btu

13.28
billion VMT

7.63
billion gallons

\$3.11
million

-643 Reduced Annual Respiratory Incidences

\$22,423

17.89
tons NOx

13.93
lbs CO₂ per capita

68.93
sq. miles

SCENARIO 4 Accelerates investment in transit, bike, and walk infrastructure by 15 years to 2020. Expands revitalization to areas with increased transit service.

\$1.68
billion

789
million gallons

33,383
billion Btu

13.28
billion VMT

7.41
billion gallons

\$3.07
million

-1,242 Reduced Annual Respiratory Incidences

\$21,938

17.89
tons NOx

13.93
lbs CO₂ per capita

57.51
sq. miles

¹ In 2012 dollars (cumulative to 2035)

² 2035 Daily water usage from new growth

³ Annual in 2035

⁴ Cumulative to 2035

⁵ Daily health-related costs due to transportation-related pollutant emissions

⁶ In 2012 dollars (annual in 2035)

⁷ Based on a weekday in 2035

⁸ Cumulative to 2035

3. Interactive Web Survey Game, Results in RTP Appdx. C

DIRECTIONS TO 2050

Kern Council of Governments

Home About Meetings & Events Play the Game Survey Regional Transportation Plan EAP Summit Outreach Results

search...

Select Language ▼

Play the Game

Play to Improve your community

We would like to meet with your community group before the end of the year! Please contact us to schedule a meeting.

Facebook

Kern Cou...

Like Page

Directions to 2050 builds on the Kern Regional Blueprint program to shape our region's future.

Relevant to local communities and the broader Kern region, Directions to 2050 will

- Revisit communities' visions and guiding principles
- Consider the full range of choices and associated trade-offs
- Brainstorm locally relevant strategies
- Identify and prioritize next steps

Choose your priorities

Select up to 4 of the following icons that represent your priorities for the Kern region's future. When done, click the "next" button on the right side of the page.

Energy independence Improved air quality Reduced household expenses

Provides for Job Growth Advance public safety Support healthy lifestyles

Lowest Taxpayers Expenses Adequate water Access to community services

How would you improve your community?

Use the sliders below to change the amount of resources allocated to five transportation project areas in your community. As you allocate "more" or "less" resources, your priorities for the future will be filled to the right and the amount spent will change below.

Build more highways Address traffic jams and add HOV lanes Fix local streets and roads Invest in buses, trains and transit Expand transit and transit routes

Amount Spent: \$3.154 billion

Amount Spent: \$3.154 billion

Amount Spent: \$3.154 billion

My County

Areas of focus

Top priorities

1. Improved air quality
2. Support healthy lifestyles
3. Provides for Job Growth
4. Reduced household expenses
5. Energy independence
6. Lowest Taxpayers Expenses

Amount Spent

\$3.161 billion

4. Feedback Mapping Activity

- Over 1,000 Maps Providing Input on Projects Collected
- Maps Summarized By Improvement Type and Sub Area of the County
- Provided Results to Local Jurisdictions



Steer Us in the Right Direction

Guíanos al Camino Correcto

Help plan your community transportation projects! *¡Ayuda a planear los proyectos de transporte en tu comunidad!*

Choose a marker and color in the road-areas you feel need attention or improvement. (See instructions and color key to the right)
Ecoja un marcador y coloree las áreas que usted piense que necesitan atención o mejoramiento. (Vea las instrucciones y guía de color a su derecha)

Instructions: Instrucciones

- 1 Get a copy of the road map from staff that includes your area of interest.
Obtenga el mapa de un miembro de personal que incluya su área de interés.
- 2 Collect colored markers that correspond to the transportation improvements you'd like to see.
Recoja los marcadores de colores que correspondan a los mejoramientos de transporte que le gustaría ver.
- 3 Use the markers to draw lines along the routes listed on the map, indicating your ideas for improvements.
Use los marcadores para dibujar líneas a lo largo de las rutas que aparecen en el mapa indicando sus ideas de mejoramiento. Por ejemplo, use un marcador café para señalar los mejoramientos de transporte de autos con una línea curvada desde una ruta principal hacia la otra.
- 4 Return the map and markers to staff and collect your prize!
Deje el mapa y marcadores al miembro de personal y reciba su premio!

COLOR KEY Guía del Color

- Road Maintenance
Mantenimiento de carretera
- Road Widening
Ampliación de la calzada de la carretera
- Roadway Turn Improvement
Mejora de mejoramiento de rotación
- Bus Route
Ruta de autobús
- Bicycle Lane or Path
Carril o ruta de bicicleta
- Pedestrian Path
Ruta de peatón
- Other
Otro

Comments: Comentarios

Other represents
paving these high
traffic roads.

Bike Path on Tucker is
not OK.

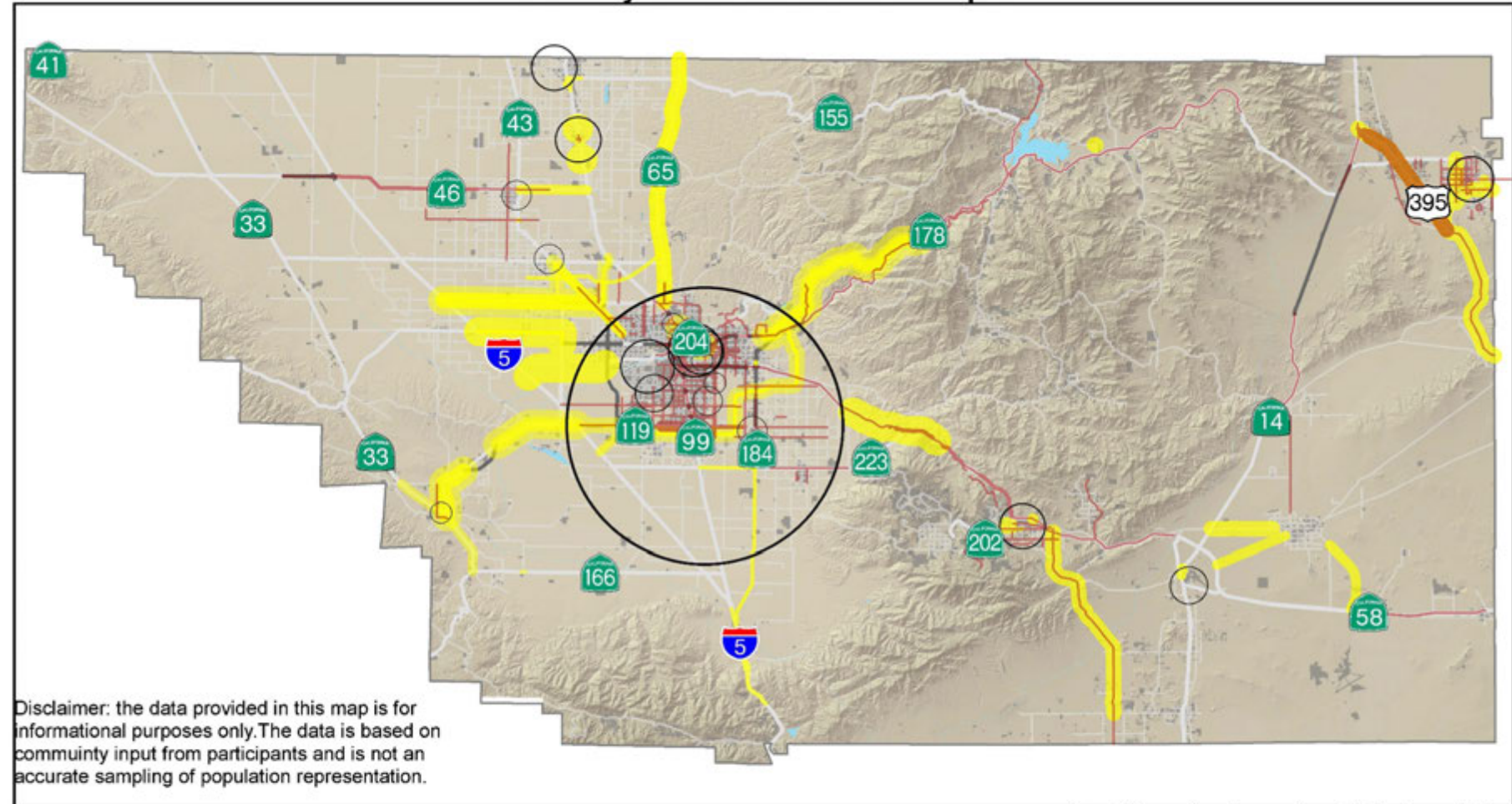
Your Zip Code: 93561
Tu Código Postal

Tehachapi 2

**Kern Council
of Governments**

Roads Widening

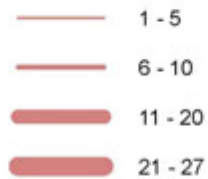
Next In-Line and Road Widening Projects Kern County - RTP Public Outreach Input



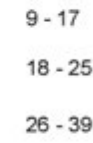
Potential Next in Line Projects*



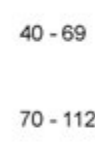
Suggested Road Widening Project Votes*



Outreach Meetings (Attendance)



Kern County Fair Participants (From All Communities)



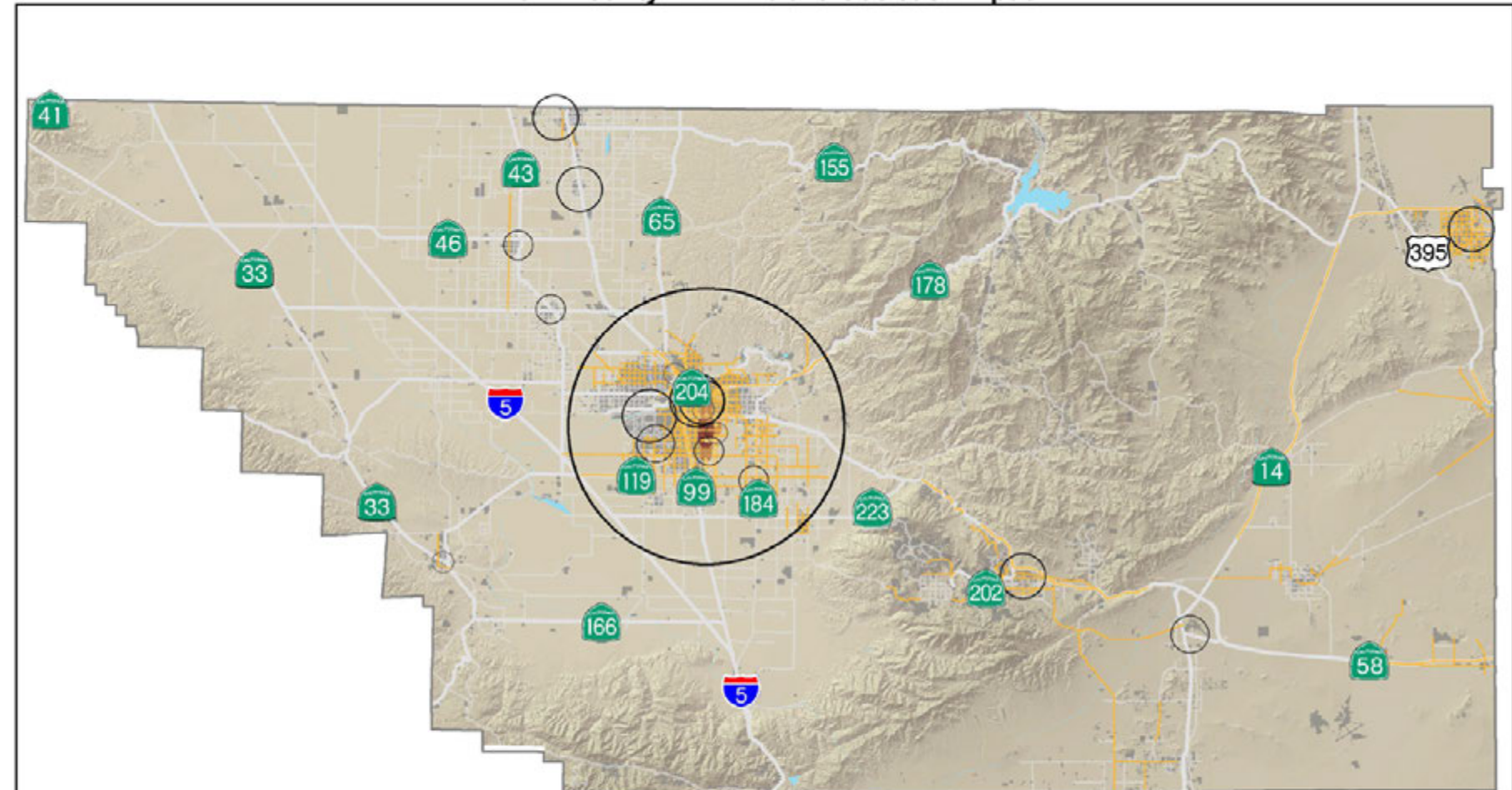
Line widths are based on number of votes for road widening.

*Potential Next in Line Projects were unfunded projects participants voted on.

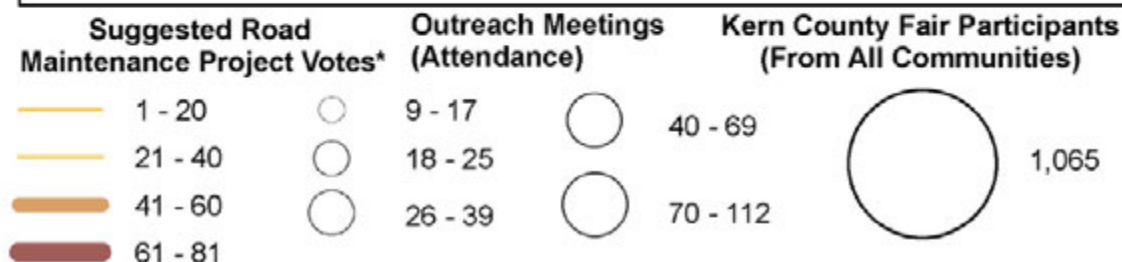
**Suggested Road Widening Projects were drawn in by participants.

Road Maintenance

Road Maintenance Projects Kern County - RTP Public Outreach Input



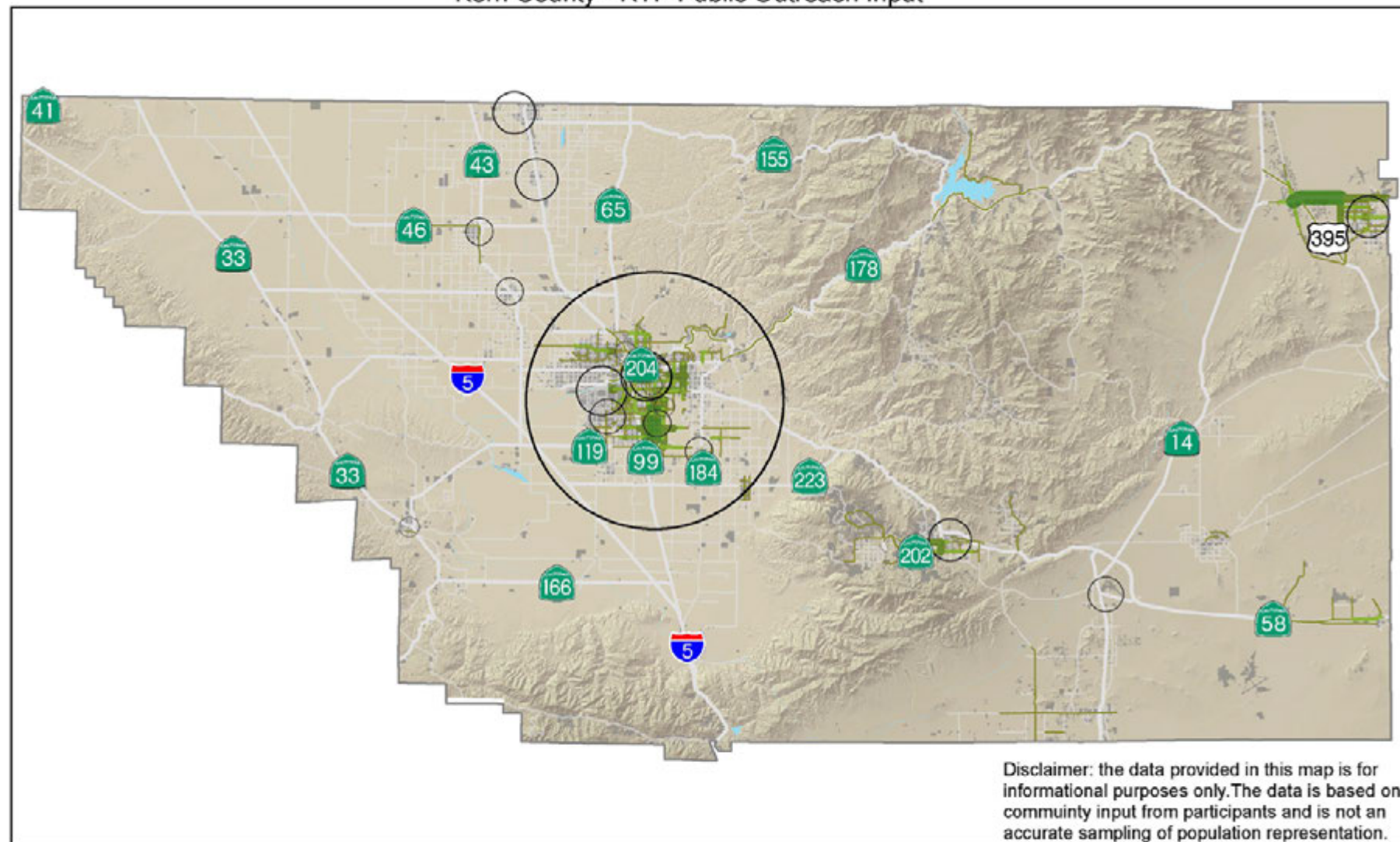
Disclaimer: the data provided in this map is for informational purposes only. The data is based on community input from participants and is not an accurate sampling of population representation.



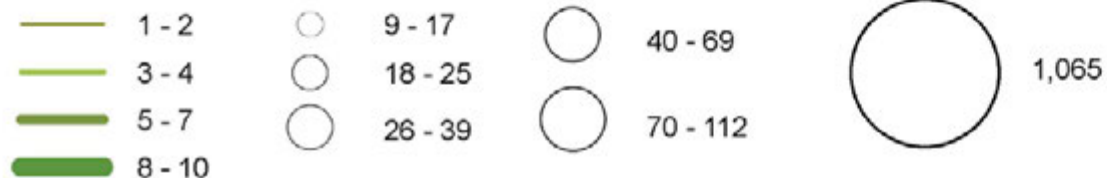
Line widths are based on number of votes for road maintenance.
*Suggested Road Maintenance Projects were voluntary projects participants drew on the map.

Bicycle

Bicycle Lane or Path Projects Kern County - RTP Public Outreach Input

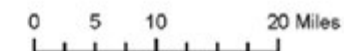


Suggested Bicycle Lane or Path Project Votes* **Outreach Meetings (Attendance)** **Kern County Fair Participants (From All Communities)**



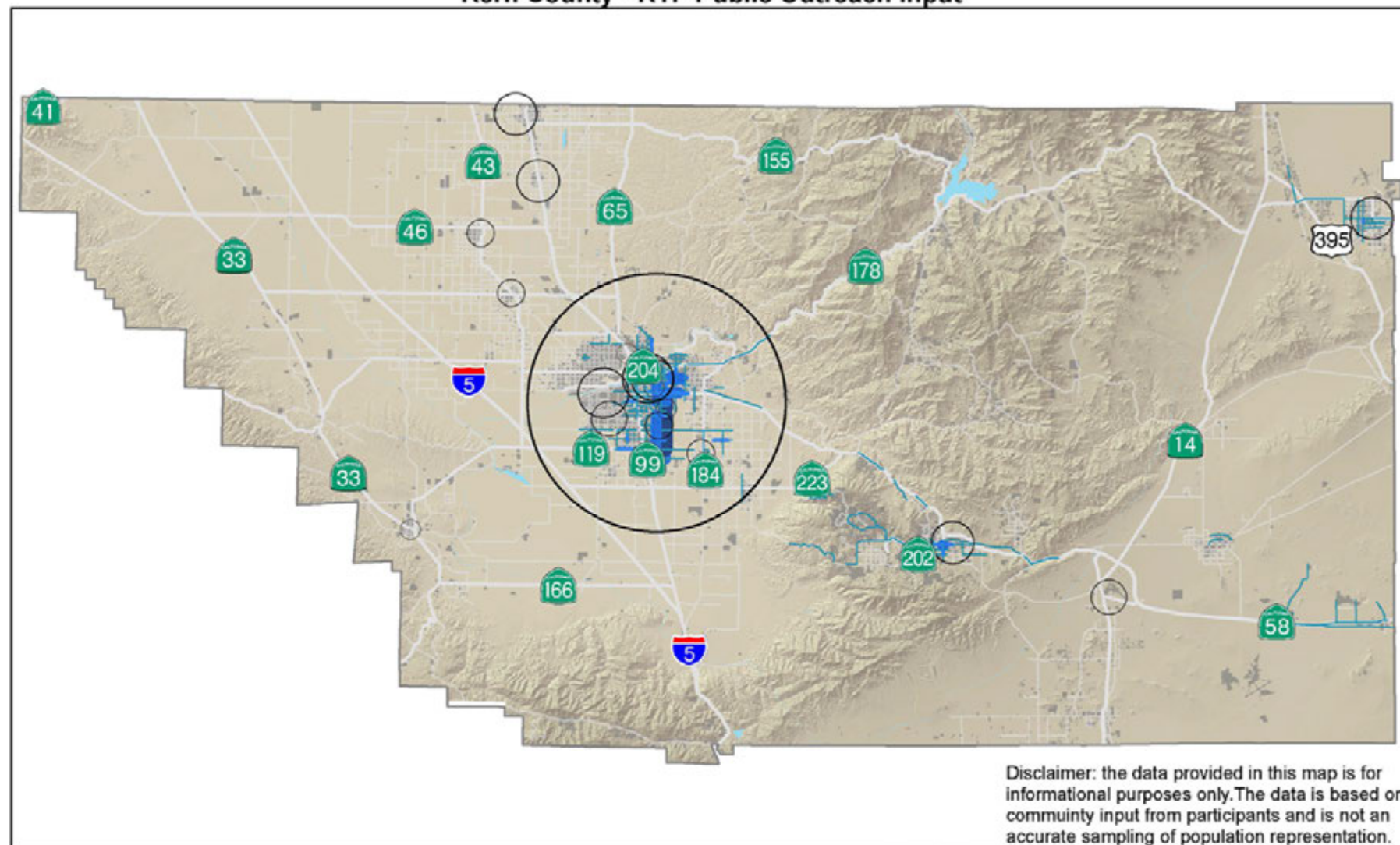
Line widths are based on number of votes for bicycle lane or path.
*Suggested Bicycle Lane or Path Projects were voluntary projects participants drew on the map.

PRELIMINARY DRAFT



Pedestrian

Pedestrian Path Projects Kern County - RTP Public Outreach Input



**Suggested Pedestrian
Path Project Votes***



**Outreach Meetings
(Attendance)**

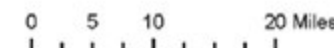


**Kern County Fair Participants
(From All Communities)**



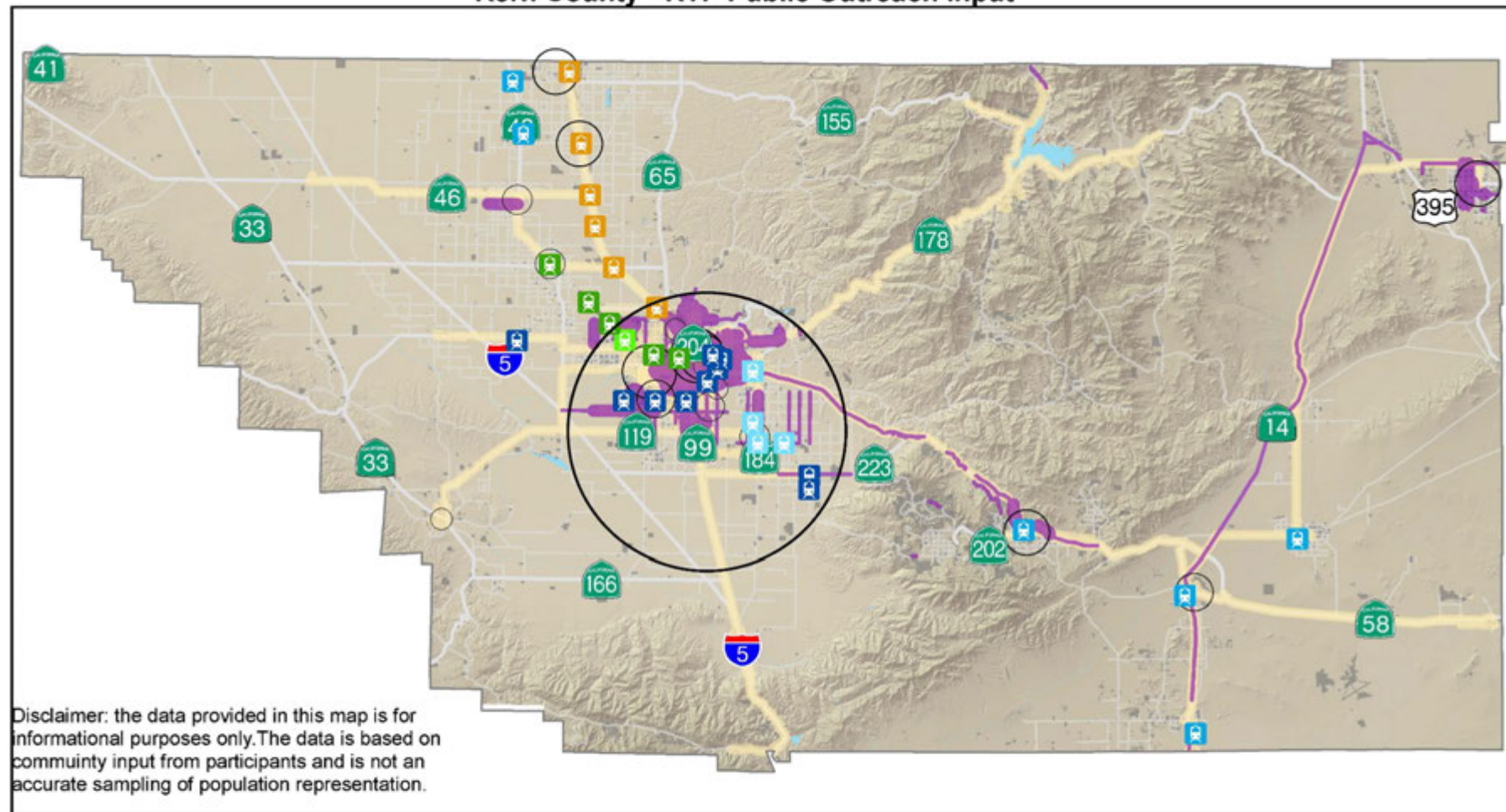
Line widths are based on number of votes for pedestrian path.
*Suggested Pedestrian Path Projects were voluntary projects participants drew on the map.

PRELIMINARY DRAFT



Bus & Rail

Bus Routes and Commuter Rail Kern County - RTP Public Outreach Input



Potential Next in Line Projects*

	Downtown Shuttle - 53		1
	Potential Amtrak Stations - 18		2
	Freight Hub - 3		3
	Southwest Bakersfield Commuter Rail - 40		4 - 6
	Arvin-Lamont Commuter Rail - 22		
	Commuter Rail Stations along BNSF - 4		
	Commuter Rail Stations along Union Pacific - 23		
	Extension of Metrolink Stations - 2		

Suggested Bus Routes or transit Project Votes*

Outreach Meetings (Attendance)

	9 - 17
	18 - 25
	26 - 39

Kern County Fair Participants (From All Communities)

	40 - 69
	70 - 112

Line widths are based on number of votes for bus routes.
*Potential Next in Line Projects were unfunded projects participants voted on.
**Suggested Bus Routes were voluntary projects participants drew on the map.

Transit Routes

PRELIMINARY DRAFT

0 5 10 20 Miles



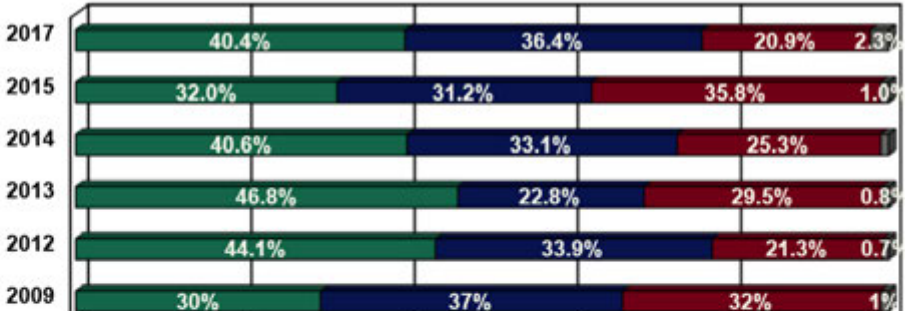
5. Annual 1,200 Person Phone/Texting Quality of Life Survey

- The housing type garnering the highest preference was single-family home with a small yard increasing 10% since 2009
- Oversampled in outlying communities often with higher proportion disadvantaged population

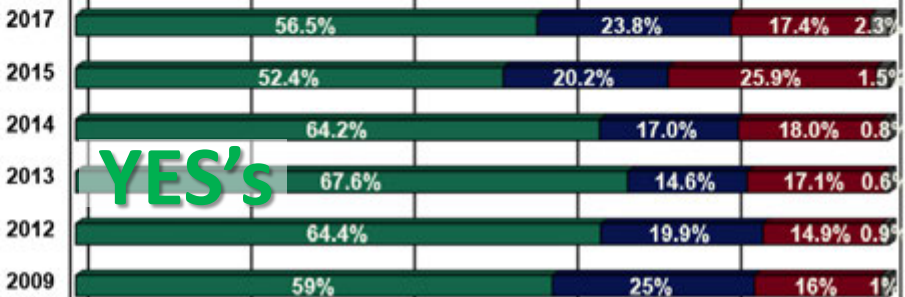
http://www.kerncog.org/wp-content/uploads/2009/11/community_survey_2017.pdf



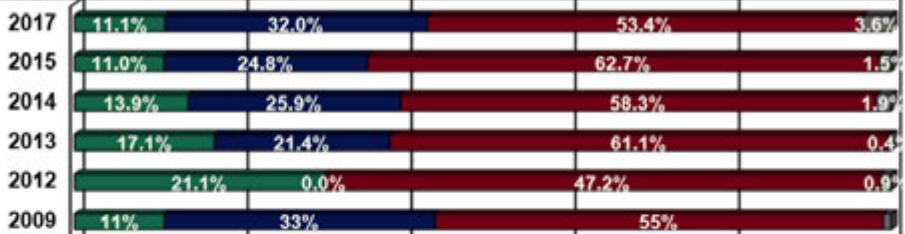
Small Yard
Single-family home with small yard



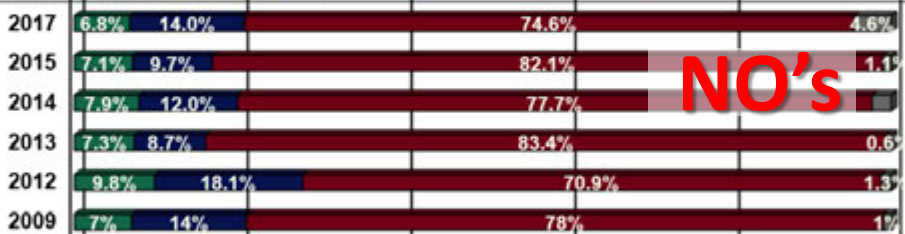
Large Yard
Single-family home with large yard



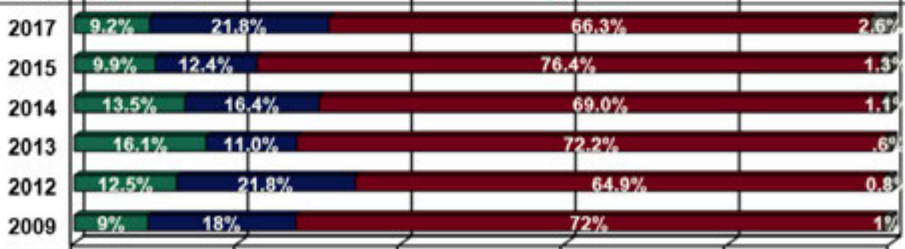
Condos
Townhouse or condominium



Mixed Use
Bldg. with offices/stores and condominiums



Apartments
Apartment



■ Definitely Yes
 ■ Probably Yes
 ■ No
 ■ DK/NA

General Conclusions

- Performance measure analysis indicates that we will not negatively impact Title VI and EJ communities with this plan
- Public input is consistent and helps support the sustainable community strategies and projects in the plan
- Balanced analysis results are due to an aggressive, bottom-up public driven process.

Sustainable Communities Strategy (SCS) Success Stories Benefitting Disadvantaged Communities in Kern

In order to help demonstrate the Kern region's extensive efforts to comply with state climate change goals, Kern COG has identified related member agency activities. All of the following success stories benefit the disadvantaged communities by improving emissions, however the highlighted strategies benefit Kern's disadvantaged communities directly.

NEW STRATEGIES

1. Bakersfield High Speed Rail Station Area Plan – Specific/General Plan Update
2. Kern COG 4,000 Workplace Charging Spaces by 2025
3. Improvements to 51 Bus Stops – Metro Bakersfield/Disadvantaged Neighborhoods
4. New Taft Transit Center / Regional Transit Hub
5. Early Delivery of Wasco Disadvantage Community Active Transportation Projects
6. Bakersfield Disadvantage Communities Bike Share & Downtown Bicycle Connectivity Project
7. Kern Highway Projects Advancing Complete Streets
8. Kern Regional Active Transportation Plan Including Disadvantaged Communities
9. Kern COG Intelligent Transportation System Plan Update
10. SJV Rural Transit Shared Mobility Study for Disadvantaged Communities
11. SR 184 Lamont Bike and Pedestrian improvements
12. SR 184 and 155 Roundabouts in Disadvantage Communities of Delano and Weedpatch
13. Kern County General Plan Update – Land Use, Conservation, Open Space, Circulation, Housing, and other key elements
14. Early Deployment Pricing Policies for Parking and FastPass HOT Lanes

ENHANCED STRATEGIES

15. City of Bakersfield Redevelopment Projects – Mill Creek and Baker Street
16. Commuter Rail Feasibility Study – Amtrak Improvements
17. Rideshare Program – Commute Kern
18. Expanding Park and Ride Lots
19. Dial-A-Ride and Local Transportation Services
20. Kern County Bicycle Master Plan & Complete Streets Recommendations/City of Tehachapi Bicycle Master Plan
21. City of Bakersfield Bicycle Facilities
22. Westside Station Multi-modal Transit Center
23. San Joaquin Valley Vanpool Program (CalVans)
24. Kern County Wind Farm Areas (Largest in U.S.)
25. City of Shafter Container Yard and Intermodal Rail Facility Expansion
26. Intersection Signalization/Synchronization

ENHANCED STRATEGIES (continued)

27. City of Bakersfield 4 New Downtown Infill Housing Projects
28. Cities of McFarland and Shafter – Conversion of transit fleet to electric vehicles
29. Golden Empire Transit – Purchase of 2 Electric Buses
30. Lost Hills Wonderful Park and Communitywide Improvements
31. Grapevine Specific and Community Plan and Special Plan

EXISTING/CONTINUING STRATEGIES

32. City of Tehachapi General Plan (Form-Based Code, Transect Zone, Mobility Element, Town Form Element)
33. Infill Incentive Zone – Lower Transportation Impact Fee Core Area
34. City of Taft General Plan – Sustainability Principles
35. City of Ridgecrest General Plan and Multi-Modal Circulation Element
36. Metro Bakersfield General Plan Sewer Policy – Hook-up required for parcels less than 6 acres
37. City of Bakersfield Required Lot Area Zoning Strategies
38. San Joaquin Valley Air District's Indirect Source Review to Mitigate Off-Site Impacts of Development
39. Transit Priority Areas in the Kern COG SCS
40. Metropolitan Bakersfield General Plan Centers Concept – Transit Priority & Strategic Employment Place Types
41. GET Short-Term Service Plan (2012–2020)
42. GET X-92 Commuter Express bus service to Tejon Industrial Complex
43. Kern511 – Traveler Information System
44. San Joaquin Valley Blueprint Integration Project
45. Caltrans Vehicle Detection System – State Route 43 Intersection Improvements and East Bakersfield Vehicle Detection Systems
46. California Highway Patrol's Safety Corridors
47. Purchase of CNG Buses (80+ bus fleet)
48. The Electric Cab Company of Delano
49. Downtown Elementary School Expansion (Bakersfield)
50. Traffic Control Devices
51. Kern Region Energy Action Plans (Kern REAP) and Kern Energy Watch Goal 3
52. Tejon Ranch Conservation and Land Use Agreement
53. Kern County Community Revitalization Program
54. Kern Transit – Route Connection with Antelope Valley Transit Authority
55. CSU Bakersfield – Public Transit Center

Next Steps

- June 6, 2018, 6PM - Public Hearing, Ridgecrest City Hall
- June 19, 2018, 6PM – Public Hearing, Arvin City Hall
- June 21, 2018, 6:30PM – Public Hearing, Kern COG Board
- July 12, 2018 - Comments on RTP/SCS and PEIR due
- August 1, 2018 - RPAC/TTAC Recommendation
- August 16, 2018 - Kern COG TPPC/Board Consider Approval

For more information contact:

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