

Kern COG Key Points – 7-22-10 ARB Workshop - Fresno

- 38% of Kern's SB375 CO2 Emissions come from sources it has NO local land use control over (Military, Thru Trips), or are strategic to state energy, economic, and public safety goals (wind energy areas, and prisons). These emissions should be exempted from the target.
- "Exempt" emissions will increase by 3% by 2035.
- The RTAC recommended that regions should not be responsible for emissions from sources beyond their control such as military and other strategic employment areas.
- The ARB Draft Target of a 1%-7% reduction will be difficult to achieve. Kern proposed a 7.7% increase even with the local strategies in place (ISR, Transit, Infill...).
- Kern's SB375 emissions are 20% below the statewide average.
- Kern's SB375 emissions are only 2.4% of the state total.
- Small region's on the fringe of urban development will see per capita growth in emissions. Slowing that growth contributes to the overall AB 32 goal of 5M Tons of reduction by 2020. These regions should not be penalized because they are absorbing the growth of major urban centers.
- Kern had a high level of public participation – with emphasis on co-benefits.
- Valley Model Improvements underway will improve the ability of the land use model to find emissions savings (Kern pilot project for feedback loop between land use and VMT)
- Kern Local Feedback: Tracking VMT for each community will provide feedback for local policy makers on how to adjust strategies and provide incentives.
- Consideration of Pavely/Low Carbon Fuels in the target is required by SB375.

Recommendations

- First round of targets should be achievable for the region's that provided extensive public input and alternative modeling during the target setting process.
- Allow adjustments for exempt emissions that are strategic or beyond local control
- Allow adjustments for regions that remain well below state average (CO2 .lbs Per Capita) and show a significant savings toward AB 32.
- Use Statewide Model for Beyond Model Travel.
- SB 375 Requires Consideration of Pavely/LCF.

KERN: Proposed Climate Change Targets For Passenger Vehicles ARB Workshop - Fresno

Federal Designate Metropolitan Planning
Organization (MPO) for Kern County

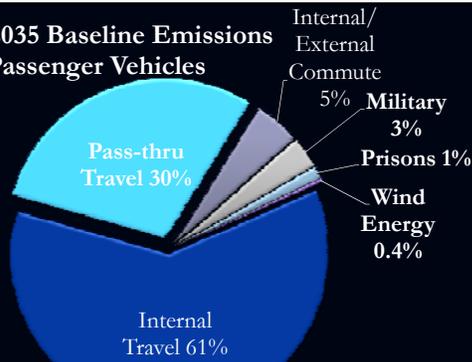


Rob Ball
Troy Hightower
July 22, 2010

Key Points

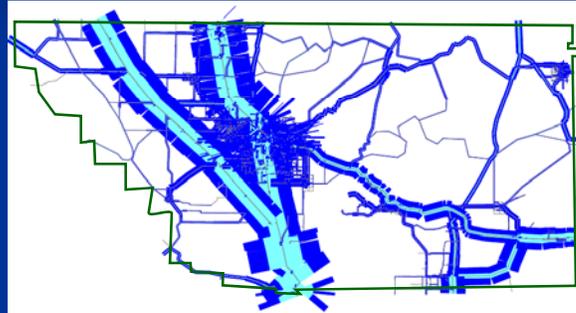
- 38% of Kern's CO2 Emissions come from sources it has NO local land use control over (Military, Thru Trips), or are strategic to state GHG and public safety goals (wind energy areas, and prisons).
- These "exempt" emissions will increase by 3% by 2035
- The RTAC recommended that regions should not be responsible for emissions from sources beyond their control such as military and other strategic employment areas.

Kern 2035 Baseline Emissions from Passenger Vehicles



30-40% of Kern's Emissions Increase Beyond Local Land Use Control or Strategic Employment Area Essential to State Goals such as public safety and GHG reduction.

Pass-Through Travel (lt. blue) Accounts for 30% of Passenger Travel/Emissions in the Model



Strategic Employment Areas Account for 5% of Passenger Vehicle Emissions

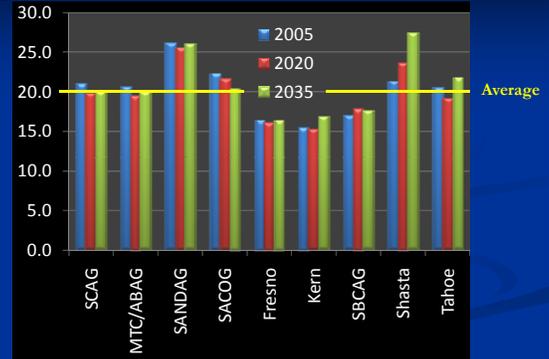


Factor or Variable	ARB RTAC Method			
	NO Credit for State Strategies - Pavley/LCF	All Travel within Kern	All Travel minus pass thru trips (-XX)	RTAC Method (-XX, -50%IX, -50%Pris, -50%Wind)
With Exemptions, Kern's Emissions per capita are 30% below 2005				
Weekday CO2 Emissions by Passenger Vehicles Per Capita (Pounds)				
Base Year (2005)	22.02	15.41	14.32	13.58
SB 375 Horizon Year (2035 CT)	23.71	16.71	15.79	15.22
Base Scen Horizon Yr. (2035 NoBuild)	23.94	16.96	16.02	15.41
Alt. Scen. Horizon Yr. (2035 ACT)	23.60	16.64	15.72	15.12
Percent Change in CO2 Per Capita from 2005 (SB 375 Target Format)				
Base Year (2005)				
SB 375 Horizon Year (2035 CT)	7.7%	8.4%	10.3%	12.0%
Base Scen Horizon Yr. (2035 NoBuild)	8.7%	10.0%	11.9%	13.5%
Alt. Scen. Horizon Yr. (2035 ACT)	7.2%	8.0%	9.8%	11.3%
Pct. Diff. between 2035 CT and ACT	-0.45%	-0.45%	-0.48%	-0.60%

Kern's Key Points

- The ARB Draft Target for SJV MPOs (1-7% reduction) will be difficult to achieve. Kern proposed a 7.7% increase even with the local strategies in place (ISR, Transit, Infill...)
- Kern's per capita emissions are 20% below the statewide average.
- Kern's emissions are only 2.4% of the state total
- Small region's on the fringe of urban development will see per capita growth in emissions. Slowing that growth contributes to the overall AB 32 goal of 5M Tons of reduction by 2020.

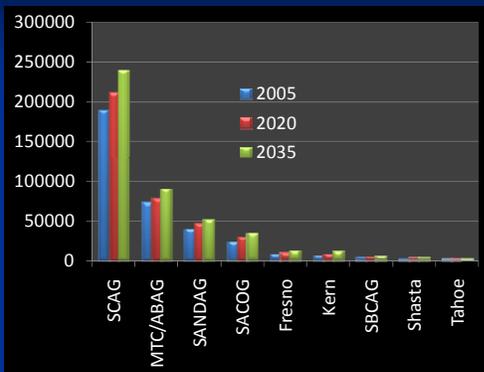
Kern is 20% Below the Average for Per Capita Emissions (.lbs per person. Excludes thru travel)



Regions below the statewide average should be allowed to slow their increase

Kern is 2.4% of the Total Emissions in 2035

(Total Tons excluding XX for baseline data)



Final Key Points

- Kern had a High Level of Public Participation – With Emphasis on Co Benefits
- Valley Model Improvements underway that will improve the ability of the land use model to find emissions savings (Kern pilot project for feedback loop between land use and VMT)
- Local Feedback Process: Tracking VMT for each community will provide feedback for local policy makers on how to adjust strategies and provide incentives
- Pavely/Low Carbon Fuels required

1.5 Year Public Participation Process for SB 375

- 28 Meetings (Task Force, Local govt. visits, workshops, Summit w/175 attendees) including Stakeholder representatives from non-profit/environmental organizations, private sector, and local governments.
- 3,100 participants in Blueprint required Emphasis on Co Benefits of Climate Change Emission Reduction

Planned Model Improvements

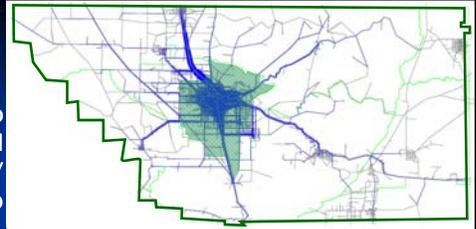
- Long Range Transit Plan Update considering positive impact of HSR
- Prop 84 Grant for San Joaquin Valley Model Improvement Plan
 - Statewide Model for Interregional Migration and Travel (ARB Grant)
 - Balanced Housing Cost / Wage Fit
 - Feedback loop between VMT and Land Use Model – Optimum land use mix (Kern demonstration project)

Tracking Progress: How is My Community Doing?

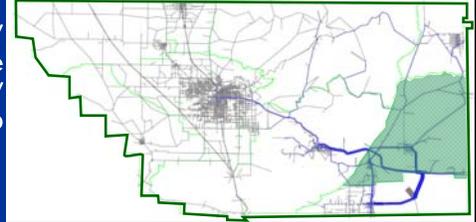
- Progress Tracking Method, Still Under Development, not needed until 2014 RTP/SCS
- **No CO2 Monitoring network** like with other Air Pollutants
- Using Vehicle Miles Traveled (VMT) Per Person as a surrogate for CO2
 - Transportation Model Validation Run VMT available every ~4 years
 - Can be broken out by sub areas of the County
 - Use controlled by Kern COG Board, not ARB

2006 Travel

Metro Bakersfield
16.2 VMT/
Pop + Emp



Cal City/
Mojave
82.4 VMT/
Pop+Emp



Omitting Pavley & Low Carbon Fuels, Not an Option

- SB 375, Steinberg (2008), 65080.2A(iii) states, “In establishing these targets, the state board shall take into account ... improved vehicle emission standards, changes in fuel composition, and other measures it has approved that will reduce greenhouse gas emissions in the affected regions, ...”

Kern COG Proposed Target Adopted 4/15/10

ARB RTAC Method

Emissions model: CO2 with Pavley/LCF

TARGETS WITH PAVLEY & LOW CARBON FUELS

45% Below 2005

Factor or Variable

All Travel within Kern
ARB Draft Target Method

All Travel minus pass thru trips
(-XX)

RTAC Method
(-XX, -50%IX, -50%MI)

KERNCOG
(-XX, -50%IX, -100%MI, -50%Pris, -50%Wind)

Weekday CO2 Emissions by Passenger Vehicles Per Capita (Pounds)				
Base Year (2005)	22.02	15.41	14.32	13.58
SB 375 Horizon Year (2035 CT)	15.28	10.76	10.17	9.80
Base Scen Horizon Yr. (2035 NoBuild)	15.43	10.92	10.31	9.95
Alt. Scen. Horizon Yr. (2035 ACT)	15.22	10.72	10.13	9.75
Percent Change in CO2 Per Capita from 2005 (SB 375 Target Format)				
Base Year (2005)				
SB 375 Horizon Year (2035 CT)	-30.6%	-30.2%	-28.9%	-27.9%
Base Scen Horizon Yr. (2035 NoBuild)	-29.9%	-29.2%	-28.0%	-26.8%
Alt. Scen. Horizon Yr. (2035 ACT)	-30.9%	-30.5%	-29.2%	-28.22%
Pct. Diff. between 2035 CT and ACT	-0.40%	-0.42%	-0.45%	-0.46%

Computed or Adjusted Values, based on MPO Data

Kern's Recommendations

SB 375 Allows MPOs to make recommendations on target setting methodology.

- **First round of targets should be achievable** for the region's that provided extensive public input and alternative modeling target
- **Allow adjustments for exempt emissions**
- Allow adjustments for regions that remain well below state average (CO2 .lbs PerCapita) and show a significant savings toward AB 32
- **Use Statewide Model** for Beyond Model Travel
- SB 375 Requires Consideration of **Pavley/LCF**

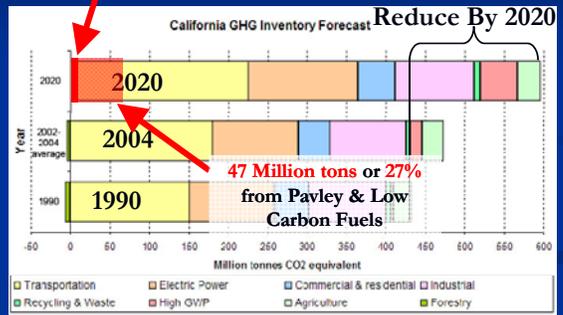
Comments? Contacts:

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Additional Slides

- Background on modeling methods and other issues

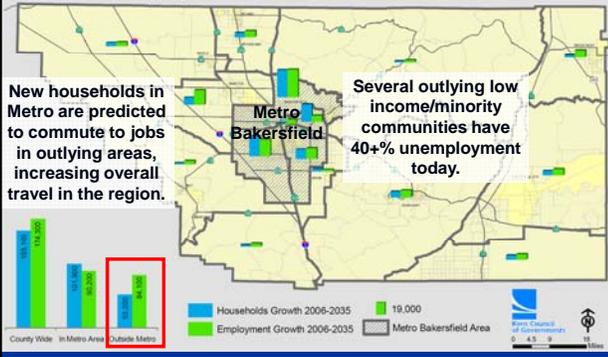
SB375 5 Million tons or 3% of all CO₂e reductions are expected from passenger vehicle travel
Place-Holders
AB32



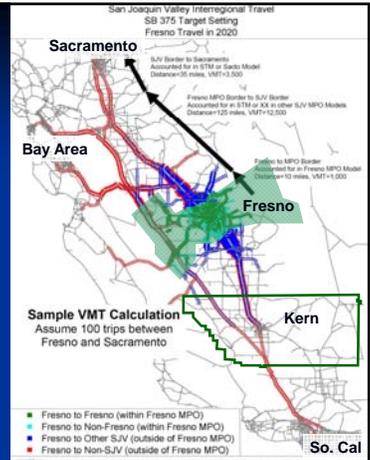
(Source: Cal Air Resource Board Climate Change Scoping Plan, p. 17)

Source of 8% Emissions Increase in Kern: More Employment Growth Than Housing In Outlying Areas

Employment/Household Growth 2006-2035



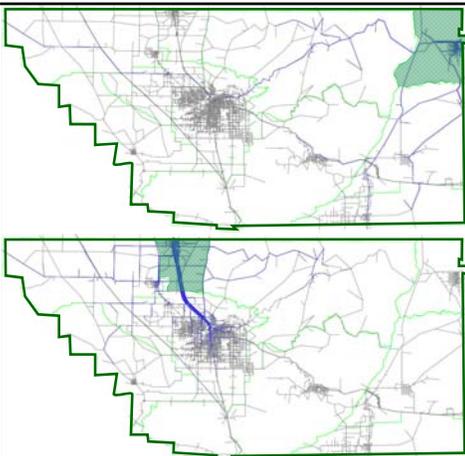
Statewide Transportation Model Results: Bandwidths show travel from Fresno COG to Southern California passing through Kern (portion of lt. blue from previous slide)



2006 Travel

Ridgecrest 15.4 VMT/Pop+Emp

Delano/McFarland 17.7 VMT/Pop + Emp



Tracking Progress With VMT

2006 Vehicle Miles Traveled Per Person by Regional Statistical Areas

County Division	Regional Statistical Area	Household Population+ Employees	Percent of County Pop.+ Emp.	Vehicle Miles Traveled (VMT)	Percent of County VMT	VMT Per Pop + Emp.
Valley Air Basin		861,609	83.3%	16,385,678	70.9%	19.02
Metro Bakersfield		666,684	64.4%	10,792,956	46.7%	16.19
Greater Arvin		21,424	2.1%	671,434	2.9%	31.34
Greater Delano/McFarland		72,677	7.0%	1,288,375	5.6%	17.73
Greater Shafter		38,691	3.7%	1,493,132	6.5%	38.59
Greater Taft/Maricopa		28,685	2.8%	918,220	4.0%	32.01
Greater Wasco		33,448	3.2%	1,221,561	5.3%	36.52
Mountains		65,276	6.3%	2,931,900	12.7%	44.92
Greater Lake Isabella		19,153	1.9%	1,128,421	4.9%	58.92
Greater Frazier Park		10,508	1.0%	481,037	2.1%	45.78
Greater Tehachapi		35,615	3.4%	1,322,442	5.7%	37.13
Desert		107,581	10.4%	3,802,399	16.4%	35.34
Greater Ridgecrest		45,900	4.4%	704,727	3.0%	15.35
Greater Cal City/Mojave		21,378	2.1%	1,761,599	7.6%	82.40
Greater Rosamond		40,302	3.9%	1,336,073	5.8%	33.15
Kern County Total		1,034,465	100.0%	23,119,977	100.0%	22.35

*Population is the total household population plus employment by work location; does not include group quarters and prisons

Baseline Assumptions

- Population 1,321,000 by 2035 adopted by Kern COG on October 15, 2009.
- SJV Air District Indirect Source Review Rule fee on new development
- Metro Bakersfield Development Impact Fee Incentive Rate for Infill
- 400 Infill Housing Near High Speed Rail Station
- Doubling Transit Fleet, route extensions, new circulator routes.
- Higher vehicle occupancy rates (reflecting informal van pools, etc.)

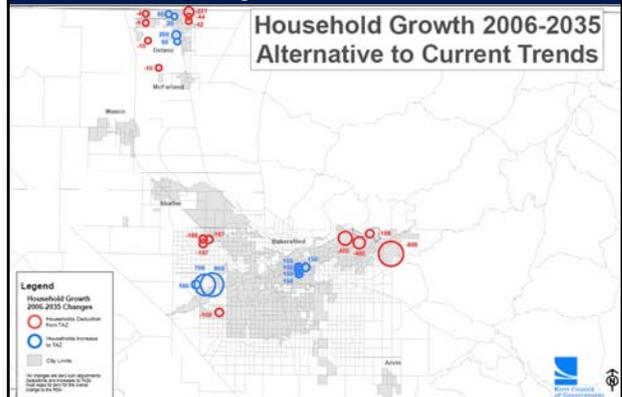
Alternative to Current Trend

- Spreadsheet Model Method – slowed per capita GHG from 10.3 to 9.8% increase (.5% reduction)
 - Affected 24 TAZ (1.5% of all TAZs)
 - Moved 1% of household growth
 - Moved 2% of employment growth
- Land Use Model Method – slowed per capita GHG from 13% increase to -5% (16% reduction)
 - Affected 1000 TAZs (63% of TAZs)
 - Moved 17% of household growth
 - Moved 27% of employment growth

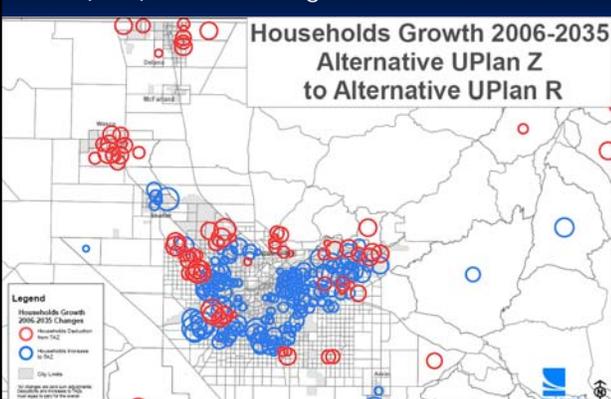
Alternative to Current Trend

Emissions model:		New Runs Since Local Adoption 4/28/10				
Beyond Model Travel		NO Credit for State Strategies - Pavley/LCF				
Factor or Variable	50% Beyond MPO Model Travel (50%BMT)	RTAC Method (-XX, -50%IX, -50%Mil)	RTAC Method (+50%BMT, -XX, -50%IX, -50% Mil)	Big 4 MPOs All Travel minus trips (-XX)	KERNCOG IX, -Mil, -50%Pris, -50%Wind	+50%BMT
Weekday CO2 Emissions by Passenger Vehicles Per Capita (Pounds)						
Base Year (2005)	2.23	14.32	17.02	15.41	15.81	
SB 375 Horizon Year (2035 CT)	1.57	15.79	17.74	16.71	16.79	
Alt. Scen. Horizon Yr. (2035 ACT)	1.57	15.72	17.66	16.64	16.69	
Percent Change in CO2 Per Capita from 2005 (SB 375 Target Format)						
Base Year (2005)						
SB 375 Horizon Year (2035 CT)	-29.6%	10.3%	4.3%	8.4%	6.1%	
Alt. Scen. Horizon Yr. (2035 ACT)	-29.6%	9.8%	3.8%	8.0%	5.6%	
Pct. Diff. between 2035 CT and ACT	0.00%	-0.48%	-0.43%	-0.45%	-0.54%	

2035 Spreadsheet - Alternative to Current Trend (ACT) Jobs-Housing Balance Scenario



2035 Land Use Model - Alternative to Current Trend (ACT) Jobs-Housing Balance Scenario



Alternative to Current Trend

- Trip Making "4D" Adjustments for:
 - Density – Compact Development -6%
 - Diversity – Mixed Use Areas -4%
 - Design – Walkable/Bikeable -2%
- Sensitivity Testing found the Model to be Sufficiently Sensitive to:
 - Distance to Transit – No adjustment
 - Destination – No adjustment