

# Fresno COG Model Improvements

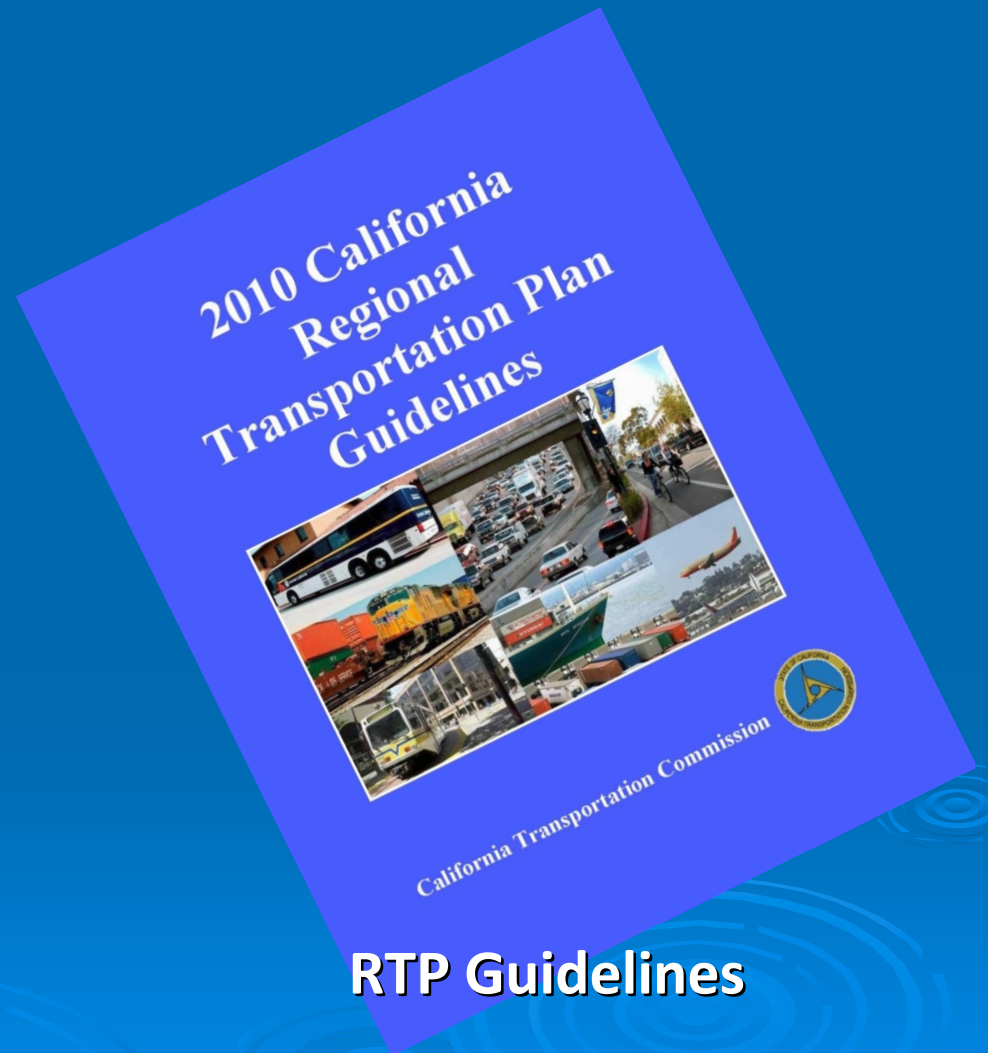
## San Joaquin Valley Model Improvement Plan (MIP)

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# Valley Model Improvements



**RTAC Report**



**RTP Guidelines**

# Model Improvement Plan

- Update and improve each of the 8 San Joaquin Valley MPO traffic models to be more sensitive to Smart Growth.
- Meets or exceeds requirements of SB 375 & the 2010 RTP Modeling Guidelines.



# Fresno COG Model Improvements

- Fehr & Peers
- Dowling Associates
- Cambridge Systematics
- Resource Systems Group Inc.
- Bowman-Bradley
- McCoy-Roth (UC Davis)
- Cari Anderson Consulting
- Citilabs



# Fresno County Only

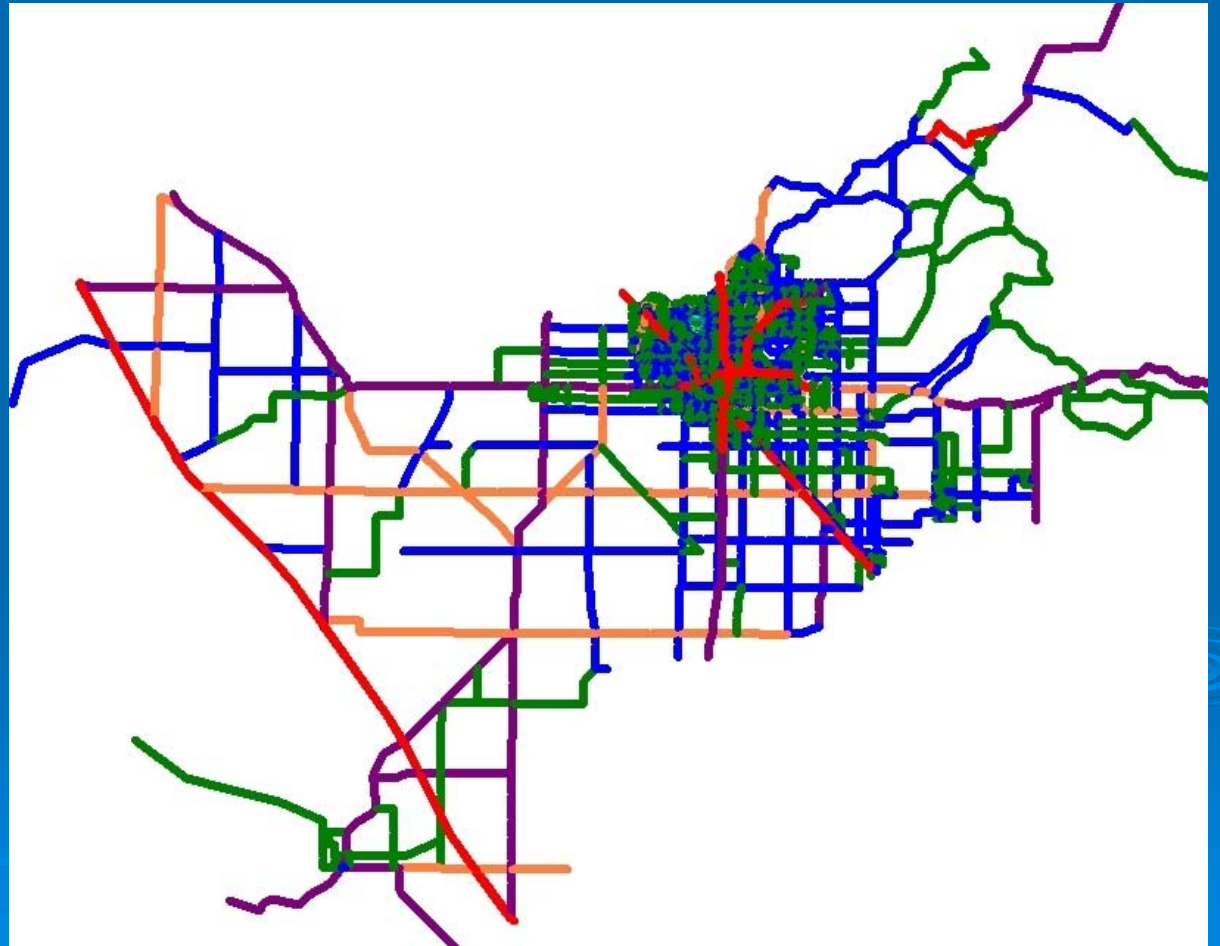
- **Model Improvements to the Fresno COG Model**
- **Near Term (2-29-2012)**
- **Beyond (Future Recommendations)**



# Key Improvements to the Fresno COG Model

## Transportation Network Improvements

- Review and update road and transit networks
- Road capacities and speeds refined
- Road types standardized
- Add variables for terrain and pricing

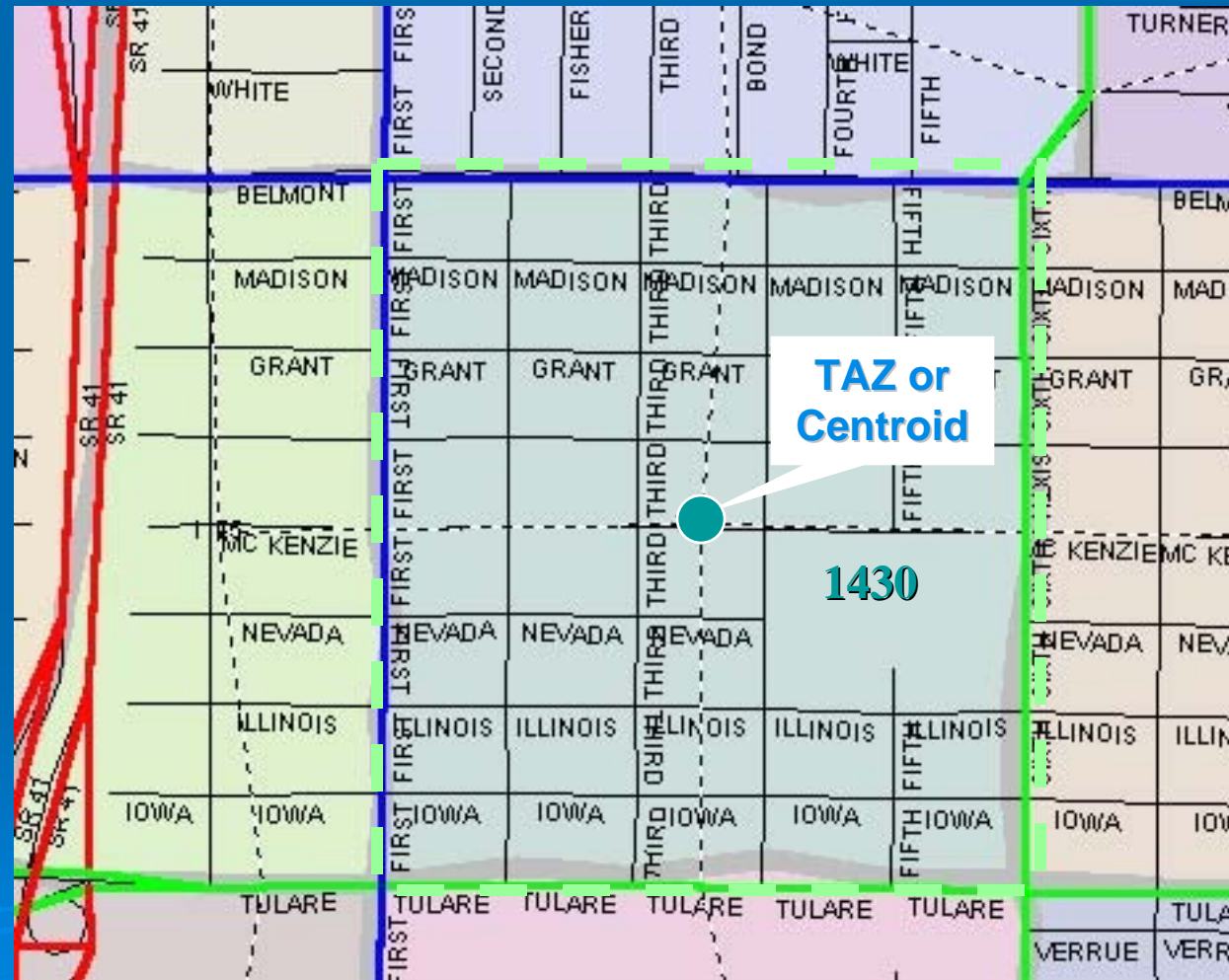


# Key Improvements to the Fresno COG Model

## Traffic Analysis Zones

Adds nearly  
400TAZs

Zones refined and detailed in TODs, mixed use areas and areas of existing and potential future non-auto use



# Key Improvements to the Fresno COG Model

## Land Use - Housing

### Current

- Single Family Households  
0 Autos, 1 Auto, 2+ Autos
- Multiple Family Households  
0 Autos, 1 Auto, 2+ Autos



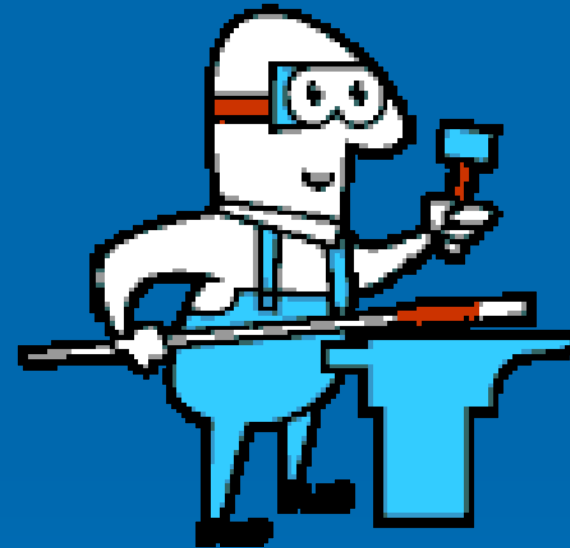
### MIP Adds

- Household Size (5 groups)
- Household Income (5 groups)
- Age of Head of Household (7 groups)

# Key Improvements to the Fresno COG Model

## Land Use - Employment

Retail  
Service  
Government  
Education  
Other



MIP – Increases employment categories from 5 to 22

# Key Improvements to the Fresno COG Model

## Trip Generation

Trip Purposes increased  
from 5 to 11



1. Home-Work
2. Home-Shop
3. Home-K12
4. Home-College
5. Home-Other
6. Work-Other
7. Other-Other
8. Highway Commercial
9. Trucks-Small
10. Trucks-Medium
11. Trucks-Heavy

# Key Improvements to the Fresno COG Model

## Mode Choice



- Drive Alone
- Drive Alone - Toll
- Shared Ride 2
- Shared Ride 3+
- Transit Walk Access
- Transit Drive Access
- Transit (FAX, Clovis, FCRTA)
- Bicycle
- Walk

# Key Improvements to the Fresno COG Model

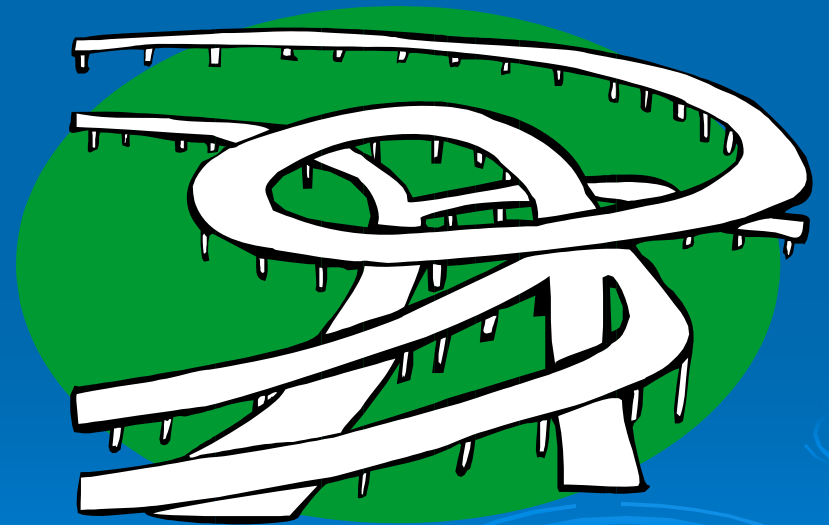
## Assignment

- *Highway Assignment*

- Drive Alone
- Drive Alone Toll
- Rideshare 2
- Rideshare 3+
- Small Truck
- Medium Truck
- Heavy truck

- *Transit Assignment*  
(FAX, Clovis, FCRTA)

Predicts preferred routes that trips will take  
Results in traffic and transit forecasts



# Key Improvements to the Fresno COG Model Calibration/Validation - Testing

- Test model for sensitivity to smart growth
  - Will 4D be required?
- Model to be recalibrated/validated and tested to ensure that it meets all state and federal modeling standards
  - Static and Dynamic Validation

# Key Improvements to the Fresno COG Model

## Implement Interregional Trip Process

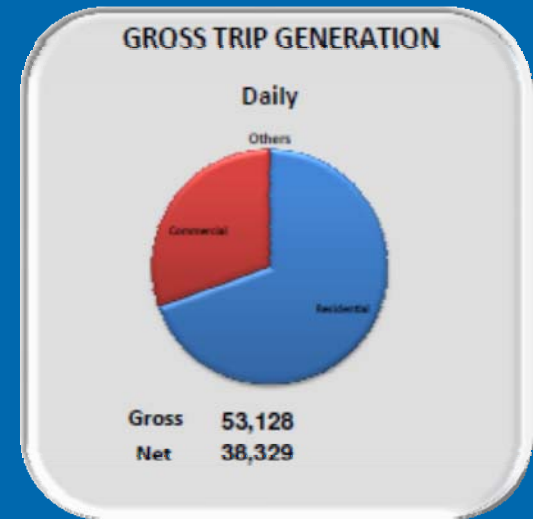
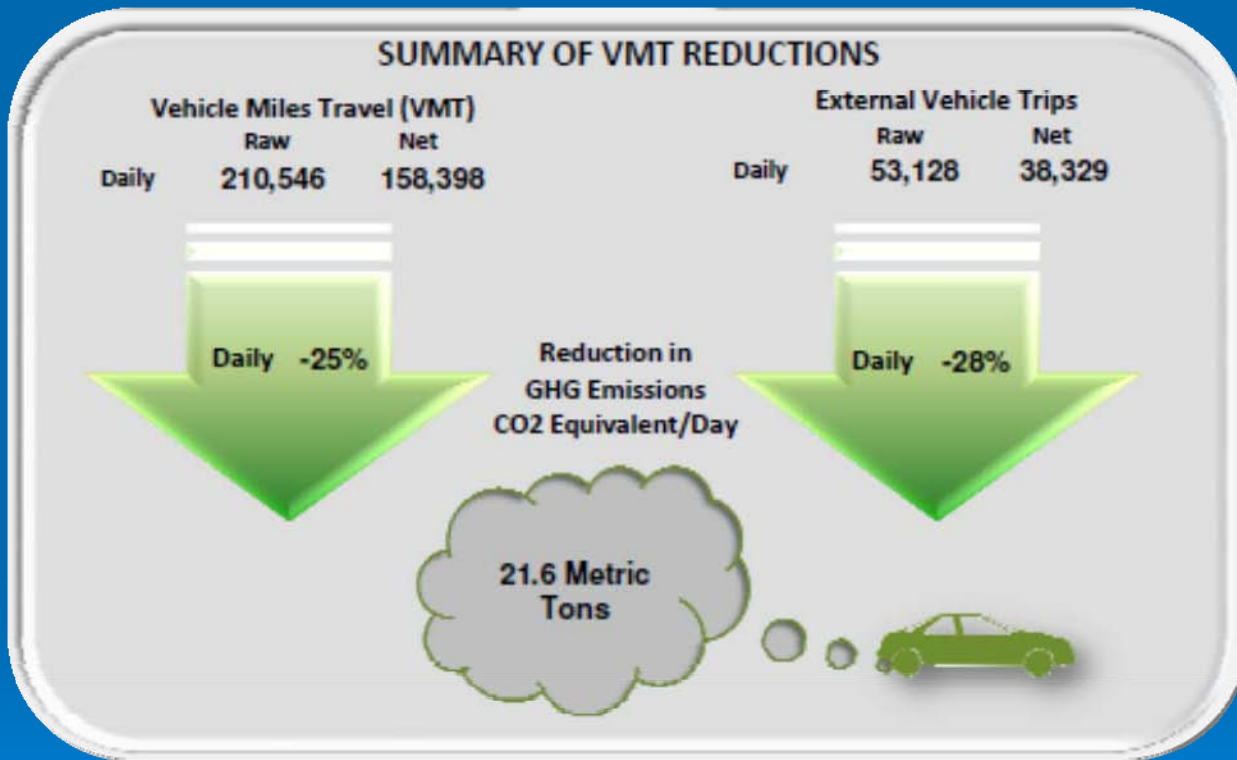
- Develop interregional trip inputs based upon the statewide model.
- Process currently used by Fresno COG to be implemented valley wide
- Will provide consistent cordon forecasts for each county
- Will allow each MPO model to reflect changes in jobs/housing balance in various regions throughout the valley and state.

# Key Improvements to the Fresno COG Model

## Quick Response Tool

- Development of tools to quickly analyze strategies off model.
- TDM/TSM
  - Car pool/Van pool
  - Transit service improvements
  - Improvements to sidewalks, bike lanes, other non-motorized facilities
  - Traffic calming strategies – signal synchronization, ramp meters, turn lanes, bus pull outs, etc.

# Quick Response Tool Outputs



# Advanced Modeling Projects

## Transferability to other valley models

### Development of Activity Based Models

- Three county Activity Based Model for the northern three MPOs (San Joaquin, Stanislaus, and Merced) - TAZ based implementation.
- Fresno County Activity Based Model - parcel-based implementation.

# Post 2012 Model Improvement Plan

To ensure continued maintenance & improvement to the valley modeling process, the following items will be addressed

- Develop an ongoing work plan building upon work completed by 2012
- Work plan to revalidate & calibrate models as needed following full release of 2010 Census & 2010 Statewide Household Travel Survey data

# The End

