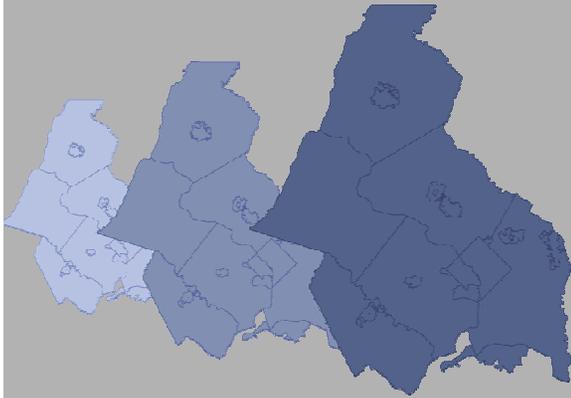


# Update on the Next Phase of the TPB Scenario Study

**Ronald F. Kirby**  
**Director of Transportation Planning**

**Presentation to the Transportation Planning Board**

**May 21, 2008**



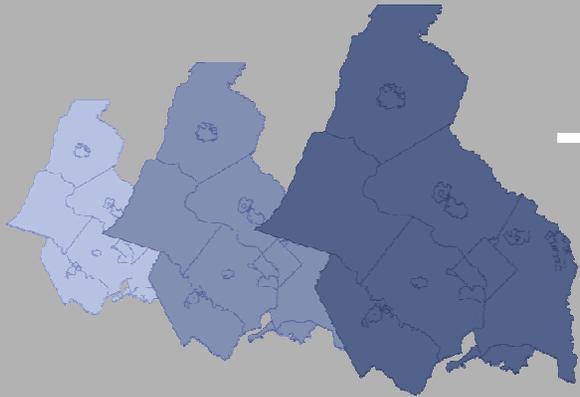
# Two New Scenarios

## CLRP Aspirations

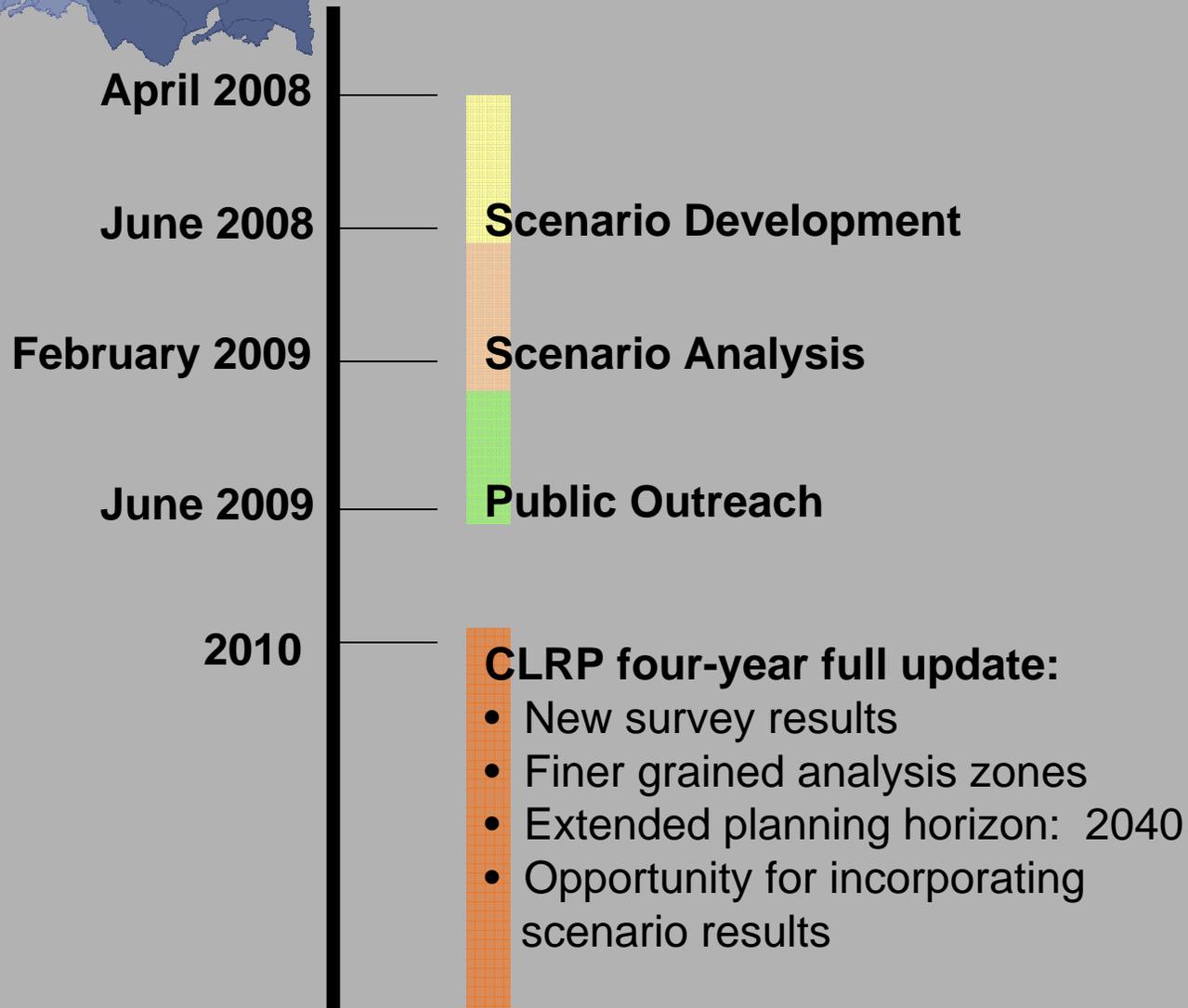
Will draw upon lessons of past scenarios (5 previous transportation/land use scenarios and 2 recently completed value pricing scenarios), while incorporating new sources of input. Will specifically be geared toward informing the 2010 CLRP update.

## What Would it Take?

Will start with CO2 goals (80% below 2005 levels in 2050 and 20% reduction by 2020) and assess what scales and combinations of interventions would be necessary to achieve the goal. Not bound by traditional CLRP modeling and procedural requirements.



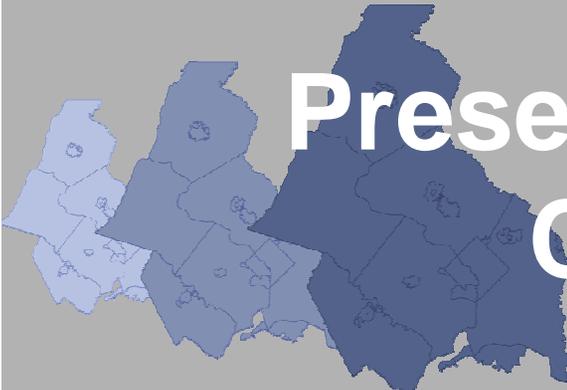
# The Schedule





# Initial Collaborative Efforts

- COG Climate Change Steering Committee
- Greater Washington 2050 Coalition
- Metropolitan Development Policy Committee
- Planning Directors Technical Advisory Committee



# Presentation to COG Climate Change Committee

(April 23, 2008)

## Possible CO<sub>2</sub> Reduction Strategies

### Fuel Efficiency

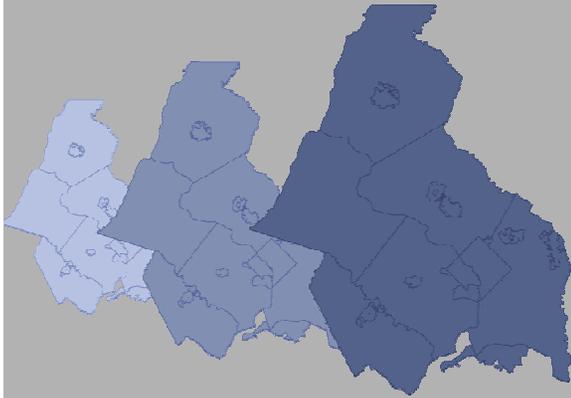
Beyond CAFE standards [currently 35 mpg by 2020]

### Fuel Carbon Intensity

Alternative fuels  
Vehicle technology

### Reducing Vehicle Travel

Changes in land use development  
Changes in travel behavior  
Changes in prices for travel



# Evaluating Strategies

## The Context

This is a *global* challenge.

A global or national **cap and trade** program (e.g. Lieberman-Warner Bill) or a **carbon tax** is expected to set a price threshold for CO<sub>2</sub> abatement, which will help determine cost-effectiveness of strategies

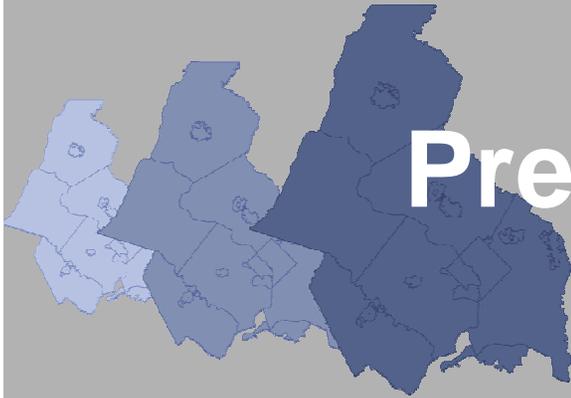
Current studies put the price threshold somewhere between **\$30 and \$70 per ton** of CO<sub>2</sub> abated.



# Analyzing Cost-Effectiveness

**Initial analysis of cost-effectiveness of Transportation Emissions Reduction Measures (\$ per ton of CO<sub>2</sub> reduced)**

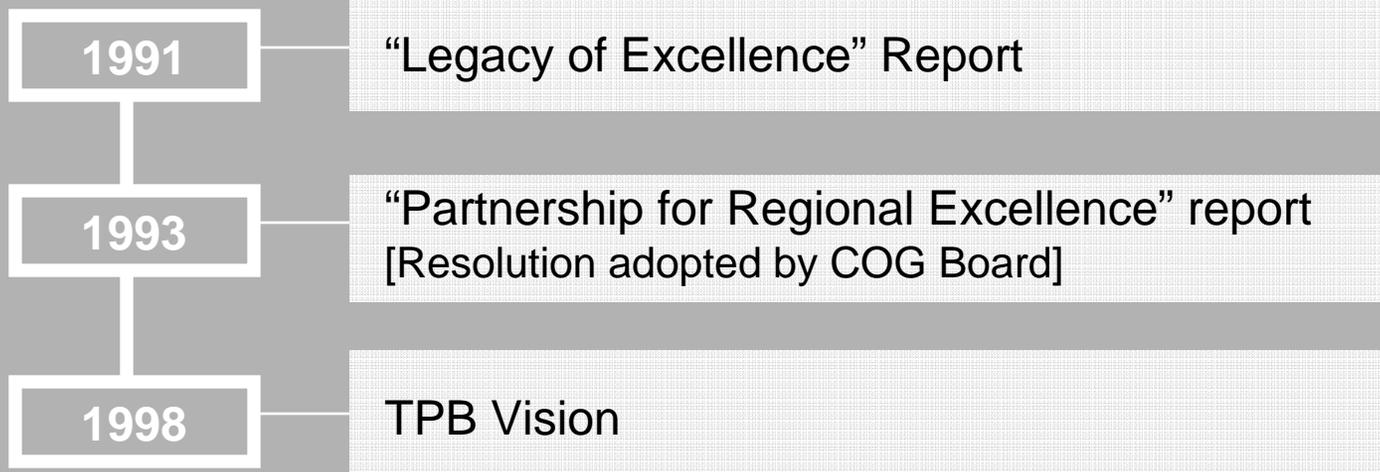
Number	Category Description	CO <sub>2</sub> Cost Effectiveness Range *
1	Access Improvements to Transit/ HOV	\$100 to \$400
2	Bicycle / Pedesrian projects	\$50 to \$100
3	Transit Service improvements	\$100 to \$800
4	Rideshare Assistance Programs	\$30 to \$300
5	Park & Ride Lots (Transit and HOV)	\$100 to \$500
6	Telecommute Programs	\$10 to \$40
7	Traffic Improvements/TSM	In Progress
8	Engine Technology/Alternative Fuel Programs	In Progress



# Presentation to GW2050

(April 25, 2008)

## Background



**Currently:** GW2050 review of regional and local visions; likely to find general consistency across goals, **but continuing challenges regarding implementation**



# Why Limited Regional Impacts from Previous RMAS Scenarios?

Strategies are very effective where applied (as much as 60-80% VMT reduction/household). BUT...

## Limited Applicability

University of Maryland Study: 20-40% VMT reduction for each increment of compact development

In RMAS study, **only 4% moved**, hence only 1% regional impact

**RMAS only looked at growth from 2010 through 2030, so another 20 years would help!**



# Sacramento: Looking to 2050

## Consider Sacramento's Blueprint visioning:

### Housing

Change in demand for housing: less detached single-family, more attached in mixed use development

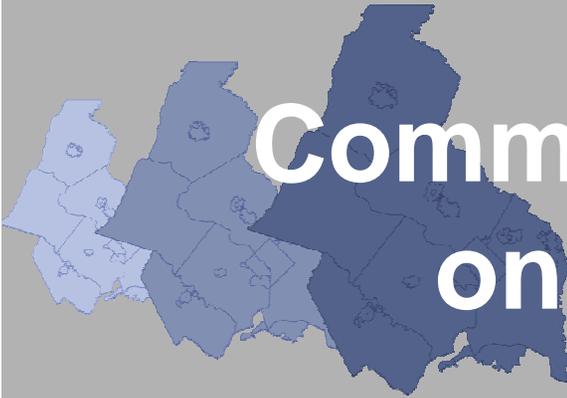
### Reduce Land Consumption

Reduce new land by 50% through infill and more compact development

### Transportation

Increased transit, walking and biking; and reduced VMT and CO2 emissions

**Key Challenge: “A voluntary framework for future growth...not intended to be applied in a parcel-level manner”**

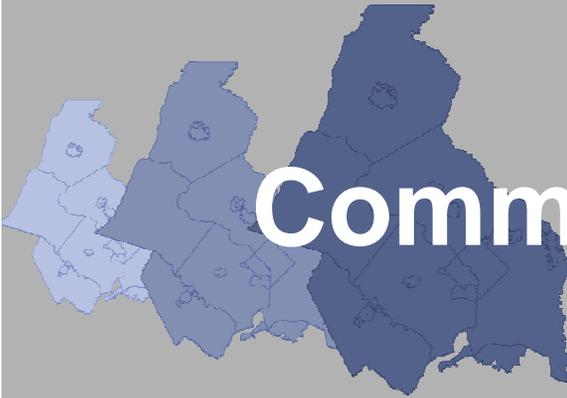


# Comments Received Thus Far on Two New Scenarios

from the April 16<sup>th</sup> TPB Meeting:

**Will the scenario examine transit investment beyond just Metrorail capacity? Although the region has an excellent transit service, much of the region is still not covered by high quality transit service.**

In development of the scenarios, we are working directly with the TPB Regional Bus Sub-committee to determine the level of transit investment needed and within reach, including an extensive bus transit network to support value pricing options.

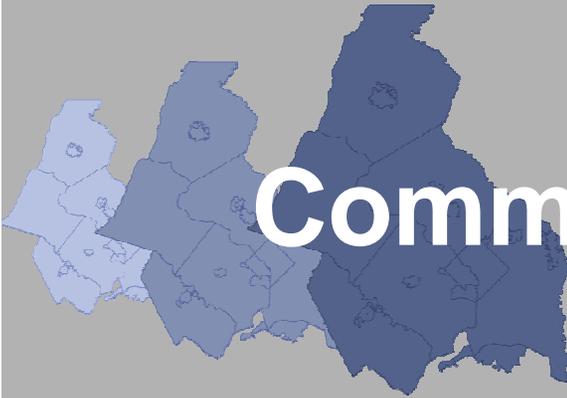
A map of the Piedmont region of North Carolina, showing several counties shaded in various shades of blue. The map is positioned in the upper left corner of the slide.

# Comments Received Thus Far

from the April 16<sup>th</sup> TPB Meeting:

**Will the new scenarios be transit-only scenarios or will they acknowledge the need for more roads?**

These scenarios will examine a variety of measures that address goals of congestion relief, transportation efficiency, and social and environmental concerns. Road improvements can certainly be among the measures considered.

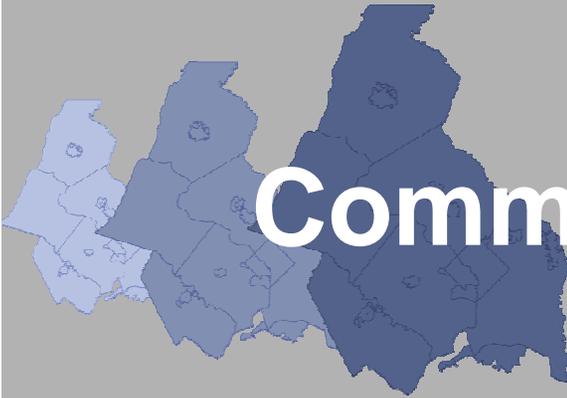


# Comments Received Thus Far

from the April 16<sup>th</sup> TPB Meeting:

Everything that we know now suggests the distinct possibility that the historic trend of the last 40 to 50 years is not necessarily going to be the experience of the next half century...recent trends may be about to reverse, given how the price of oil has driven the economy, and there is every indication that the future will not look like the past.

Within the scenario framework we might look at other cities, such as European cities, that have development patterns and transportation policies with regard to fuel taxes, transit development, and land use planning that this region may consider in the future.

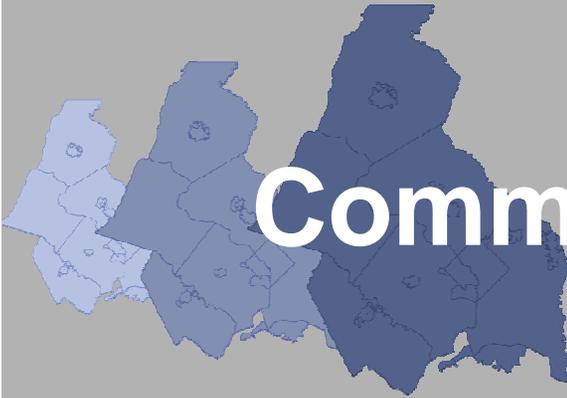


# Comments Received Thus Far

from Climate Change Steering Committee:

In collaboration with the Steering Committee, can the TPB examine the following GHG-reduction strategies pertaining to transportation: smart growth/TOD, alternative modes, VMT reduction, value pricing, clean vehicles and fuels, increased bicycle/pedestrian use, idling reduction, congestion management, traffic engineering improvements and roadway management, options with multiple benefits, and a “Conformity” Process for Greenhouse Gas Emissions

The What Would It Take? Scenario will look directly at these strategies as ways of reducing mobile GHG emissions.

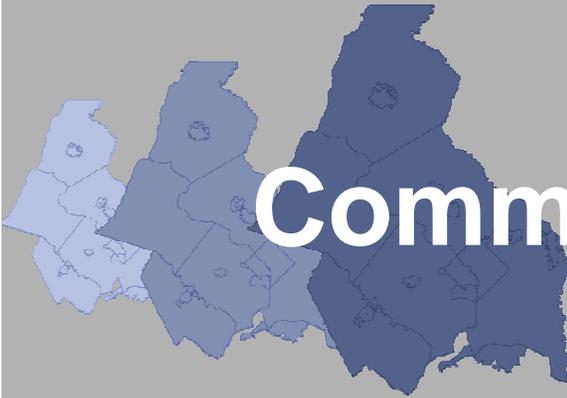


# Comments Received Thus Far

from GW2050

**Can we examine strategies, such as pricing of fuel and parking, to affect the base rather than continuing to work around the edges?**

The What Would It Take? Scenario will look directly at price signals as a way to affect individual behavior and reduce vehicle travel. The CLRP Aspirations Scenario can also utilize pricing sensitivity analyses, although travel forecasting models may not be well-suited for assessing responses to prices significantly beyond price levels reflected in model calibration and validation (tripling the price of gas, for example).

A map of the region, likely the Central Valley of California, showing county boundaries. The map is shaded in various tones of blue, with the central and eastern parts being a darker shade. The title 'Comments Received Thus Far' is overlaid on the right side of the map in a large, white, sans-serif font.

# Comments Received Thus Far

From May 16 Letter to Michael Knapp:

There are two main issues that have not yet been addressed although they have come up in several of the briefings/presentations given on this study – increasing energy prices and bicycle and pedestrian capacity in the region.

Increasing energy prices can be examined through pricing sensitivity in both scenarios, including looking at cities elsewhere in the world that have experienced higher energy prices over long periods.

The CLRP Aspirations Scenario can use density as a proxy for walkability by densifying activity centers so that they can be coded in the model as walk and bike friendly.



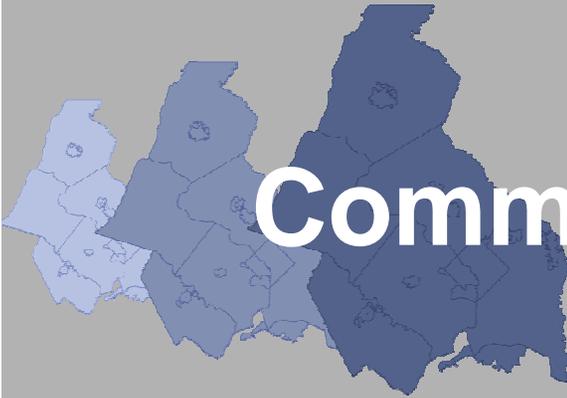
# Comments Received Thus Far

From May 16 Letter to Michael Knapp, cont'd:

**More options that impact the mode choice of the existing travel base (such as pricing, incentives, education, expanded service) should be examined. Interventions...that have the potential to convert short vehicle trips (under 2-3 miles) to walk/bike/transit trips should be considered.**

In addition to pricing, the What Would It Take? Scenario will examine the potential effects of individual behavioral change as a result of education programs and direct policy initiatives, such as financial incentives.

Household travel surveys from 1994 and 2008 will also allow for analysis of the potential conversion of short vehicle trips (under 3 miles) to bike, walk, and transit.



# Comments Received Thus Far

From May 16 Letter to Michael Knapp, cont'd:

**It may also be beneficial to combine these two scenarios prior to the implementation or “how to” stage of the Study’s process.**

The What Would it Take? Scenario is expected to generate policy and planning strategies for the region to address climate change over a long time frame (through 2050). Some of these strategies are likely to be beyond what is “within reach” for the 2010 CLRP update, though others may be candidates for the 2010 CLRP and might be incorporated into the CLRP Aspirations Scenario.