

# Setting GHG-Reduction Targets, 2010-2012

Robert A. Johnston

Emeritus Professor

Dept. of Environmental Science & Policy

University of California, Davis

## **PROPOSED**

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# Suggested Key Question 1 (RTAC 1/29/09)

- Key factors influencing VMT.
  - Land use density
  - Transit coverage and frequency
  - Parking costs and availability
  - Fuel costs
  - Land use mix
  - Walkability
  - Bikeability
  - [Holding HH income and size constant]
- All controlled by local governments, except fuel taxes
- Ignoring through trips by heavy trucks and cars

# RTAC Q. 2: Factors Local Gov't Can't Control

- Staff lists "Consumer housing preferences" as beyond local control. This is not correct.
  - Housing preferences are strongly affected by availability and cost of various housing types
  - Availability and cost are strongly affected by local government planning and zoning and fee structures
  - Charging sprawl its full societal cost would raise fees a lot
  - HHs and firms both locate farther from the CBD than is efficient (lowest-cost) for a region
  - Edge commercial parks are subsidized by the public and by other firms
  - Edge and rural residential units are subsidized re. roads, private services, floods, fires, habitats, etc.
  - Compact growth is more efficient, so improves economic growth

# RTAC Q. 3: Modeling Tools, Now & Soon

- Four large MPOs developing economic/land use models
  - SACOG and SANDAG may be ready in 2010
  - SCAG and ABAG may be ready in 2012
  - Caltrans Statewide model will be ready in 2010 (PECAS)
  - These models will give costs for, & economic impacts of, GHG policies
- Four lg. MPOs doing household activity-based travel models
  - more accurate re. time of travel, mode choice, and effects of land use density and mix on mode choice and trip length
  - can evaluate pricing of cars by time of day and area
- CTC Guidelines for Modeling Climate Change Policies
  - OK for now. MPOs are making improvements
  - Small MPOs need funding

# Modeling Tools (2)

- Medium-sized MPOs all doing simple GIS-based land use models (UPlan)
  - All will be running in late 2009
  - UPlan can be run with a county or multi-county travel model
  - No economics, but gives land use projections, based on policy rules
- These MPOs are adding mode choice steps to their travel models
  - Most are doing this. Done by 2010?
  - Also, need to make travel models sensitive to land use variables
  - Can use the 4D's models to factor VMT, to account for missing variables (walkability/bikeability, TODs, transit corridors)
- Travel models give GHGs in emissions model (EMFAC2007)

# RTAC Q. 4: Inter-County Trips

- Should include car/van/light truck trips across MPO borders
- Good data on commuting trips, but not others
  - The Statewide land use and travel model will project goods movements across county lines (van, light truck, heavy truck)
- Exclude through (X-X) trips
  - Mostly not influenced by MPOs and local governments
  - State Travel Model will be fixed up in late 2010
  - Should be addressed with Statewide policies re. freight
- Interregional (I-X and X-I) trips
  - Need to count them
  - Each MPO should count them at 50%, so share responsibility

# RTAC Q. 5: Metric for Regional Goals

- Should be per capita, to not penalize fast-growth counties
- $\text{VMT}/[\text{pop.} + (0.3 \times \text{empl.})]$ 
  - This also accounts for employment in the jurisdiction
  - Worktrips are about 30% of household VMT
- The VMT baseline issue
  - Percent reduction from Year 2012, when targets take effect
  - Can compare across all counties and MPOs, over time
  - Impossible to model the Future Year Trend, due to so many external policies (Pavley, AB32 cap-and-trade and/or carbon tax)
  - Need two years of odometer data and fuel sales data

# RTAC Q. 6: How Evaluate Policies?

- ARB wants "most-ambitious targets"
  - We need to view compliance over time, as a Policy Pathway
  - Targets should evolve, as data and models improve
- First, need better data
  - RTAC and ARB need to ask for legislation requiring odometer readings at annual registration for all vehicles (including heavy trucks)
  - RTAC and ARB also need to ask Franchise Tax Bd. for retail fuel sales tax data, by street address of enterprise, by type of fuel
- Need the odometer and fuels sale data to help to calibrate MPO travel models to improve their VMT projections
  - Will take until 2012 to get data for 2 years and calibrate travel models

# Evaluate Policies (2)

- Re. Policy Outputs, adopt VMT-reduction targets for regions
  - 2% reduction in Per Capita VMT,  $VMT/[pop. + (0.3 \times empl.)]$ , per year of modeling ("Reasonable Rate of Progress" approach)
    - i.e., 10% in five years, 20% in ten years. VMT per capita is slightly falling in California now, so these strong reduction goals are feasible
    - we want MPOs to have to adopt strong APS's, to get CEQA relief
  - This Rate of Progress objective can be made into GHG Reduction Targets for each MPO for 2020 and 2035, using assumed rates of growth of pop. and empl. in each MPO
  - The ARB should revise the VMT-reduction targets in 2015, when we have better data and models. All MPO VMT is modeled from MPO road link volumes. Inaccurate. Should be calibrated to odometer readings and gasoline fuel sales.
  - Require MPOs to report  $VMT/[pop. \times (0.3 \text{ empl.})]$ , so ARB can evaluate the accuracy of this modeling, over time.

# Evaluate Policies (3)

- Urge a minimum of 10 points from this list of Policy Inputs
  - Spend 90% of all capital funds on transit, walk, and bike (5)
  - Spend 75% of all capital funds on transit, walk, and bike (3)
  - Urban growth boundaries (5)
  - ISR and other fees for sprawl (2)
  - Major infill incentives in TODs and transit corridors (2)
  - Upzone densities in TODs and transit corridors to >3X (5)
  - Upzone densities in TODs and transit corridors to >2X (2)
  - Strong plan to increase walkability and bikeability (2)
  - Cashout of all workplace parking (5)
  - PAYD insurance (2)
  - Higher county fuel taxes (2)
  - County sales or other tax for transit operation (2)

# Evaluate Policies (4)

- Need transit first, then land use, and then pricing. So, pricing should be increased slowly and steadily, for 30-50 years.
  - Alternative modes, access to them, incentive to use alternatives
- Encourage the CTC to give incentives for more policy points
  - For 15 points, extra capital funding for transit, walk, and bike
  - For 20 points ditto, plus funding for transit operation
  - For 25 points ditto ditto, plus funds for redevelopment
- Will require substantial funding from
  - CTC funds
  - Caltrans new discretionary funds
  - USDOT funds
  - Cap-and-Trade fees/carbon tax

# Summary

- We suggest a method for fairly determining GHG Reduction Targets for each MPO, based on growth in pop. and empl.
- The method relies on a standard Reasonable Rate of Progress for reductions, from a base year of 2012
- The RTAC should also recommend policies to the MPOs, based on past urban modeling in the U.S. and E.C.
- The Legislature will have to incentivize MPOs to adopt these policies, with transportation and redevelopment funding
- The RTAC should recommend to the ARB that they ask the Legislature to require odometer and fuel sales data
- The ARB should revise the targets in 2015