

Public Health Indicators in Travel Models and Land Use Models in California

Bob Johnston, Professor
Dept. of Env. Science & Policy
Univ. of Calif., Davis

RAMP/COEH Meeting
Oakland, CA
March 15, 2011

MPOs and COGs Are Improving Models Because of SB375

- Big 4 are going to Activity-Based Travel Models
 - more accurate tripmaking, speeds, and emissions
 - can do emissions maps along freeways and major arterials and do EJ analysis for HHs by income (CO, PM, toxics)
 - travelers represented by HH income
 - can do EJ analysis of travel costs by HH income class
 - can do access to hospital zones by HH income
 - could do accidents by HH income, on links

MPOs and COGs Are Improving Models Because of SB375 (2)

- Big 4 are also going to Land Use Models
 - specifically to an Economic/Land Use Model (PECAS)
 - will show land use changes due to zoning policies or to transport improvements. more accurate (induced growth)
 - will also give rent/income for HHs (rent stress) (HHs are matched to dwellings by occupational types and rent level)
 - will give overall economic welfare measures for HHs by income (locator surplus) (about half of HH costs) (like change in income)
 - income is a fundamental public health measure
 - can also project displacement of low-income HHs (net change)

Recent Review of Big Four MPOs' EJ Analyses

- 3 of the MPOs did not state the law correctly!! The Civil Rts Act and subsequent FHWA Order state that disproportionate adverse impacts "will be avoided, minimized, or mitigated" by agencies
- Since they had no Economic/Land Use models, they could not perform housing market analyses
- Since they did not project housing stock and rents, they did not project HH incomes correctly

Affordable Housing Is Promoted in SB375

- Requires the RTP/SCS to zone residential areas sufficient to house "all economic segments of the community"
 - applies the current Local General Plan Housing Element requirement, but extends it from 6 years to 20-25 years
 - this is a really big deal! will increase apartment zoning, but not in all cities...
 - should reduce travel costs for low-income HHs
- This is one reason to use an Economic/Land Use model that includes labor and land markets

How to Make All This Work...

- EJ groups need to monitor their MPOs to make sure that they adopt and run their PECAS models
- EJ groups in Calif. should agree on a set of basic EJ indicators and get them into the CTC RTP Guidelines
 - only then can we track MPOs over time and compare them
- Then, the Calif. EJ groups and national EJ groups should get a similar set of indicators into the USDOT Order and, better, the Surface Transportation Act