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Project Title:

Developing a Sacramento Transportation Health Equity Tool

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Task Manager:

Lee Provost
Senior Transportation Engineer
lee.provost@dot.ca.gov

Developing a Sacramento Transportation Health Equity Tool

Development and Application of a Tool for Assessing the Health and Equity Impacts of Transportation Plans in the Sacramento Region

WHAT IS THE NEED?

Federal transportation authorizations require metropolitan planning organizations to track key indicators of system performance (e.g. collision rates, emissions, congestion) to ensure that their transportation plans are stewarding public funds wisely to meet goals related to safety, environmental performance, and congestion mitigation, among other areas. Concerns related to preventing discriminatory impacts of planning activities, motivated by Title VI of the 1964 Civil Rights Act, also compel agencies to assess the impacts of plans on different demographic groups.

At the same time, there is a growing desire among transportation planners to develop transportation plans that encourage more active travel (walking and biking). Greater rates of active travel can lead to improved health outcomes due to increases in physical activity, although they also increase risks related to traffic injury and exposure to air pollution. Analytical tools that evaluate the distribution of outcomes and the tradeoffs between transportation plan alternatives are needed to inform public debate and ensure that gains in some health outcomes are not being undermined by losses elsewhere.

WHAT WAS OUR GOAL?

The aim of this project is to create a tool to investigate the distribution of public health impacts resulting from a regional transportation plan in the six-county Sacramento Area Council of Governments (SACOG) region.



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WHAT DID WE DO?

In collaboration with regional stakeholders (including Sacramento County, the Sacramento Area Council of Government, and others), we:

- Compared different approaches to assessing the public health impacts of transportation plans. We synthesized information about multiple tools and methods that are in use and highlighted their similarities and differences. We focused on comparing two tools that have been applied in several areas of California.
- Modified the Integrated Transportation Health Impacts Model (ITHIM) to quantify health impacts resulting from the 2016 SACOG Metropolitan Transportation Plan/Sustainable Communities Strategy. We adapted ITHIM to produce estimated changes in death and disease burden by race, ethnicity, and income. Results were presented as totals (to indicate the magnitude of impacts) as well as standardized by age and population (to facilitate comparisons of risks faced by different geographic areas and populations). Results for the six SACOG counties were also shown.
- Reported on the development of a user-friendly web tool for summarizing ITHIM results. In response to the requests of various stakeholders in the SACOG region, we created a web version of our tool that can be used to visualize the modelled results. This web interface allows users to tailor the results shown by geographic area, scenario, demographic group, outcome, and units. Future versions of the tool will be able to simulate user-defined scenarios.

WHAT WAS THE OUTCOME?

The ITHIM-Sacramento Equity Analysis Tool can be used to support health equity analysis of modeled regional transportation planning scenarios. Our results demonstrate the utility

of analyzing and representing the public health impacts of transportation plans in a user-friendly way for planners, policy makers, and advocates. The methodology used in this project can also serve as a model for those working on active transportation, public health, and regional equity in other locations across the US.

Phase II of this work (currently underway) will allow users to analyze new scenario information via the web tool in order to evaluate the health and equity implications of changes in transportation outcomes. It will also allow for estimates of health outcomes in smaller (sub-county) geographic areas.

WHAT IS THE BENEFIT?

By facilitating the evaluation and visualization of the health impacts of different planning scenarios, the ITHIM-Sacramento Equity Analysis Tool can be used by transportation policy makers, planners, and community advocates to develop a shared information base to inform crucial decisions about the region's future. The ITHIM-Sacramento equity analysis tool can elevate the quality of the civic dialogue about how to build healthy communities and regions and the specific strategies needed to achieve this.

LEARN MORE

The interactive web tool can be viewed at:
https://aakarner.shinyapps.io/06_equity_analysis

All source code and model documentation are available at:
<https://github.com/aakarner/ITHIM-Sacramento>

Contact:
Dr. Alex Karner, alex.karner@utexas.edu
Dr. Jonathon London, jklondon@ucdavis.edu