



Integrated Transport and Health Impacts Model (ITHIM) at California Department of Public Health (CDPH)

CDPH's Role in Greenhouse Gas Emissions (GHG) Reductions

CDPH is one of more than a dozen state agencies conducting research and developing strategies to reduce the state's carbon emissions (mitigation). CDPH has a unique role to identify and assess GHG reduction strategies that improve the health of Californians, or that may have unintentional harms. Strategies that simultaneously reduce GHGs and improve population health represent a "win-win" or health "co-benefit".

Transportation and GHG Emissions

In 2011, the transportation sector accounted for roughly 38% of all of California's GHG emissions. Strategies for reducing transportation-related GHGs include:

- Increasing fuel efficiency of vehicles
- Electrification of the automobile fleet
- Greater use of public transit and carpooling
- Land use and urban planning that produces more compact growth
- Shifting short urban car trips to active modes of transport (walking, bicycling, and public transit)

What is ITHIM?

At CDPH, the Integrated Transport and Health Impacts Model (ITHIM) is an open source, scenario-based Excel spreadsheet. ITHIM assesses the health impacts of shifting travel from personal passenger vehicles to walking and bicycling and/or to electric vehicles and biofuels (low carbon driving). The population health impacts considered are:

- 1) Increases in physical activity from bicycling and walking;
- 2) Decreases in air pollution; and
- 3) Changes to the pattern of road traffic injuries with attention provided to the increase in risks associated with pedestrians and bicyclists modes of transport.

Uses of ITHIM

- 1) Estimate the health benefits or harms of growth scenarios of regional transportation plans, including sustainable communities strategies
- 2) Estimate the health benefits of meeting specific targets of goals in transportation plans (increases in travel-related physical activity)
- 3) Place-based assessments of health impacts, especially as it relates to environmental justice issues

Contact

For questions regarding ITHIM at CDPH, please contact Dr. Neil Maizlish at Neil.Maizlish@cdph.ca.gov.

Publications and Reports

Health co-benefits and transportation-related reductions in greenhouse gas emissions in the San Francisco Bay Area- ([Technical Report](#)) ([Journal Publication](#))