

Target investments to improve health for all populations

Not all residents of the Portland metropolitan region have equal access to healthy transportation options or health-promoting community resources.

- ✓ Ensure social and health goals are considered when prioritizing investments by explicitly and transparently addressing how investments link low-income and other vulnerable households to health-promoting resources.
- ✓ Protect populations – including the elderly, children, and low-income individuals – who live, work, and attend school near highways and major roads through siting, design, and/or mechanical systems that reduce indoor air pollution.
- ✓ Maximize health benefits by monitoring key health indicators, expanding partnerships that promote health, and developing tools to support the consideration of health impacts in future land use and transportation decisions throughout the region.

Health Impact Assessment

Health Impact Assessment (HIA) is a way to consider how a policy or plan affects community health before the final decision is made. By providing objective, evidence-based information, HIA can increase positive health effects and mitigate unintended health impacts. OHA conducted this assessment at Metro's request, with funds provided by the Health Impact Project, a collaboration of the Robert Wood Johnson Foundation and The Pew Charitable Trust.

An advisory group of more than 30 people representing local governments, state and regional agencies and public health nonprofits provided guidance and data for a series of three HIAs supporting Metro's Climate Smart Communities Project. Six members of the advisory committee provided a full technical review of the report.

Climate Smart Scenarios Health Impact Assessment Scope

Geography: Portland, Oregon metropolitan region as defined by the Urban Growth Boundary

Timeline: 2010 (base year) to 2035 (horizon year)

Scenarios:

A: adopted plans with existing revenues

B: adopted plans with expanded revenues for priority investments

C: adopted plans plus additional policy and infrastructure development (requires additional revenue/funding sources)

Draft Approach: full implementation of adopted 2014 Regional Transportation Plan with additional investment in transit; lower-cost transportation system management and operations; and lower-cost information and incentive strategies.

Exposure pathways: physical activity, traffic safety, air quality

Quantitative tool: Integrated Transportation Health Impact Model (ITHIM)

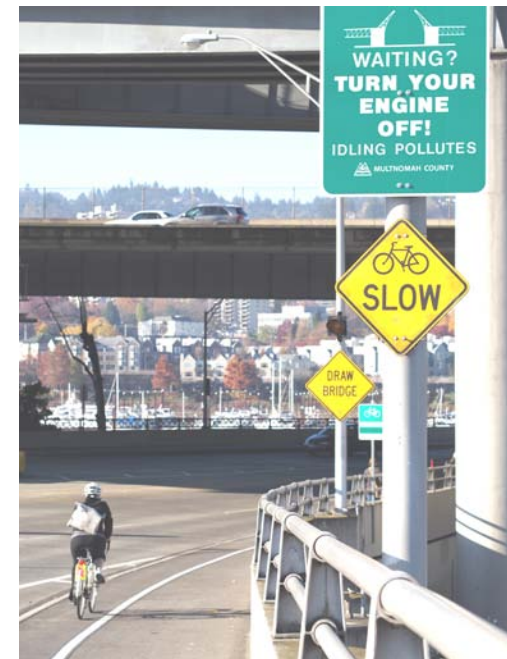
Other considerations: health costs associated with health pathways; vulnerable populations

The full report is available at www.healthoregon.org/hia.

Iroz-Elardo N, Hamberg A, Main E, Haggerty B, Early-Alberts J, Cude C. *Climate Smart Strategy Health Impact Assessment*. Oregon Health Authority. September 2014: Portland, Oregon



Climate Smart Strategy Health Impact Assessment (HIA)



Climate change threatens human health and well-being in many ways, including from increased extreme weather, wildfire, decreased air quality, threats to mental health, and illnesses from food, water, and disease-carriers such as mosquitos and ticks. Climate change will, absent other changes, worsen existing health threats. Vulnerable communities, particularly children, older adults, poor, and some communities of color are particularly at risk. The changing climate has the potential to significantly impact health in the region. www.healthoregon.org/climatechange

Metro's Climate Smart Communities Scenarios

The Oregon Legislature has directed the Portland metropolitan region to reduce per capita greenhouse gas emissions from cars and small trucks by 2035. Metro, the Portland metropolitan regional government, is leading in the Climate Smart Communities Scenarios Project – a community process to plan to meet this requirement.

The Climate Smart Strategy HIA found that strategies and investments considered in Metro's planning **reduce the risks of climate change, increase physical activity, improve air quality, and reduce traffic injuries and fatalities.**

- ✓ Demonstrate regional leadership and mitigate climate change by adopting and implementing a Scenario that meets or exceeds the GHG targets set for the Portland metropolitan area.

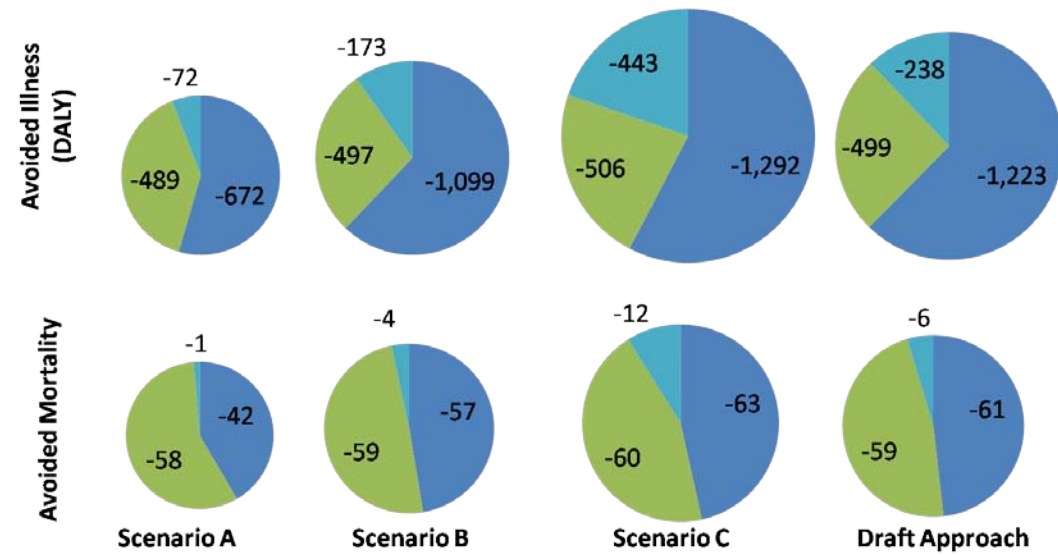
The Draft Approach is expected to result in **annual health benefits of 126 avoided premature deaths, a 1.6% reduction in diseases studied, and annual savings of \$100-125 million (2010\$)** in direct and indirect costs.

Flexible, reliable transportation systems

PROVIDE HEALTHY CHOICES.

Annual Health Benefits by 2035

■ Physical Activity ■ Air Quality ■ Traffic Safety



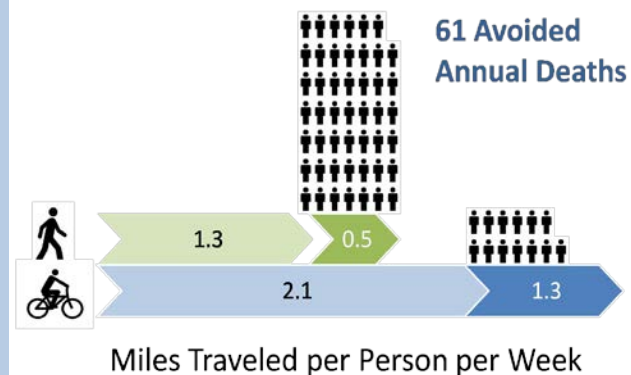
The Oregon Health Authority HIA Program used the Integrated Transport and Health Impact Model (ITHIM) to assess how increases in miles traveled by walking and biking combined with a decrease in per capita vehicle miles traveled would impact health. ITHIM estimates avoided deaths and avoided illness as measured by disability adjusted life years (DALYs) for 12 diseases over three domains: physical activity, air quality, and traffic safety. **ITHIM estimates that by 2035, the Draft Approach will prevent 126 premature deaths and reduce illness by 1.6% annually.** The vast majority of the health benefits from the draft approach are attributable to increased physical activity and improved air quality. (See above where attribution to pathways is represented as the size of the slice of the pie.)

PHYSICAL ACTIVITY

Transportation and land use strategies in the Draft Approach are expected to result in modest increases of active transportation. This translates into impressive health gains across the region.

Increasing the average distance walked from 1.3 to 1.8 miles per week will result in 48 avoided premature deaths. An additional 13 premature deaths will be avoided if miles traveled per person per week by bicycle increase from 2.1 to 3.6. Illnesses studies will decrease by 1.3%.

- ✓ Integrate multi-modal design in road improvement and maintenance to support all users.
- ✓ Implement Complete Streets strategies
- ✓ Complete the active transportation network.
- ✓ Meet or exceed 1.8 miles walked and 3.4 miles cycled per person per week by 2035 as projected in the Draft Approach.

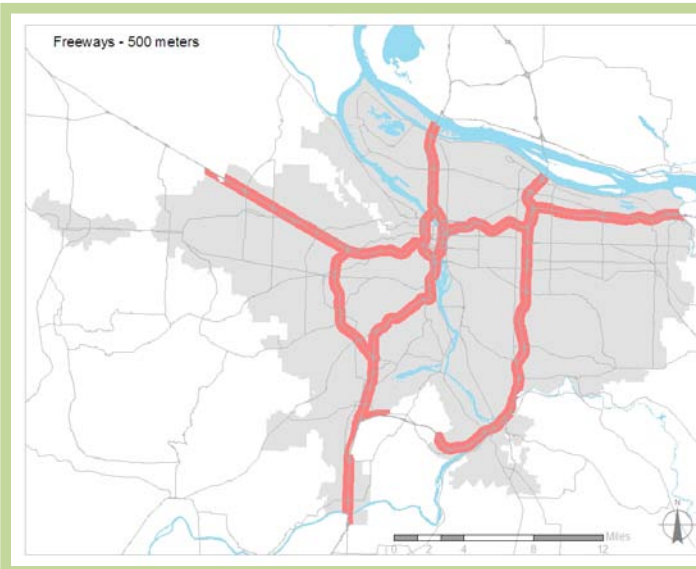
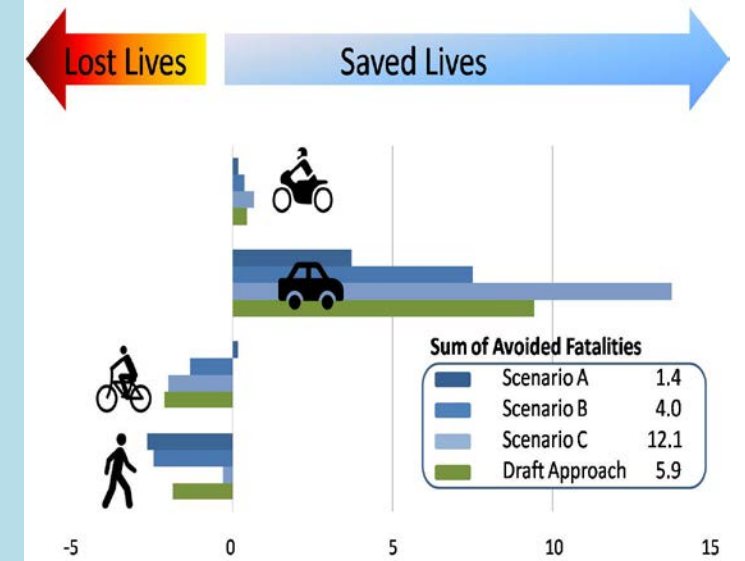


TRAFFIC SAFETY

Reducing greenhouse gas emissions depends on expanded use of walking, biking, and transit. **Reductions in per capita vehicle miles traveled (VMT) improve traffic safety for all users.**

The Draft Approach would result in 5.9 avoided fatalities annually and decrease disabilities from severe injuries by 6.7%. However, the number of pedestrian and bicycle fatalities and severe injuries will increase even as overall injury and fatality rates fall for all modes. This absolute increase in bicycle and pedestrian fatalities and injuries can be avoided by designing for safety for non-motorized users.

- ✓ Adopt and implement investments and strategies that reduce per capita VMT from 130 to less than 107 miles per week.
- ✓ Prioritize expanding transit and providing travel information and incentives to reduce VMT and encourage active modes.



AIR QUALITY

Improving overall air quality is an important health benefit of greenhouse gas emissions reduction. The combined effect of reduced per capita vehicle miles traveled and clean fuel technologies is expected to improve air quality.

Air pollution can be highly localized with high concentrations near transportation corridors such as freeways and major roads. In 2010, 12.6% of the population – including many vulnerable communities – lived within 500 meters of the freeways highlighted at the left. Care should be taken in siting facilities that serve vulnerable populations in these areas.

- ✓ Reduce regional ambient concentrations of PM2.5 to 6.41 ug/m3 or below as projected in the Draft Approach
- ✓ Support state efforts to transition to cleaner low carbon fuels, more fuel-efficient vehicles, and transit fleet upgrades.

COST SAVINGS

Using a cost-of-illness approach, the HIA program estimates that the region currently spends between \$4.8 and \$5.8 billion (in 2010\$) each year on diseases modeled in ITHIM. **The Draft Approach is expected to reduce illness and save the region \$100-\$125 million annually (in 2010\$).** This includes annual savings of nearly \$64 million in expenditures and lost productivity related to cardiovascular disease, \$35 million associated with traffic injuries, and \$26 million related to diabetes treatment.

