



Oregon Bicycle and Pedestrian Plan Health and Transportation White Paper

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This white paper provides an overview of how health is being considered in transportation planning and decision-making in Oregon, and highlights potential opportunities to enhance the connection between transportation and public health in light of national best practices.

I. Background

The intersection of public health, transportation, and the built environment is gaining national interest from decision-makers, researchers, and the general public. The World Health Organization defines health as “a state of complete...well-being, and not merely the absence of disease or infirmity.”¹ There is a growing understanding and evidence base that, in addition to traditional disease vectors, public health is significantly affected by a range of factors, including socioeconomic status, education, and the built environment.

Intersection between Transportation and Public Health

Transportation choices and travel behavior can affect physical activity, weight, heart health, rates of vehicle fatalities and injuries, and mental health. Additionally, motor vehicle emissions impact air quality and may be associated with higher rates of respiratory disease, cardiovascular disease, adverse pregnancy outcomes, climate change and environmental hazards (e.g., pollution, water quality, heat islands, etc.). There are several areas where active transportation and public health overlap and have shared areas of interest:

- Improving safety
- Encouraging physical activity
- Reducing air pollution
- Increasing mobility for vulnerable populations.

Improving Safety

Public Health and transportation professionals have a shared interest in improving safety and working together toward decreasing injuries and fatalities for all users of the transportation system. The press release for a 2014 U.S. Department of Transportation (USDOT) bicyclist and pedestrian safety initiative stated that with increased pedestrian and bicyclist mode share, injuries and fatalities have “steadily increased” since 2009.² However, there is some evidence that bicycle safety improves with increases in the number of bicycle trips (which may not be reflected in crash totals due to the increases in usage).³

Encouraging Physical Activity

Physical inactivity is a strong risk factor for chronic disease and premature death in the U.S. – a higher contributor than high blood sugar, high cholesterol, or alcohol and drug use.⁴ The Centers for Disease

¹ <http://www.who.int/about/definition/en/print.html>

² <http://www.dot.gov/briefing-room/us-transportation-secretary-foxx-announces-new-initiative-enhance-pedestrian-and>

³ Bicycle count data from Portland indicates that indexed bicycle crash rates decreased from 1991-2008 as bicycle ridership increased. Since 2008, the total number of bicycle crashes increased but crash severity decreased (and new reporting procedures influence the number of crashes reported since 2008). <https://www.portlandoregon.gov/transportation/article/386265>

⁴ U.S. Burden of Disease Collaborators, *The State of US Health, 1990-2010: Burden of Diseases, Injuries, and Risk Factors*. JAMA. 2013;310(6):591-606.

Control and Prevention (CDC) recommends at least 30 minutes of moderate physical activity five days per week. In 2009, 44 percent of Oregon adults did not meet the minimum physical activity recommendations.⁵

Providing bicycle and pedestrian infrastructure, supporting educational and encouragement programs such as Safe Routes to School and supporting active transportation options helps to encourage physical activity for better health, and may reduce health care costs by decreasing rates of chronic disease. One major goal of public health interventions to promote active living is to make “the healthy choice the easy choice” by removing barriers to physical activity, such as incorporating bicycling and walking into everyday routines.

Reducing Air Pollution

Emissions from combustion engines contribute to air pollution and can have serious health implications, especially for children, the elderly and those with respiratory conditions, including asthma. Fine particulate matter from all air pollution sources, including transportation emissions, contributes to more emergency department visits, heart attacks and lung cancer.⁶ As noted by the Statewide Transportation Strategy, in Oregon the transportation sector is responsible for approximately one-third of all GHG emissions.⁷ Thus, there is a shared interest in reducing air pollution and emissions and to reduce GHG emissions to comply with Oregon state legislation regarding climate change mitigation (HB 2001 and SB 1059).

Accessibility and Mobility for Vulnerable Populations

Mobility, e.g. the ability of people to get where they need to go, is important to the well-being of everyone, but is especially a consideration for children, older adults, persons with disabilities, and low-income communities. Access to transit, which requires safe and connected pedestrian infrastructure, is critical to help those who cannot, or choose not to drive in accessing community services, medical care and employment.

For older adults, having access to places to walk helps maintain muscle mass, which helps prevent falls and reduces hospitalizations. Statewide, the population of older adults is expected to increase significantly. By 2040, the population over 75 years of age is predicted to increase anywhere from 70 percent (Baker County) to 400 percent (Deschutes County).⁸ These demographic trends indicate that accessibility for aging populations will continue to be a critical issue for Oregon.

Federal Policy Supporting Public Health and Transportation

Although federal agencies do not require consideration of public health in transportation decisions, several USDOT planning factors are implicitly related to healthy communities, such as quality of life, economic vitality, safety, and energy conservation.

⁵ https://public.health.oregon.gov/PreventionWellness/PhysicalActivity/Documents/Oregon_PANfactst_2012.pdf

⁶ Oregon Asthma Program. 2013. *The Burden of Asthma in Oregon: 2013*

⁷ Source: ODOT. Background Report for the Statewide Transportation Strategy: The Status of Oregon Greenhouse Gas Emissions and Analysis. October, 2009

⁸ <http://public.health.oregon.gov/DiseasesConditions/ChronicDisease/Documents/healthyagingreport/healthyagingorecountiesweb.pdf>

The U.S. Department of Housing and Urban Development (HUD), USDOT and the U.S. Environmental Protection Agency (EPA) formed the Partnership for Sustainable Communities to assist communities in promoting six livability principles, including goals to “invest in safe, healthy, and walkable neighborhoods,” to “provide more transportation choices” and “promote public health.”⁹

The CDC’s Built Environment and Health Initiative works to promote health in community design by increasing physical activity, reducing injuries, improving air quality, and increasing access to healthy food.¹⁰ The CDC recognizes transportation as a key focus area in promoting healthy places, reducing injuries associated with crashes, improving air quality, and related to promoting active living to reduce chronic disease.¹¹ The initiative provides funding support for Health Impact Assessments (HIAs), which support decision-making to consider public health in policy and project planning. For example, the CDC notes that (as of 2013) Oregon Health Authority received funding to conduct four HIAs on topics such as transportation policy and climate change policies.¹² The CDC Division of Community Health (National Center for Chronic Disease Prevention and Health Promotion) supports chronic disease prevention by funding grant programs to increase “safe, active transportation.”¹³

Under the leadership of former Transportation Secretary Ray LaHood, the United States Department of Transportation (USDOT) partnered with the CDC and the U.S. Department of Health and Human Services (HHS) in 2012 to hold a White House Roundtable on Health and Transportation. One common theme stated at the roundtable was the importance of collaboration and coordination between agencies, data and information sharing.¹⁴ The USDOT Transportation Policy Statement on Bicycle and Pedestrian Accommodation states that walking and bicycling facilities and improvements “foster safer, more livable, family-friendly communities; promote physical activity and health; and reduce vehicle emissions and fuel use.”¹⁵ The policy statement also recognizes health as one of several community benefits resulting from improved opportunities for bicycling and walking.

The policy action plan to implement a 2014 USDOT bicyclist and pedestrian safety initiative recognizes bicycling and walking as a “healthy” mode of transportation, and notes that active transportation access “can improve the economic and social well-being of a community.”¹⁶

The Federal Highway Administration (FHWA) Health in Transportation Working Group is a voluntary initiative to develop resources within USDOT on the relationship between health and transportation. The Working Group includes representatives from various FHWA offices, the Federal Transit Administration (FTA), National Highway Traffic Safety Administration (NHTSA), and the Office of the Secretary of Transportation. In 2011, the Working Group hosted a webinar on transportation and health.¹⁷ The Working Group also published a brochure on FHWA programs and resources related to health. Public health is related to many FHWA programs, initiatives, tools, and resources, including:

⁹ <http://www.sustainablecommunities.gov/aboutUs.html>

¹⁰ <http://www.cdc.gov/healthyplaces/about.htm>

¹¹ <http://www.cdc.gov/healthyplaces/healthtopics/transportation/default.htm>

¹² http://www.cdc.gov/nceh/information/built_environment.htm

¹³ <http://www.cdc.gov/nccdphp/dch/programs/index.htm>

¹⁴ <http://cvta.org/member-news/104-public-news/542-health-and-transportation-a-critical-intersection.html>

¹⁵ http://www.fhwa.dot.gov/environment/bicycle_pedestrian/overview/policy_accom.cfm

¹⁶ http://www.dot.gov/sites/dot.gov/files/docs/safer_people_safer_streets_summary_doc_acc_v1-11-9.pdf

¹⁷ <http://wwwcf.fhwa.dot.gov/exit.cfm?link=https://connectdot.connectsolutions.com/p7zv88li7ix/>

- Air quality and environmental review.
- Bicycle and pedestrian program.
- Climate change.
- Non-discrimination and environmental justice.
- Safety.

The FHWA Health in Transportation Working Group has also conducted research on best practices for healthy transportation planning at state Departments of Transportation¹⁸ and Metropolitan Planning Organizations (MPOs).¹⁹ FHWA developed a framework for incorporating health into transportation decision-making based on best practices observed at MPOs. This framework states that health can be considered by regional agencies at various levels, such as during the formal transportation planning process (i.e., vision, goals, and performance measures), outreach and communications activities, and structural changes. Structural changes intended to broaden the consideration of health in transportation can include project screening or selection criteria or incorporating health comprehensively into transportation goals.²⁰ Specific examples of these changes are included in the next section of this white paper (High-Level Policy: National State of the Practice).

II. Health and Transportation Best Practices

Nation-wide, state, regional, and local agencies have incorporated health considerations into transportation planning through high-level policy initiatives, programs, interagency partnerships, and through the transportation planning process. Additionally, many agencies utilize tools such as health impact assessments (HIAs) and/or partner with public health agencies in the areas of data sharing, analysis and research to further shared goals.

The intent of this section is to identify potential ways in which Oregon policies and programs may be informed by national best practices on health and transportation. The section is organized by the major topic areas as found in the FHWA review of State DOT best practices.²¹

- High-Level Policy Support
- Interagency Collaboration
- Data Sharing
- Health Impact Assessment
- Performance Measures and Prioritization

The project team reviewed best practices in Oregon and from around the U.S. to identify example programs, partnerships, and policies integrating health and transportation.

Local practices in Oregon were reviewed to identify initiatives, programs and policies (at the state and local level) on health and transportation. While not explicitly linking health and transportation, Oregon

¹⁸ http://www.fhwa.dot.gov/planning/health_in_transportation/resources/statewide_healthy_communities/index.cfm

¹⁹ http://www.fhwa.dot.gov/planning/health_in_transportation/resources/healthy_communities/index.cfm

²⁰ http://www.fhwa.dot.gov/planning/health_in_transportation/resources/moving_healthy.cfm

²¹ http://www.fhwa.dot.gov/planning/health_in_transportation/resources/statewide_healthy_communities/index.cfm

state policy emphasizes several themes that are indirectly related to health (such as sustainability). At the state level, the Oregon Department of Transportation (ODOT) has collaborated with the Oregon Health Authority (OHA) on several initiatives, including data sharing, research, and communications. Local communities in Oregon have conducted numerous health impact assessments, and have developed performance measures and prioritization tools related to public health in local and regional transportation plans.

For national best practices, research focused on state DOTs that are making progress toward integrating health considerations into agency goals, policies, and practices, including interagency collaboration. Sources for national best practices included a FHWA white paper of best practices at state DOTs, as well as state and local agencies previously identified in the Best Practices memo. The 2014 FHWA white paper focuses on five case studies of state DOTs that utilize a holistic approach to health in transportation (i.e. including active transportation and access to destinations in addition to safety and air quality).²² Researchers found that state DOTs incorporate health in various ways, including policy motivations, early actions, and within the statewide planning process or individual DOT programs.

Common strategies across these best practices include partnerships, statewide policies, health criteria integrated into statewide planning processes, leveraging of federal programs, technical assistance and providing funding for local governments. The authors note that “active transportation is the most prevalent health focus for DOTs and their partners.” As described in the section below, state DOTs are currently exploring new ways to incorporate health into statewide planning processes (i.e., in goals, project evaluation and selection criteria).

Although federal policy does not require state DOTs to explicitly consider “broadly based” public health in plans, programs or projects, state DOTs can and do play an important role in coordinating data and resources, giving state-level policy direction, and considering health in planning or DOT programs.

1. High Level Policy Support

National best practices demonstrate that executive and state level policy support can be critical in initiating interagency partnerships and institutionalizing health considerations at state DOTs.

Oregon Practice: High Level Policy Support

Although Oregon legislation and policy documents do not often explicitly link health and transportation, state policy recognizes the importance of considering many issues that are related to health and transportation (e.g., air quality, encouraging bicycling and walking, reducing vehicle-miles-traveled, etc.). In 2007 the Oregon State Legislature passed HB 3543, which set a statewide goal for reducing GHG emissions to mitigate climate change. The bill recognized climate change as a threat to public health, which impacts “quality of life in Oregon.” HB 3543 established the Oregon Global Warming Commission to consider “economic, environmental, health, and social costs” and “health and social assessments” of global warming impacts. The Oregon Sustainable Transportation Initiative (OSTI) and the Statewide Transportation Strategy (STS) are furthering this work for the transportation sector.

²² http://www.fhwa.dot.gov/planning/health_in_transportation/resources/statewide_healthy_communities/hep14032.pdf

The Oregon Statewide Planning Goals guide local comprehensive planning, including land use and transportation plans. Goal 12 (Transportation) states that transportation plans shall “minimize adverse social, economic and environmental impacts and costs” and “meet the needs of the transportation disadvantaged” by improving transportation options. The Transportation Planning Rule (TPR) administrative rule, adopted in 1991, was created as a partnership between the Department of Land Conservation and Development and ODOT to integrate land use and transportation planning and to provide implementation guidelines for Goal 12.²³ The TPR directs Oregon cities and counties to develop coordinated transportation and land use plans to “avoid air pollution, traffic, and livability problems” that affect large urban areas nationwide and to reduce GHG emissions through coordination between land use and transportation. In addition, the TPR directs agencies to develop Transportation System Plans which implement Goal 12

National State of the Practice: High Level Policy Support

Best practices suggest that partnerships between multiple agencies are most effective when they occur at an executive as well as staff level and are tied to overall state policy goals. For example, state DOTs have incorporated public health goals into the agency-wide mission and have instituted partnerships at an executive (governor) level. These high-level policy changes directly link public health and active transportation policy issues and provide a basis for formal collaboration and partnership between multiple state agencies to achieve statewide policy goals.

The North Carolina Healthy Environments Collaborative consists of the North Carolina Department of Transportation (NCDOT), Health and Human Services, Commerce, Environment and Natural Resources and aims to improve interagency coordination to promote public health. The Collaborative identified opportunities for coordination in three areas: data, comprehensive planning and research. Within NCDOT, the agency has expanded its mission statement to include health and well-being and has adopted an agency-wide “Transportation-Public Health Policy.” This policy identified three focus areas for NCDOT, including physical activity, safety, and exposure. Additionally, NCDOT has adopted a Complete Streets Policy, which recognizes that active transportation promotes public health by providing opportunities for physical activity.

Massachusetts Department of Transportation (MassDOT) is a national leader in integrating health into high-level transportation policy. In 2009, the state legislature restructured the state’s transportation agencies into one Department of Transportation.²⁴ One element of this transportation reform legislation is the Healthy Transportation Compact (HTC), establishing an interagency partnership comprised of executives of Transportation, Health and Human Services, Energy and Environmental Affairs, Public Health, and including the MassDOT Highway Administrator and Transit Administrator.²⁵ HTC is required to coordinate to promote healthy transportation, reduce GHG emissions, increase bicycle and pedestrian travel, implement the Complete Streets policy and routinely conduct HIAs. The HTC Advisory Council meets regularly to coordinate activities towards these policy goals.²⁶ A targeted interview with a MassDOT Sustainability Manager indicates that collaborative efforts toward healthy transportation

²³ http://arcweb.sos.state.or.us/pages/rules/oars_600/oar_660/660_012.html

²⁴ <http://www.massdot.state.ma.us/greendot/healthytransportationcompact.aspx>

²⁵ <https://smartech.gatech.edu/bitstream/handle/1853/50412/INGLES-THESIS-2013.pdf?sequence=1>

²⁶ <http://www.massdot.state.ma.us/greendot/healthytransportationcompact.aspx>

generate cost saving benefits due to sharing of labor costs for data collection and analysis to pursue common goals.

A cornerstone of the 2006 Massachusetts transportation reform legislation is the GreenDOT initiative, which is a vision for MassDOT to reduce GHG emissions, promote healthy transportation (walking, bicycling and transit), and support smart growth. The GreenDOT Implementation Plan includes 2020 and 2050 greenhouse gas and vehicle miles travelled reduction targets, and states that the State Transportation Improvement Program should evaluate overall GHG emissions from project programs. Additionally, the plan integrates GreenDOT goals into project design implementation processes through routine accommodation. For example, MassDOT will post checklists online at 25% design that document project-level bicycle and pedestrian accommodation.

Finally, in California, a 2010 executive order established the Health in All Policies Task force to encourage collaboration and coordination between state agencies, including CalTrans, related to promoting public health and sustainability.

2. Interagency Collaboration

A common best practice for integrating health into transportation (and vice versa) is to develop interagency partnerships. Interagency partnerships, including but not limited to public health and transportation agencies, range from collaborative activities and coordination to established task forces or working groups that meet regularly to support ongoing coordination and involvement in initiatives and the transportation planning process.

Oregon Practice: Interagency Collaboration

Recognizing the overlapping areas of interest and an opportunity to collaborate, ODOT and the Oregon Health Authority - Public Health Division (OHA-PHD)²⁷ entered into a Memorandum of Understanding in 2013 (MOU) to support communication and planning, encourage safe and active transportation, collaborate on research and data analysis, and to leverage future opportunities. The activities and examples below reflect the collaborative work efforts in which the two agencies are currently engaged.

Communications and Planning

ODOT and OHA-PHD meet quarterly to coordinate initiatives and have developed a shared work plan to coordinate efforts. They periodically make presentations to their respective advisory boards or Commissions. The two agencies have also been working together to create a dialogue and shared understanding of the intersections of health and transportation by connecting health and transportation professionals at the state and local level.

²⁷ Oregon's Public Health system is a collaboration of the OHA-PHD, 34 county health departments and health districts and community organizations who work to prevent disease and injury and promote and protect health. OPA-PHD operates some statewide programs directly, while others are delivered through county health departments and districts. For those public health services delivered by county health departments and districts, OHA-PHD provides partial funding, technical support, and oversight. Oregon's Public Health Advisory Board (PHAB) serves as an advisory body to the Oregon Health Authority. The PHAB advises the Oregon Health Authority on policy matters related to public health programs, provides a review of statewide public health issues, and participates in public health policy development.

In the fall of 2012, this coordination effort took the form of bringing together the Central Oregon Area Commission on Transportation (ACT) in Bend with the local Health Coordinating Committee (HCC).²⁸ The meeting was well attended and opened a new dialogue between these entities. In the spring of 2014, a fact sheet was developed to introduce the conversation to other ACTs around the state. To date meetings have been held with the Lane ACT, Rouge Valley ACT, Southwest ACT, and with the executive committee of the Cascades West ACT.

In addition, OHA staff and others with public health perspectives are increasingly being invited to participate on ODOT advisory committees such as the State Transportation Improvement Program (STIP) Stakeholder Committee, the Transportation Options Plan Policy Advisory Committee, the Bicycle and Pedestrian Plan Technical Advisory Committee, and the Transportation and Growth Management (TGM) Committee.

OHA-PHD received, and is now administering, a pedestrian planning grant to conduct outreach throughout the state and funds are being made available as “mini-grants” to local communities. ODOT contributed by submitting a letter of support for OHA’s grant proposal to the CDC for the Preventative Health grant.

The two agencies are working together to create awareness at the legislative level. During the 2014 Oregon Legislative session, ODOT and OHA discussed bills relating to Health and Transportation. In addition, a federal policy paper on Health and Transportation was developed by ODOT and OHA, which ODOT presented to Oregon’s delegation in Washington D.C.

National State of the Practice: Interagency Collaboration

Best practices suggest that interagency collaboration between agencies occurs most frequently in the areas of research, bicycle and pedestrian counting, Safe Routes to School, technical assistance, and the development of shared goals and objectives.

State DOTs with strong health-transportation partnerships often invite state public health officials to serve on bicycle and pedestrian advisory boards (MassDOT, Minnesota DOT) and may also partner with universities to build knowledge on health and transportation. For example, NCDOT partnered with North Carolina State University to research state and regional transportation-public health policy, an effort that led to the expansion of the agency’s official mission to include health. This research was funded by a CDC grant.

State and local jurisdictions utilize CDC grant funding to support bicycle and pedestrian counting, implement projects related to regional planning, active transportation (infrastructure and non-infrastructure), and provide technical assistance. For example, MassDOT used a CDC Community Transformation Grant to address public health and transportation through the “Massachusetts in Motion” initiative. Fifty-two communities received grant funding and technical assistance for obesity prevention efforts, such as Safe Routes to School infrastructure and encouragement programs.²⁹

²⁸ The Oregon Transportation Commission (OTC) is responsible for developing and maintaining state transportation policy. To fulfill this obligation, the OTC collaborates with a variety of stakeholders. There are eleven Area Commissions on Transportation (ACT) around the state, chartered by the OTC, and they provide guidance to the OTC in both the development of policy and the selection of projects.

²⁹ <http://www.mass.gov/eohhs/docs/dph/mass-in-motion/mim-highlights.pdf>

Many state DOTs have held workshops to support “healthy transportation” and provide technical assistance to local jurisdictions. For example, NCDOT held a workshop with MPOs on a methodology to integrate public health into local plans when the community has outlined health as a priority. Along the same lines, MassDOT has conducted more than 80 Complete Streets workshops for local officials, in addition to technical courses for MassDOT staff. Massachusetts also provides “incentive grants” for MPOs to work with local public health officials to develop plans for regional public health districts.³⁰

The (California) Health in All Policies Taskforce developed recommendations on policies, programs and strategies promoting health and sustainability; produced a guide for state and local governments,³¹ and monitors state and national research activities related to health and transportation. Based on surveys and interviews, the task force is successful due to the broad participation of state agencies and collaboration with non-governmental organizations.

At the 2014 Transportation Research Board Annual Meeting, state DOT and public health executives discussed lessons learned for integrating health and transportation.³² The panel emphasized the importance of multidisciplinary working groups to make progress toward shared goals such as reducing VMT, promoting equity and quality of life. Further, transportation agencies found that multidisciplinary collaborative groups determined goals and objectives and developed performance measures to support shared goals around health and transportation.

3. Data Sharing

State and local agencies often support “healthy transportation” policy through partnerships to share, coordinate, and collect data.

Oregon Practice: Data Sharing and Collaborative Research

Both ODOT and OHA conduct research and analyze data, and support data collection and analysis conducted by universities and others. Research is a natural area for collaboration between these entities. Several efforts are currently underway:

Statewide Surveys

Both ODOT and OHA-PHD conduct statewide surveys. The agencies are exploring how to share existing information, as well as ask questions on each other’s surveys to reach different audiences.

Assessment of Modeling Tools by the Oregon Modeling Steering Committee (OMSC)

OHA-PHD staff was added to the OMSC, which is a statewide committee of analysts specializing in the use of models. OHA-PHD staff is leading a discussion in the OMSC to answer questions about the best available and most appropriate analytical and modeling tools to provide a health lens to transportation and land use models.

³⁰ <http://www.mass.gov/dor/local-officials/dls-newsroom/ct/new-state-incentive-grant-program-to-fund.html>

³¹ [http://www.phi.org/uploads/files/Health in All Policies-A Guide for State and Local Governments.pdf](http://www.phi.org/uploads/files/Health_in_All_Policies-A_Guide_for_State_and_Local_Governments.pdf)

³² https://dl.dropboxusercontent.com/u/14663201/2014_CEO_Session.pdf

Emergency Medical Systems and Trauma Data Sharing

OHA-PHD and ODOT have a shared interest in collecting more and better data. OHA-PHD is working with ODOT to improve geographic specific safety data, especially in rural areas. In 2013 OHA-PHD worked with forty-six Emergency Management Services (EMS) in Oregon to improve crash data reporting. When completed, this data will be shared with ODOT and will provide GPS point specific information on crashes, types of users involved (automobile, bicycle and/or pedestrian) and severity. Both agencies are working towards collecting better bike and pedestrian collision data.

Safe Communities

ODOT, with support from the National Highway Transportation Safety Administration (NHTSA), facilitates Safe Communities programs throughout the state. Oregon Safe Communities are coalitions of local communities, non-profits, public health, and business organizations to improve safety and prevent unintentional injury. ODOT supports these collaborative efforts with grants, technical assistance, training, and data.³³

Other Oregon Data

The Public Health Division of the Oregon Health Authority (OHA) provides data that may inform state and local active transportation plans (e.g., the Health Promotion and Chronic Disease Prevention Section, Injury Violence Prevention Program, and Oregon Environmental Health Tracking). The Data Review and Assessment memo describes these data sources in more detail. Additionally, the HIA program at OHA provides data, tools, and resources useful for conducting HIAs.³⁴ For example, the Oregon State University Extension developed the Oregon Rural Communities Explorer, an interactive resource that provides information on health outcomes, health factors, air quality, and other indicators for rural communities in Oregon.³⁵

National State of the Practice: Data Sharing

Similar to Oregon's practice of collaborative data sharing, national best practices demonstrate examples of local and state agencies sharing datasets and incorporating public health indicators into survey data. Additionally, some agencies have built on these efforts to establish performance indicators supporting health and transportation policy goals and have developed public "open data" repositories to communicate and share data and indicators.

For example, CalTrans partners with the California Department of Public Health (DPH) to collect data on physical activity through active transportation within the statewide household travel survey. Including health-related survey questions can allow for long-term tracking of health outcomes and provide insight into the possible health effects of active transportation infrastructure projects. In partnership with the University of California-San Francisco, California DPH has developed a set of Healthy Community Indicators to be used for impact analysis and planning.³⁶ DPH developed these data, measures and tools based on the Healthy Communities Framework established by the Health in All Policies Task Force.

³³ <http://www.oregon.gov/ODOT/ts/Pages/safecommunities.aspx>

³⁴ <http://public.health.oregon.gov/HealthyEnvironments/TrackingAssessment/HealthImpactAssessment/Pages/data.aspx>

³⁵ <http://oregonexplorer.info/rural>

³⁶ <http://www.cdph.ca.gov/programs/Pages/HealthyCommunityIndicators.aspx>

San Francisco DPH developed a set of indicators to assess community performance toward equity and health goals. SFDPH has also developed a relational database management system to access, manage, and apply spatial data to inform transportation solutions. The goal of this project is to serve as a central repository for public health-related transportation data.³⁷

These examples suggest that state and local public health agencies can play an important role in analyzing and storing data related to transportation and public health. In fact, state DOTs and their partners have collaborated to enhance the knowledge base and implementation of bicycle and pedestrian activity data collection. For example, Minnesota DOT partnered with the Minnesota Department of Natural Resources and the University of Minnesota to develop a methodology to conduct bicycle and pedestrian counts (noted in the Data Review and Assessment Memo). Minnesota DPH required that the State Health Improvement Program grantees conduct bicycle and pedestrian counts as part of this research initiative.

The TRB executive-level panel on Health and Transportation noted that agencies would benefit from tools to assess health impacts over time in order to prioritize transportation projects that improve public health. One DOT executive noted the potential of “big data” as a tool to bring together resources and information related to public health, transportation, and land use. These best practice examples demonstrate that transportation and public health agencies partner effectively to share data, analysis tools, and resources to support “healthy communities.”

4. Health Impact Assessment (HIA)

Health Impact Assessment is a tool to evaluate the health impacts of a policy, project, or program with the goal of providing information to support decisions promoting public health. Prior to initiating an HIA, a screening process is applied to determine if an HIA is the right tool, and which of the three types of HIAs (Desktop, Rapid Appraisal or Comprehensive) is appropriate for the task. Many state and local agencies have initiated and participated in HIAs of transportation projects in order to support the consideration of health in policy and planning decisions.

Oregon Practice: HIA

In Oregon, local jurisdictions have conducted Health Impact Assessments to consider public health in transportation policy and project planning. The project team reviewed HIAs conducted in Oregon communities relating to transportation policy and bicycle and pedestrian planning. HIAs can help to characterize how transportation decisions may influence health.

Agencies in Oregon often report that conducting a HIA enhanced interagency collaboration and provided useful information. For example, the Washington County Department of Land Use and Transportation (LUT) and Department of Health and Human Services (HHS) conducted a HIA to recommend strategies to reduce barriers to bicycling and walking and to inform future active transportation policies. As part of this HIA, the County surveyed residents on use and perceptions of

³⁷ <https://www.sfdph.org/dph/files/hc/HCAgen/HCAgen2014/May%206/TransBASE%20Dec2013%20FINAL-2.pdf>

bicycling and walking, including existing barriers to bicycling and walking trips. The HIA provided evidence that many suburban and rural residents are bicycling and walking today, in contrast with perceptions that only urban areas benefit from improvements in active transportation infrastructure.³⁸ The HIA found that both recreational and utilitarian cyclists preferred trails and bicycle facilities separated from traffic, and that improvement to those types of facilities would encourage more bicycling and walking trips. Through these and other results, the HIA helped to inform the development of a prioritization process for bicycle and pedestrian improvements in the County.

As a result of initial discussions, Washington County LUT and HHS pursued grant funding to conduct the HIA in order to further shared goals to promote active transportation. The process of conducting the HIA strengthened the relationship between the two agencies, and currently LUT invite HHS staff to participate on technical advisory committees and work groups (i.e., Safe Routes to School, Transportation System Plans, etc.) and both agencies plan to pursue future grant opportunities. The County Bicycle and Pedestrian Coordinator noted that LUT uses HIAs as a means to gather information to support grant applications, outreach to the community, and communicate project benefits at the concept plan stage.³⁹ Additionally, the partnership between LUT and HHS provides both agencies with the resources to improve mapping of transportation, public health and equity data. For example, a more recent HIA identified the number of households that could access a school as a result of a proposed improvement.

The Northwest HIA Network consists of over 300 professionals from local agencies, non-profit organizations, advocacy, health care, and the private sector that meet quarterly to encourage collaboration and capacity-building for HIAs.⁴⁰ Key partners include the Oregon Health Authority, county health departments, Kaiser Permanente, Metro and the Transportation Research and Education Consortium (TREC).⁴¹

ODOT has been invited to participate as an advisory member in several Health Impact Assessments. OHA-PHD engaged with Metro and ODOT to conduct a HIA of the Climate Smart Communities project. ODOT's Rail and Public Transit Division has engaged OHA-PHD in an assessment of the health impacts of Transportation Options choices. ODOT and OHA-PHD are continuing to learn how HIAs and other similar ways of applying a "health lens" to transportation planning can be used to inform transportation decision-making.

National State of the Practice: HIAs

State and local agencies have utilized HIAs to measure the health benefits of project alternatives, inform future health criteria for project development, and to build partnerships between transportation and public health agencies. Building on early experience participating in HIAs, best practices indicate that several state DOTs are conducting HIAs collaboratively with public health agencies and other partners, and using the HIA process to develop health considerations or prioritization metrics for use in project development.

³⁸ Interview: Shelly Oylear, Washington County Planning Department, September 16, 2014.

³⁹ Ibid.

⁴⁰ <http://public.health.oregon.gov/HealthyEnvironments/TrackingAssessment/HealthImpactAssessment/Pages/index.aspx>

⁴¹

<http://public.health.oregon.gov/HealthyEnvironments/TrackingAssessment/HealthImpactAssessment/Documents/NW%20HIA%20Network/NW%20HIA%20Network%20Partners%203%2018%2014.docx>

As noted previously, Massachusetts DOT is required to implement HIAs as part of the Healthy Transportation Compact legislation. MassDOT conducted several pilot HIAs to inform health based criteria for project development and found that publicly available health data sources can be used to assess existing health conditions and potential health impacts. Additionally, the DOT recognized the benefits of conducting HIAs early in the project development process, although more detailed assessment can be conducted during later stages. However, the legislature did not allocate funds for conducting the required HIAs and this limits the staff capacity to meet this mandate, resulting in the HIAs conducted primarily being limited to high level desktop reviews.

WalkBikeNC, the North Carolina DOT bicycle and pedestrian plan, was funded in part by the Blue Cross Blue Shield Foundation of North Carolina. As part of the plan, NCDOT conducted three small HIAs to demonstrate the health impacts of bicycling/walking projects and assess the economic value of active transportation. The pilot HIAs represent urban, suburban, and rural areas and compare the impacts of building pedestrian projects to a no-build scenario. In general, the HIAs found that the presence of sidewalks and greenways increase walking and may lower the risk for coronary heart disease, diabetes, hypertension, stroke, and early death. Additionally, the HIAs estimated economic value of improved health and health care savings (i.e. dollar spent on construction compared to savings due to reduced health care demand). The pilot HIAs included in WalkBikeNC recommended that state and local agencies measure active travel in units relevant to health studies, i.e., in household travel surveys.

At the 2014 Annual Meeting, The Transportation Research Board subcommittee on Transportation and Public Health convened a discussion on best practices and agency experiences related to HIAs at state DOTs.⁴² Several members of the executive panel noted that based on their experiences conducting HIAs, HIAs should be kept separate from the NEPA process because the information and decision support elements of are most useful early on in project development, i.e., within the planning stage.

The Director of the Massachusetts Department of Public Health noted that state DOT staff members initially had concerns that HIAs would add cost or delay to projects, and that advocates and state agency staff came into the pilot HIA project with different agendas and languages. However, Massachusetts agency partners held joint trainings to develop a common language through the pilot HIA, and by going through the HIA steps together, DOT staff “saw that the recommendations that came out of the HIA all supported some of the transportation options.” Thus, the experience of conducting an HIA with public health and transportation agency staff helped mitigate initial concerns about HIAs negatively impacting project development.

5. Performance Measures and Prioritization

According to a review of best practices, transportation agencies in Oregon and nationally currently incorporate health considerations into elements of decision-making, such as using health-tracking measures and coordinating data collection and analysis with public health agencies.⁴³

⁴² https://dl.dropboxusercontent.com/u/14663201/2014_CEO_Session.pdf

⁴³ <https://smartech.gatech.edu/bitstream/handle/1853/50412/INGLES-THESIS-2013.pdf?sequence=1>

Oregon Practice: Performance Measures and Prioritization

As noted in the Data Review and Assessment Memo, several jurisdictions in Oregon have included goals and performance measures related to public health in their transportation or modal plans, such as the percentage of residents meeting recommended levels of physical activity through transportation (City of Portland Bicycle Plan for 2030). The Clackamas County Transportation Safety Action Plan (TSAP) lists the County Department of Health, Housing and Human Services as a key partner in achieving its fatality and serious injury reduction goals.⁴⁴ The TSAP notes that the Safe Communities initiative in Clackamas County plays an important role in stakeholder engagement to promote the “safety culture” within the County.

On the state level, ODOT currently has several Key Performance Measures that have an indirect connection to health, including mileage of bike lanes and sidewalks, non-drive alone mode share, traffic injuries and fatalities, and travel delay. However, there may be a future opportunity to incorporate measures and prioritization tools directly related to public health and active transportation at the state level.

National State of the Practice: Performance Measures and Prioritization

Nationally, state and local agencies provide examples of how health may be incorporated into performance measures, prioritization, and project evaluation. These applications include regional policy frameworks, project selection, and statewide planning.

In partnership with the Department of Health and Human Services, Philadelphia Department of Public Health and the City Planning Commission, Philadelphia developed assessment tools and health indicator lists related to Comprehensive Plan objectives.⁴⁵ For example, “healthy planning” indicators related to bicycle and pedestrian safety include:

- Number of implemented improvements recommended in the pedestrian and bicycle plan
- Linear miles of on-street bicycle lanes
- Number of pedestrian and bicycle injuries and fatalities

As noted in a FHWA white paper on “Healthy Communities” best practices at MPOs, the Nashville MPO developed project-level health metrics that are integrated into the TIP project evaluation criteria. As noted in the best practices memo, these health metrics include “project located in Health Impact Area”⁴⁶, “project provides Alternative Transportation Choices for traditionally underserved groups” and “project provides multi-modal options near schools.”⁴⁷ Tied to regional goals for health and quality of life, the MPO requires that 15-percent of federal Surface Transportation Program funding go to active transportation. Additionally, the Nashville MPO plans to include questions related to physical activity, food access, and health in its next version of the regional household travel survey.⁴⁸

The San Diego Association of Governments (SANDAG) developed a regional draft health and wellness policy framework and performance measures for the regional comprehensive plan update (funded by a

⁴⁴ http://www.clackamas.us/transportation/documents/TSAP_Final%20with%20logo%20smaller%20version_2013.pdf

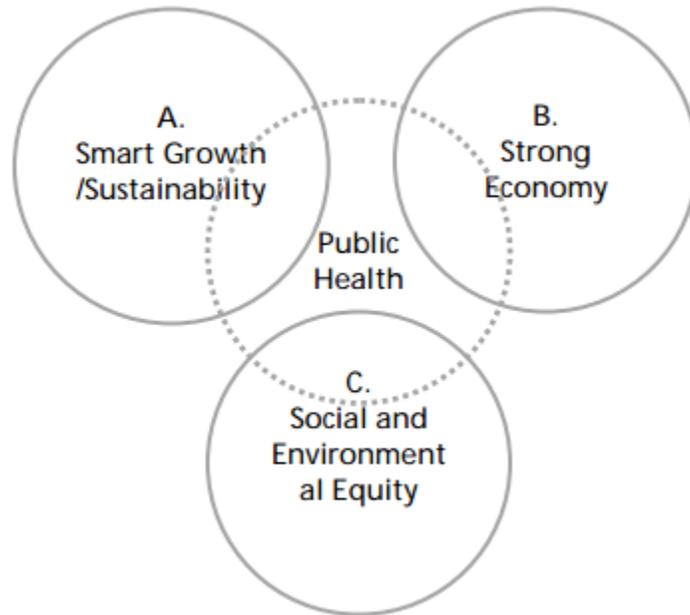
⁴⁵ <http://phila2035.org/home-page/communities/healthyphilly/>

⁴⁶ High Health Impact area is defined in the Bicycle and Pedestrian Study to account for demographic variables that denote higher health risks.

⁴⁷ http://www.nashvillempo.org/docs/lrtp/2035rtp/Docs/2035_Doc/2035_Appendix.pdf

⁴⁸ http://www.planning.dot.gov/documents/Volpe_FHWA_MPOHealth_12122012.pdf

CDC grant).⁴⁹ As part of this effort, SANDAG analyzed existing conditions and developed potential health indicators using spatial analysis.⁵⁰ Figure 1 shows the proposed comprehensive policy framework, which envisions public health supporting other regional policies.⁵¹



This draft policy framework includes nine topic areas, including Urban Form, Mobility, Public Safety, and Social Equity. The draft policy framework document includes potential goals, policy objectives, performance measures, and potential recommended actions. For example, policy objectives for the mobility topic area cover issues such as implementing Complete Streets policies, enhancing access for all users, and addressing potential health benefits or impacts during project development.

Additionally, the draft implementation framework includes four components:

- Tools, technical assistance and incentives
- Partnerships and collaboration
- Monitoring and tracking programs
- Organizational and institutional support

Phase II of the Healthy Works grant will refine the draft policy framework for inclusion in the next Regional Comprehensive Plan and develop guidelines to integrate public health concepts into local projects and programs.⁵²

In 2012, Massachusetts DOT adopted a plan to guide the implementation of the GreenDOT vision. The GreenDOT Implementation Plan includes mode share goals (for bicycling, transit and walking) and strategies to “promote healthy transportation” at the agency. These strategies include conducting

⁴⁹ <http://www.sandag.org/index.asp?projectid=381&fuseaction=projects.detail>

⁵⁰ http://www.sandag.org/uploads/projectid/projectid_381_14233.pdf

⁵¹ http://www.sandag.org/uploads/projectid/projectid_381_14445.pdf

⁵² <http://www.sandag.org/index.asp?projectid=381&fuseaction=projects.detail>

statewide bicycle and pedestrian facility inventories, tracking the mileage of on-road bicycle facilities, and evaluating signal operations for all users. Finally, the plan recommends that MassDOT revise traffic model assumptions to reflect limited future traffic growth. The motivation for the goals of the plan is to respond to future demographic trends and increased travel demand for bicycle, walking and transit.⁵³

Minnesota DOT (MnDOT) integrates health considerations into its Corridor Investment Management Strategy (CIMS), a corridor-based initiative which operationalizes MnDOT's "Minnesota GO" sustainability vision, quality of life goals, and "Towards Zero Deaths" initiative through collaborative investment. According to the FHWA white paper on "Healthy Planning," MnDOT views CIMS as an opportunity to test health-based project selection criteria. The CIMS project solicitation criteria requests data on bicycle and pedestrian miles traveled, and includes considerations for "community health and access" and "multimodal impacts."⁵⁴

WalkBikeNC, North Carolina DOT's statewide bicycle and pedestrian plan, includes implementation strategies and performance measures to integrate health into transportation decision-making. The Plan lists statewide health performance measures used by other jurisdictions, such as percentage of projects that are ADA compliant and physical activity rates. For example, the plan recommends that NCDOT partner with the Department of Health and Human Services (HHS) to implement performance measurement of local physical inactivity rates and diabetes incidence. Example strategies to implement the health policy goal include incorporating HIA into transportation projects and to establish a health evaluation program.

According to case study research, NCDOT plans to develop performance measures for considering health in project development. The agency is currently working with HHS to develop survey questions and obtain data sources for joint metrics, i.e., including a transportation/physical activity question in the CDC's Behavioral Risk Factor Surveillance System. As noted in earlier sections, NCDOT also intends to support local jurisdictions that are interested in incorporating health into comprehensive transportation plans by providing technical assistance and hosting workshops.

As demonstrated by the state of the practice, transportation agencies have supported "Health in Transportation" by integrating health into agency vision and goals, participating in interagency partnerships (formal or informal) and utilizing federal health grants to develop programs and projects related to active transportation. Further, several state DOTs have or are planning to integrate health considerations into modal plans, project development, and/or system-wide performance measures.

III. Policy Considerations for the Bicycle and Pedestrian Plan

Local examples in Oregon demonstrate a growing interest in the connection between health and transportation to support active transportation. Based on ongoing activities in Oregon and nationally, the following policy ideas and themes may be considered for informing the Oregon Bicycle and Pedestrian Plan. These policy ideas and themes recognize that the nexus of health and transportation is

⁵³ <http://www.massdot.state.ma.us/Portals/0/docs/GreenDOT/finalImplementation/FinalGreenDOTImplementationPlan12.12.12.pdf>

⁵⁴ <http://www.dot.state.mn.us/cims/pdf/CIMS%20Solicitation%20Criteria%20Summary.pdf>

an evolving area, and future ODOT initiatives may continue the conversation while remaining responsive to ongoing local and federal activities.

High-Level Policy Considerations

- ODOT Leadership – provide high level policy support for integrating health into transportation planning; lead by example by incorporating health into ODOT decision making.
 - Continue to monitor Oregon legislative development for opportunities to support policies related to health and transportation.
 - Consider incorporating health considerations into ODOT vision, system wide performance measures, modal plans, and state transportation plan policies.
- FHWA and CDC – Continue to monitor FHWA, CDC and other federal agencies for programs, resources and initiatives that provide incentives, best practices and grant opportunities for incorporating public health into transportation plans, projects and programs.

Interagency Collaboration and Data Sharing

ODOT and OHA-PHD have established a solid working relationship and are continuing to build upon their efforts. Additional opportunities to collaborate include:

- As the ODOT-OHA MOU Implementation Work Plan is updated, continue to refine vision, goals and suggested performance metrics to guide collaboration and to pursue shared goals of promoting livable, healthy and safe communities.
- ACTs and local public health agencies - Continue to work with Area Commissions on Transportation (ACTs) and local public health agencies and interest groups to expand the conversation and build understanding about the interactions between health and transportation.
- Local Public Health Capacity Building – OHA-PHD provides funding and technical assistance to Local Public Health Authorities to improve health and transportation planning and policymaking in local jurisdictions. Collaboration between ODOT and OHA-PHD will help facilitate collaboration at local levels.
 - Encourage partnerships between health authorities and transportation planning agencies to pursue future grant funding opportunities
 - Continue to provide data, tools and resources useful for conducting HIAs.
- Coordinated Care Organizations (CCOs) – The state has created 15 CCOs as a part of the state’s health system transformation efforts. CCOs, which are currently for Medicaid clients, are community-governed entities that have a global budget and will be held accountable for health outcomes. OHA-PHD and ODOT can work with CCOs to invest in community-based prevention and build understanding of how the built environment and transportation impact health care costs and health outcomes.
- Data Collection and Sharing – Continue to improve geographic specific data collection and sharing, especially in rural areas; focus on collecting better bike and pedestrian collision data.
 - Partner with OHA and other public health data sources to develop and track health based performance measures.
 - Consider working with partners to use a data repository to publicly share health based indicators and performance measures
- Continue to explore the use of HIAs to inform transportation decision making.

- Provide opportunities for local jurisdictions to share their experiences completing Health Impact Assessments, such as hosting workshops or trainings for local partners and/or staff on conducting HIAs.
- Consider developing state-wide guidance on HIA best practices.
- Based on best practices and input from local partners (i.e. workshops), explore developing criteria for project level use of HIA to prioritize implementation

Programs and Planning

- Consider developing health related criteria and metrics to be used in project evaluation, planning and prioritization.
- Improve data collection on bicycle and pedestrian use (including time spent bicycling and walking (exposure), bicycle and pedestrian use, and facility inventory data), crashes and other issues.
 - Improve understanding and use of existing data sources.
 - Develop best practices for using data to prioritize investments in non-motorized infrastructure.
- Seek opportunities to enhance data collection through surveys. Partner with public health agencies and other entities to use these data for health-based tracking and performance measurement.
- Transportation System Plan Guidelines – State law requires local jurisdictions throughout Oregon to prepare and adopt regional or local transportation plans. ODOT provides guidelines for those plans. When these guidelines are next updated, the involvement of OHA-PHD staff could enhance opportunities to incorporate health considerations.
 - Encourage the incorporation of health criteria or considerations in local and regional plans and in statewide plans and planning efforts.
 - Consider hosting a workshop for interested jurisdictions on incorporating health into local Transportation System Plans.
- Include language in bicycle and pedestrian programs (e.g., Complete Streets, Safe Routes to School, etc.), recognizing the public health benefits of bicycling and walking.