

## **CONNECTIONS TO PUBLIC HEALTH**

## Multimodal Transportation Planning and Public Health

Public health is not just a measure of access to medical care. A variety of factors influence physical, mental and social health, most notably social and environmental circumstances. Where and how we live, work, learn and play has an enormous influence on how healthy we are. Different types of neighborhoods have differing levels of toxin exposure, access to affordable healthy food, connected social institutions, and other resources. Transportation planning decisions greatly influence access to these resources, and have direct implications on public health.

Transportation policies affect travel choices. Research has shown that policies that provide more opportunities for active transportation (bicycling, walking, and taking public transportation) provide numerous benefits for public health. When people walk or bike, they are more physically active, and statistically less likely to develop heart disease, cancer and diabetes, suffer strokes and negative effects from stress, and die young. Research also shows that these policies have resulted in a lower risk of pedestrian and bicyclist fatalities. Transportation decisions also affect air pollution, which in turn affect rates of asthma, lung disease, lung cancer and mortality, noise pollution, water quality, overall mental health, and the likelihood of injury or death from car crashes.<sup>1,2</sup> Decisions to provide more opportunities to walk, bike and take public transportation instead of driving alone can improve all of these aspects of public health.

## Health Indicators in Virginia

The Virginia Department of Health (VDH) is committed to protecting and promoting the health of all Virginians and has been involved in the development of these Multimodal System Design Guidelines. VDH publishes an annual Health Equity Report which evaluates the health status of Virginia's residents, especially for disadvantaged populations. The 2012 report provides a Health Opportunity Index (HOI) by census tract across the Commonwealth. The HOI reflects the indirect factors that contribute to public health including education, environmental hazards, transportation and housing affordability, income, employment, population density, racial diversity, and commuting patterns, referred to as the social determinants of health. Social determinants essentially reflect the opportunities or lack thereof to live a physically, mentally and socially healthy lifestyle.

**Figure F-1** shows the results of the HOI analysis across Virginia. Some large rural areas perform poorly, as do some mid-sized and specific areas of larger cities. This analysis shows that areas across the Commonwealth in both urban and rural contexts can benefit from increased opportunities for healthy living.

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<sup>1</sup> American Public Health Association. *At the Intersection of Public Health and Transportation: Promoting Healthy Transportation Policy*. <http://www.apha.org/NR/rdonlyres/43F10382-FB68-4112-8C75-49DCB10F8ECF/0/TransportationBrief.pdf>.

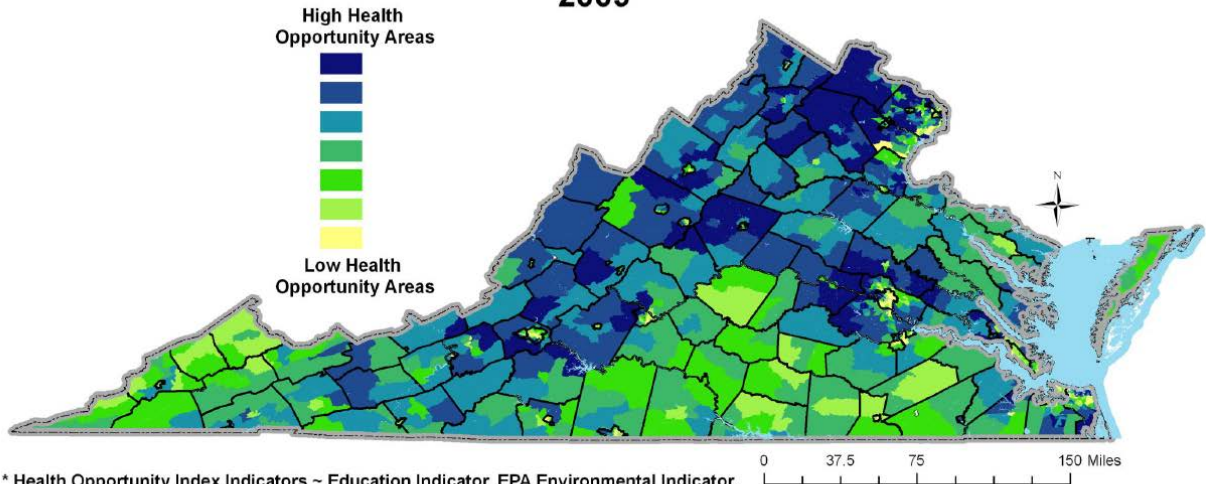
<sup>2</sup> Policy Link, Prevention Institute, and Convergence Partnership. *The Transportation Prescription: Bold New Ideas for Healthy, Equitable Transportation Reform in America*. [http://www.policylink.org/atf/cf/%7B97C6D565-BB43-406D-A6D5-ECA3BBF35AF0%7D/transportationRX\\_final.pdf](http://www.policylink.org/atf/cf/%7B97C6D565-BB43-406D-A6D5-ECA3BBF35AF0%7D/transportationRX_final.pdf).

# Virginia

## Health Opportunity Index (HOI) \*

### By Census Tracts

2009 \*\*



\* Health Opportunity Index Indicators ~ Education Indicator, EPA Environmental Indicator, Affordability Indicator, Townsend Material Deprivation Indicator, Job Participation Indicator, Population Churning Indicator, Local Commute of Workers Indicator, Racial Diversity Indicator, Population density Indicator & Household Income Indicator  
 \*\* Data Source: Claritas demographic Data, 2009 and GeoLytics Data, 2009

Figure F-1 - Health Opportunity Index Throughout Virginia

## What is a Health Impact Assessment?

A Health Impact Assessment<sup>3</sup> (HIA) is a process that evaluates the potential effects of a community design plan or policy on public health. Through an HIA, communities can make more informed decisions about transportation, land use and other public policy concepts to ensure these decisions are providing benefits for public health. HIAs are particularly valuable for identifying and understanding potential health impacts that are not outwardly apparent and those that may disproportionately affect disadvantaged populations. HIAs are compared to other assessments like environmental impact assessments as a formal process to understand all potential implications of a policy or decision.

A Health Impact Assessment typically consists of the following steps<sup>4</sup>:

1. **Screening** determines whether a proposal is likely to have health effects and whether in the HIA will provide information useful to the stakeholders and decision-makers.
2. **Scoping** establishes the scope of health effects that will be included in the HIA, the populations affected, the HIA team, sources of data methods to be used, and alternatives to be considered.
3. **Assessment** describes the baseline health status of the affected population and assesses potential impacts.

<sup>3</sup> For more information on Health Impact Assessments, please visit the Centers for Disease Control and Prevention website at <http://www.cdc.gov/healthyplaces/hia.htm>.

<sup>4</sup> The National Research Council outlines and describes this six-step framework in *Improving Health in the United States: The Role of Health Impact Assessment* (2011). [http://www.nap.edu/catalog.php?record\\_id=13229](http://www.nap.edu/catalog.php?record_id=13229)

4. **Recommendations** suggest alternatives that could improve health or actions that could be taken to manage the health effect, if any, that are identified.
5. **Reporting** documents and presents the findings and recommendations.
6. **Monitoring and Evaluation** can address adoption and implementation of HIA recommendations and changes in health or health determinants.

The steering committee for these Multimodal System Design Guidelines expressed interest in conducting an HIA for these guidelines. Should this be pursued, the following section provides an overview of other communities in the U.S. that have conducted HIAs on transportation planning initiatives.

## Examples of Health Impact Assessments

Health Impact Assessments are commonly used internationally in Europe, Australia, New Zealand, and Canada, and are gaining momentum in the U.S. as a holistic approach to promoting health.

### Health Impact Assessments in Virginia

Although few HIAs have been conducted in Virginia, interest in this field is rapidly growing. The academic community is pioneering several HIAs in Virginia.

The Center on Human Needs at Virginia Commonwealth University is currently conducting an HIA for a biomass facility that would convert poultry litter into an energy source in the Shenandoah Valley.<sup>5</sup> Participants in this HIA process are working through concerns regarding air quality, water quality, the local economy, employment, and social cohesion.

In 2008, students at the University of Virginia customized an HIA for the City of Charlottesville for future implementation by community leaders.<sup>6</sup>

## Examples of Health Impact Assessments on Transportation Planning Initiatives

Several localities have applied the HIA process to transportation planning initiatives.

### HIA on Transportation Policies in the Eugene Climate and Energy Action Plan (Eugene, OR)

In 2010, Upstream Public Health, a non-profit organization, conducted a collaborative six-step HIA process in Eugene, Oregon, to examine the potential health effects of transportation recommendations in the City's Climate and Energy Action Plan. It addressed health issues including injuries and chronic cardiovascular and respiratory diseases, crash rates, physical activity, and air pollution.<sup>7</sup>

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<sup>5</sup> More information about the Shenandoah Valley Poultry Litter to Energy HIA can be found online at <http://humaneeds.vcu.edu/Page.aspx?nav=217>.

<sup>6</sup> <http://news.virginia.edu/content/students-take-community-goal-help-charlottesville-become-americas-healthiest-city>.

<sup>7</sup> For more information on the HIA on the transportation recommendations from the Eugene Climate and Energy Action Plan, please visit <http://www.upstreampublichealth.org/resources/eugene-climate-and-energy-action-plan-hia>.

### **HIA on Transit-Oriented Development Policy (Saint Paul, MN)**

The Twin Cities in Minnesota are planning four transit corridors for transit-oriented development (TOD), with the Central Corridor Light Rail Line under construction. The community expressed concern that the light rail line and subsequent land use changes may negatively affect the existing communities, which include some of the region's most diverse and low-income populations who have experienced disinvestment and historic discrimination.

A community collaborative of Policy Link (a national research and action institute for advancing economic and social equity), Take Action Minnesota (a statewide non-profit), and ISAIAH (a regional faith-based coalition) launched an HIA to better understand the potential impacts. The HIA focused on maintaining a healthy economy, affordable healthy housing, and safe and sustainable transportation. It resulted in five policy recommendations: starting a Community Equity Program, codifying a commitment to affordable housing, starting a density bonus program, relieving the lack of commercial parking, and requiring first source hiring.<sup>8</sup>

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<sup>8</sup> For more information on the HIA on Saint Paul's Transit-Oriented Development Policy, please visit [http://www.policylink.org/site/c.lkIXLbMNJrE/b.7841971/k.7BB/The\\_Healthy\\_Corridor\\_for\\_All\\_Health\\_Impact\\_Assessment.htm](http://www.policylink.org/site/c.lkIXLbMNJrE/b.7841971/k.7BB/The_Healthy_Corridor_for_All_Health_Impact_Assessment.htm).