Working together to evolve the

Transportation and Health Tool

APHA Webinar
March 22, 2016
Ann Steedly, PE
Overview

- THT Development Context
- Development of Indicators
- Strategies, Interventions & Policies
- Website Development
- Implementation Activities
Context for THT Development

- USDOT, CDC, and APHA partnership
- Recognition of transportation and health intersections
- Establishment of vision and goals
- Product outcomes defined:
  - Paper-based tool
  - Web tool
  - Testing and tool refinement
THT Indicator Development Process

• Narrowed from 190 potential indicators
• Refined through research, evaluation criteria, subject matter expert consultation, 2-day expert workshop and agency reviews
• Selected 14 indicators to represent the intersection of transportation and health
• Prepared in-depth profiles on final set of indicators
Transportation and Health Connections

Safety of travel

Equity of infrastructure and health outcomes

Air pollution as relates to human health

Active transportation modes

Access to opportunities for healthy lifestyles
Transportation and Health Linkages

**Transportation and Health Tool**

**Policies and Programs**
- Transportation Investment
  - Use of Federal Funds for Bicycle and Pedestrian Efforts
- Transportation System
  - Complete Streets Policies
- Education
- Land-Use and Planning Process
- Environment
- Safety
  - Seat Belt Use

**Transportation-Land Use Connection**
- Land-Use Patterns
  - Land Use Mix
  - Housing and Transportation Affordability
- Accessibility
- Transportation System
- Healthcare System

**Transportation Outcomes**
- Transportation Demand
  - Vehicle Miles Traveled (VMT) per Capita
  - Person Miles Traveled by Mode
  - Public Transportation Trips per Capita
- Trip Characteristics
  - Commute Mode Shares
- Emissions

**Environmental Quality**
- Ambient Air Quality
- Water Quality

**Health Outcomes**
- Chronic Health Effects
- Acute Health Effects
  - Alcohol-Impaired Fatalities
  - Road Traffic Fatalities by Mode
- Economic Costs
- Physical Activity
  - Physical Activity from Transportation
- Obesity

**Environmental Exposures**
- Safety
  - Road Traffic Fatalities Exposure Rate
- Air Quality
  - Proximity to Major Roadways
THT Indicators

Final Approved Indicators

Transportation
1. Commute Mode Share
2. Person Miles Traveled by Mode
3. VMT per Capita
4. Public Transportation Trips per Capita
5. Proximity to Major Roadways
6. Land Use Mix
7. Housing and Transportation Affordability

Health
8. Physical Activity from Transportation
9. Alcohol-Impaired Fatalities
10. Road Traffic Fatalities by Mode
11. Road Traffic Fatalities Exposure Rate

Policy
12. Complete Streets Policies
13. Seat Belt Use
14. Use of Federal Funds for Bicycle and Pedestrian Efforts

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Geographic Scales

- **State**

- **Metropolitan Statistical Area (MSA)** - Groups of counties showing strong commuting ties with at least one US Census urbanized area.

- **Urbanized Area (UZA)** - Densely settled areas of 50K or more people comprised of census tracts.

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<table>
<thead>
<tr>
<th>Indicator</th>
<th>Geography</th>
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<tbody>
<tr>
<td></td>
<td>State</td>
</tr>
<tr>
<td>Commute Mode Share (Auto, Transit, Bike, Walk)</td>
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<tr>
<td>Complete Streets</td>
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<tr>
<td>DUI/DWI Fatalities</td>
<td>X</td>
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<tr>
<td>Housing/Transportation Affordability</td>
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<tr>
<td>Land Use Mix</td>
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<tr>
<td>PMT (Auto, Walking)</td>
<td>X</td>
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<tr>
<td>Physical Activity from Transportation</td>
<td>X</td>
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<tr>
<td>Proximity to Major Roadways</td>
<td>X</td>
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<tr>
<td>Road Traffic Fatalities (Auto, Bike, Ped)</td>
<td>X</td>
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<tr>
<td>Seat Belt Use</td>
<td>X</td>
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<tr>
<td>Traffic Fatalities Exposure Rate (Auto, Bike, Ped)</td>
<td>X</td>
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<tr>
<td>Transit Trips per Capita</td>
<td>X</td>
</tr>
<tr>
<td>Use of Federal Funds for Bike/Ped</td>
<td>X</td>
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<tr>
<td>VMT per Capita</td>
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Indicator Profiles

- Description
- Transportation and health connection
- About the data
- Moving forward
- Related strategies
- References

Commute Mode Share

**Indicator Description**

Commute mode share measures the percentage of workers aged 16 years and over who commute either

1. by bicycle
2. by private vehicle, including car, truck, van, taxi, and motorcycle
3. by public transportation, including bus, rail, and ferry
4. by foot.

*Data on commute mode share come from the 2012 one-year estimates from the American Community Survey (ACS).*

**Transportation and Health Connection**

Commute mode share reflects how well infrastructure, policies, investments, and land-use patterns support different types of travel to work. Commute patterns are directly tied to the economy (where jobs are located within a region relative to housing). Commute mode share is linked to environmental conditions and contributing factors that affect health outcomes, such as air pollutant emissions, which vary by transportation mode. Motor vehicle emissions contribute nearly a quarter of world energy-related greenhouse gases. Reducing motor vehicle use and increasing active transportation are ways to mitigate harmful environmental impacts caused by a large amount of vehicle use (Xia et al., 2013).

Traveler safety is also an issue related to commuting, and long commutes in motor vehicles (i.e., cars and trucks) are linked to physical inactivity and associated health problems (Ewing, Schieber, Zegeer, 2003). Conversely, active commute modes are a potential source of health-enhancing physical activity. Additionally, pedestrian and motor vehicle traffic fatalities decrease in more compact communities, suggesting that shorter commutes are safer for commuters in all modes.

It is important to also consider other influences when connecting various health outcomes to modes of travel. These factors include food choices, sedentary hobbies, stress, unemployment rates, and regional culture, and may have impacts on obesity and diabetes (Price and Godwin, 2012).
THT Strategies

- Companion piece linked to THT indicators
- 25 strategies demonstrated to be effective at positively impacting transportation and health outcomes
- Final set narrowed from 150 strategies through screening, ranking and input from partner agencies
- Each includes evidence, resources and examples from practice
- Support transportation and health goal-setting
THT Strategies

- Child safety seats
- Traffic calming
- Integrate health and transportation planning
- Complete Streets
- Encourage and promote biking and walking
- Built environment strategies to deter crime
- Health impact assessments
- Clean freight
- Distracted driving
- High-occupancy vehicle lanes
- Graduated driver licensing
- Expand public transportation
- Expand bicycle and pedestrian infrastructure
- Improve roadway safety
- Impaired driving laws
- Health performance metrics
- Improve vehicles and fuels
- In-vehicle monitoring and feedback
- Multimodal access to transit
- Promote connectivity
- Rural public transportation
- Ride sharing programs
- Safe Routes to School
- Seat belt laws
- Strengthen helmet laws

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THT Strategies

- Description
- Related indicators
- Potential health benefits
- Example(s) from practice
- Learning resources
- Evidence base

How has this worked in practice?

Philadelphia’s Planning and Health Indicator List and Assessment Tool (PHILATool)

The City of Philadelphia’s Department of Public Health, along with the City Planning Commission, created PHILATool as part of the department’s Get Healthy Philly initiative and during drafting of the city’s 2035 Comprehensive Plan. The tool is adapted from the San Francisco Department of Health’s Healthy Development Measurement Tool. PHILATool matches 20 health-related objectives from the Comprehensive Plan with a set of 71 measurable indicators. Demographic data from the U.S. census and local health outcomes data are also incorporated in the tool. The tool is used in district planning to assess baseline health conditions across the city and to identify priority issues and opportunity areas. Each indicator can be graphed, mapped, or analyzed to provide data to consider public health during planning and decision making for infrastructure, land use, and development.

Health Performance Metrics

Health performance metrics are measures that can be used to assess the performance of a transportation plan or project against select health-related goals. The indicators described in the Transportation and Health Tool can be used as performance measures. The measures and targets can be tailored to the context of the transportation decision. Health performance metrics are not required but can be integrated with other transportation performance metrics.

Related Transportation and Health Tool Indicators

- Commute Mode Share
- Complete Streets Policies
- Alcohol-Impaired Fatalities
- Housing and Transportation Affordability
- Land Use Mix
- Miles Traveled by Mode
- Physical Activity from Transportation
- Proximity to Major Roadways
- Road Traffic Fatalities by Mode
- Road Traffic Fatalities Exposure Rate
- Seat Belt Use
- Public transportation Trips per Capita
- Use of Federal Funds for Bicycle and Pedestrian Efforts
- VMT per Capita

How can this strategy result in health benefits?

- Address chronic disease (e.g., asthma, diabetes, heart disease)
- Improve access to health-supportive resources
- Improve equity
- Increase physical activity
- Improve safety
- Reduce human exposure to transportation-related emissions
- Reduce motor vehicle-related injuries and fatalities
- Reduce transportation’s contribution to air pollution
Contextual Elements

- Upcoming addition to THT site
- Supports understanding of area’s demographic, health, environmental and transportation conditions
- Includes some of the original 67 indicators

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<thead>
<tr>
<th>Demographic</th>
<th>Health &amp; Environment</th>
<th>Transportation</th>
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<tbody>
<tr>
<td>Population</td>
<td>Asthma rates</td>
<td>Vehicle availability</td>
</tr>
<tr>
<td>Population growth</td>
<td>Diabetes</td>
<td>Graduated license laws</td>
</tr>
<tr>
<td>Race &amp; ethnicity</td>
<td>Obesity</td>
<td>Cell phone/texting laws</td>
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<tr>
<td>Income</td>
<td>Hypertension</td>
<td></td>
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<tr>
<td>Income inequality</td>
<td>Air quality</td>
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THT Website Development

• 2-year interagency process
• User centered design approach
  – Potential user interviews
  – Testing and feedback sessions
• FHWA site hosting and requirements
  – Drupal web CMS
  – Section 508 compliance
  – DOT’s map tool
• Website launched fall 2015
• Tool updates ongoing
What is the Transportation and Health Tool?

The Transportation and Health Tool (THT) was developed by the U.S. Department of Transportation and the Centers for Disease Control and Prevention to provide easy access to data that practitioners can use to examine the health impacts of transportation systems.

The tool provides data on a set of transportation and public health indicators for each U.S. state and metropolitan area that describe how the transportation environment affects safety, active transportation, air quality, and connectivity to destinations. You can use the tool to quickly see how your state or metropolitan area compares with others in addressing key transportation and health issues. It also provides information and resources to help agencies better understand the links between transportation and health and to identify strategies to improve public health through transportation planning and policy.
Implementation Use Case – Clackamas County, OR

• Transportation & Public Health Divisions

• County context
  – Strategic priorities: public trust, infrastructure, safety, health
  – Various transportation & health planning initiatives
  – Health & Safety in All Policies pilot

• Application of THT
  – “Proximity to major roadways”
  – Impacts & solutions (transit, planning, greenspace, active transport)
  – Benefits: central source, basis for dialogue, policy & data, partnerships
THT Evaluation and Implementation Strategies

• THT Evaluation
  – Evaluate satisfaction
  – Determine impacts of use

• Implementation workshops
  – Apply the THT in practice
  – Coordinate with planning processes underway
  – Facilitate cross-sector dialogue and planning
  – Review indicators and identify strategies
  – Model use for other communities
THT Implementation Case Studies

- Present examples of THT application
- Highlight uses and benefits
- Inform practitioners and policy-makers
- Add to wealth of health case studies
- Post to THT website