

Transportation and Health Tool: A New Tool to Drive Policy Decisions

## Working Together to Evolve the THT



New Partners for Smart Growth

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# Overview

- THT background and goals
- Indicator development
- Indicator profiles
- Strategies, interventions & policies
- Website development



# THT Background

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



# THT Goals

## Practice Goals

- Increased awareness of links between transportation and public health in both sectors
- Collaboration between the sectors
- More health-supportive federal, state and regional policy and project decisions

## Tool Design Goals

- Transportation- and health-practitioner audience
- Easy to use
- Region- and state-specific data
- Assessment of performance (indicators)
- Recommended strategies
- Evidence base for integrating health and transportation

# Transportation and Health Connections

## Safety of travel

Equity of  
infrastructure  
and health  
outcomes



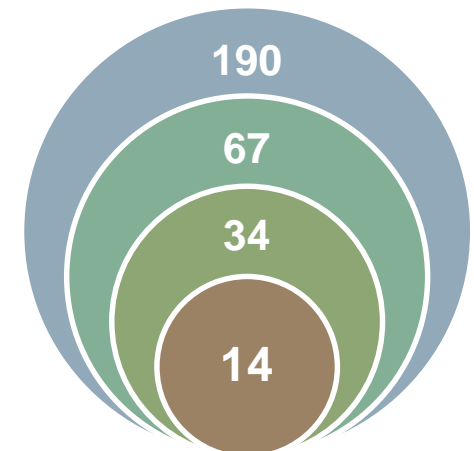
Air pollution as  
relates to  
human health

Active  
transportation  
modes

Connectivity and  
access to  
health resources

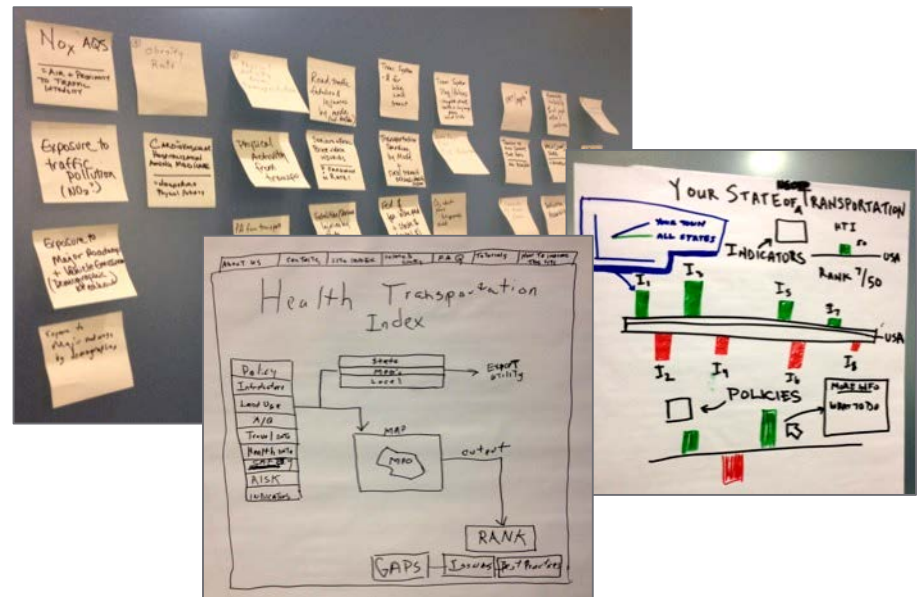
# Development of THT Indicators

- Narrowed from 190 potential indicators
- Refined through research, evaluation criteria, subject matter expert consultation, expert panel workshop and agency reviews
- 14 final indicators selected
- 25 strategies, interventions and policies provided to complement use of the tool

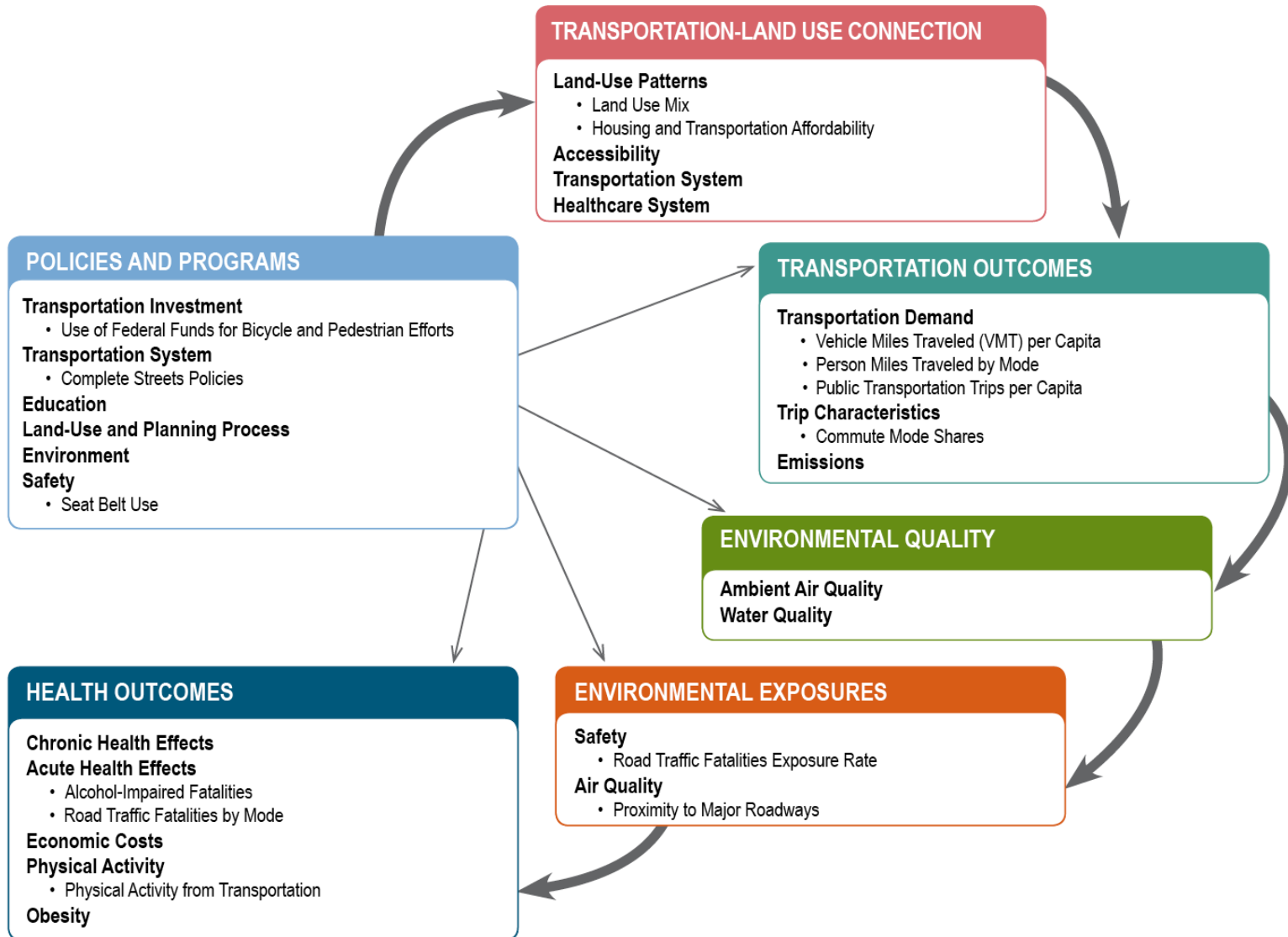


# Two-Day Expert Workshop

- April 2013 at USDOT headquarters
- 48 SMEs in four areas of interest (physical activity, safety, air quality, access) and/or other expertise (e.g. tool development)
- SME recommendations on:
  - Health and transportation categories
  - Indicators
  - Online tool design



# Transportation and Health Impact Pathways





# THT Indicators

14

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



# Indicator Profiles

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



## Land Use Mix

### Indicator Description

This indicator measures the average neighborhood-level diversity of destinations across a metropolitan area based on the mix of eight different employment types (office, retail, industrial, service, entertainment, education, health, and public sector) within each block group in the metropolitan area. A block group typically contains 600 to 3,000 people, and although the size of a block group depends upon population density, the average block group in a metropolitan area is less than one square mile in area. Metropolitan areas receive a value between 0 and 1 based on a widely-used measure of the mix of different job types, which are assumed to represent different land uses. Scores closer to 1 indicate that a large number of block groups within a metropolitan area offer convenient access to a wide range of jobs and services. The U.S. Environmental Protection Agency developed the EPA Smart Location Database, and this database yielded the land use mix indicator; this database draws from the Census Longitudinal Employer-Household Dynamics dataset and private data sources to measure diversity.

### Transportation and Health Connection

Various aspects of land use mix have been linked to physical activity and public health. Although results have varied across studies and methodologies, recent reports have fairly consistently found positive associations "between walking for transportation and density, distance to nonresidential destinations, and land use mix" (Saelens, Handy, 2008). One comprehensive meta-analysis concluded that variables such as land use mix, jobs-housing balance, distance to a store, and intersection density are all positively correlated with physical activity (Ewing, Cervero, 2010).

Other studies have found that "residents from communities with higher density, greater connectivity, and more land use mix report higher rates of walking/cycling for utilitarian purposes than low-density, poorly connected,

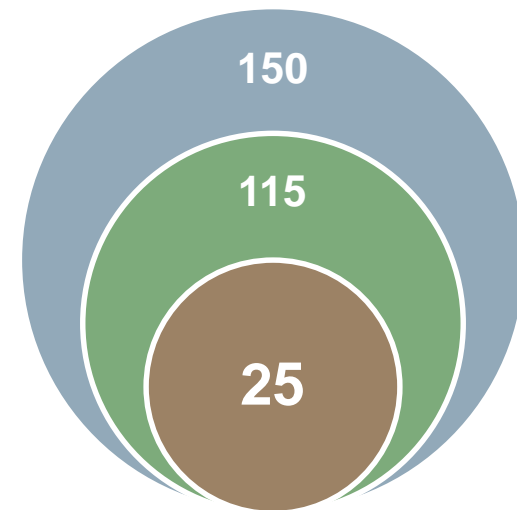
# THT Strategies

- Companion to THT
- 25 strategies demonstrated to be effective at positively impacting transportation and health outcomes
- Linked to THT indicators
- Include evidence, resources and examples from practice
- Support development of both short term and long term goals



# Development of Strategies

- 150 potential strategies, interventions and/or policies identified
- Highly similar concepts consolidated
- 25 strategies recommended based on THT indicators and health impacts addressed
- Evidence, resources and implementation considerations developed for each strategy



# Final 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

# THT Strategies

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

## How has this worked in practice?

### New York City Pedestrian Safety Study & Action Plan

To develop the New York City Pedestrian Safety Report and Action Plan, the New York City Department of Transportation (NYCDOT) evaluated more than 7,000 records of crashes that resulted in serious injuries or fatalities to pedestrians. The purpose was to identify underlying causes of the crashes. NYCDOT would use that information to help develop strategies to reduce traffic fatalities involving pedestrians. Accomplishments resulting from the plan during 2010-2011 included

- installing countdown pedestrian signals at 1,500 intersections,
- retrofitting 60 miles of streets to improve pedestrian safety,
- revising 20 intersections for pedestrian safety on major two-way streets,

## Expand and Improve Bicycle and Pedestrian Infrastructure

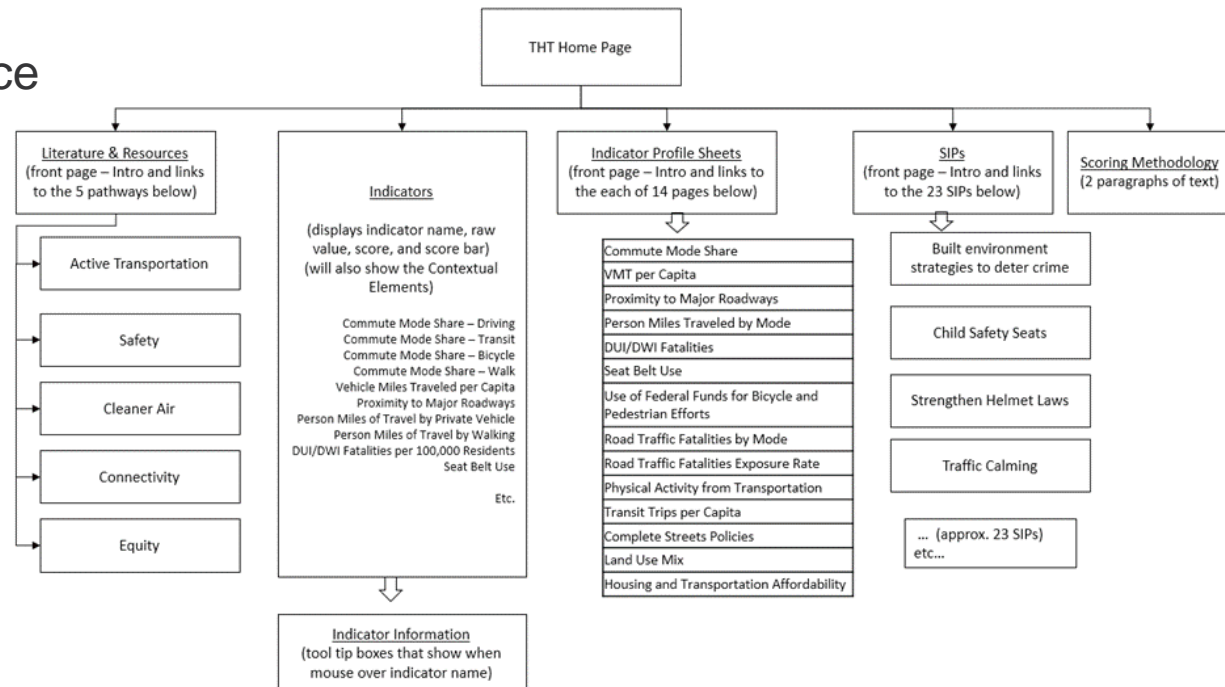
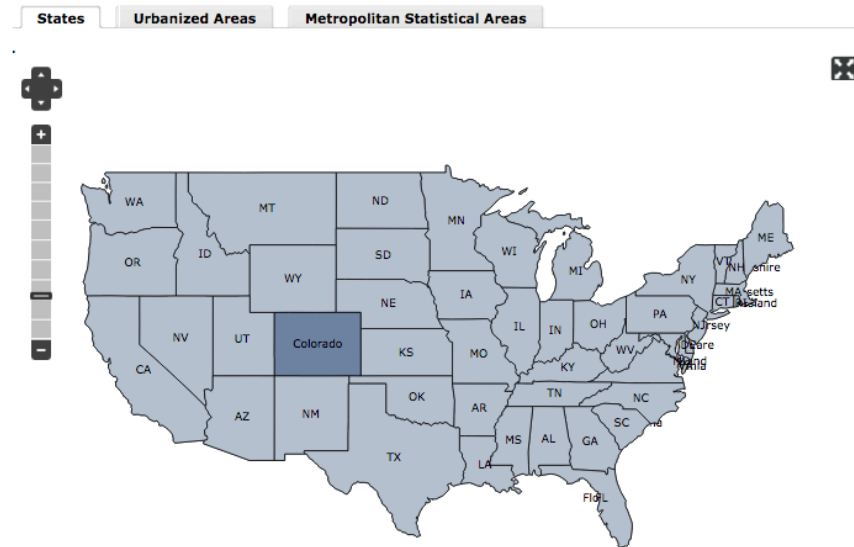
Expanding and improving bicycle and pedestrian infrastructure means ensuring that a network of infrastructure is in place to make bicycling or walking viable modes of travel. It also means ensuring that the infrastructure is safe and comfortable to use. This approach can promote health by providing added opportunity for physical activity from transportation. This strategy is related to and supportive of the Safe Routes to School, Complete Streets, and Encouraging Bicycling and Walking programs. Elements of bicycle and pedestrian infrastructure may include

- Bicycle lanes
- Bicycle parking and storage facilities
- Curb extensions
- Intersection treatments for bicycles – bicycle boxes, stop bars, lead signal indicators
- Landscaping
- Paved shoulders
- Pedestrian- and bicyclist-scale lighting
- Pedestrian overpass or underpass
- Separation/buffers
- Shared-lane markings ("sharrows")
- Sidewalks
- Signage, especially high-visibility signage
- Signalized pedestrian crossings and mid-block crossings
- Trails or shared-use paths

Bicycle and pedestrian infrastructure location and type can affect health outcomes. For example, bicyclists and pedestrians who use pathways next to heavily congested roadways could experience increased exposure to vehicle emissions. A benefit of bicycle infrastructure that is physically separated from vehicles is that it can help increase bicycle use, especially by less confident riders, and support safe travel in some applications (Pucher and Buehler, 2012; Lusk, 2011).

# 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 launch fall 2015
- Tool updates





# THT website

**Transportation and Health Tool Home**

Indicator Data

Indicator Profiles

Strategies

Literature and Resources ▾

Scoring Methodology

Background

Home

## Transportation and Health Tool



Photo credit: [www.pedbikeimages.org](http://www.pedbikeimages.org) / Laura Sandt

### 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.

*<http://www.transportation.gov/transportation-health-tool>*



[Transportation and Health Tool Home](#)[Indicator Data](#)[Indicator Profiles](#)[Strategies](#)[Literature and Resources](#) ▼[Scoring Methodology](#)[Background](#)[Home](#)

## Indicator Profiles

Transportation and Health Tool reports 14 indicators at the state level, the metropolitan area level, and/or the urbanized area level. Centers for Disease Control and Prevention (CDC) and US Department of Transportation worked together, with input from an expert panel, to carefully select the indicators for use in this tool. [Read more about the process used to select the indicators.](#)

Select an indicator below for a description of the indicator, how the indicator is connected to transportation and public health, and the data and analysis used to develop the indicator.

- [Alcohol-Impaired Fatalities \(state and metro area level\)](#)
- [Commute Mode Shares \(state and metro area level\)](#)
- [Complete Streets Policies \(state and metro area level\)](#)
- [Housing and Transportation Affordability \(metro area level only\)](#)
- [Land Use Mix \(metro area level only\)](#)
- [Person Miles Traveled by Mode \(state level only\)](#)
- [Physical Activity from Transportation \(state level only\)](#)
- [Proximity to Major Roadways \(state and metro area level\)](#)
- [Public Transportation Trips per Capita \(state and urbanized area level\)](#)
- [Road Traffic Fatalities by Mode \(state and metro area level\)](#)
- [Road Traffic Fatalities Exposure Rate \(state and metro area level\)](#)
- [Seat Belt Use \(state level only\)](#)
- [Use of Federal Funds for Bicycle and Pedestrian Efforts \(state level only\)](#)
- [Vehicle Miles Traveled \(VMT\) per Capita \(state and urbanized area level\)](#)

### Contact Us

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## Strategies

This section identifies and describes evidence-based policies, strategies, and interventions ("strategies") that transportation practitioners can use to address health. Each strategy is related to one or more indicators in the THT. The following information is presented for each strategy:

- A brief description
- The related THT indicators
- How the strategy could result in positive health benefits
- Resources for additional information on the strategy
- Resources that provide a base of evidence for the brief description and in general
- An example, or examples, of how the strategy has been applied in practice

### The following strategies are included:

- Built environment strategies to deter crime
- Child Passenger Safety laws, child safety seat distribution programs, education and enhanced enforcement
- Clean freight
- Complete Streets
- Distracted driving
- Encourage and promote safe bicycling and walking
- Expand bicycle and pedestrian infrastructure
- Expand public transportation
- Graduated driver licensing systems
- Health impact assessment (HIA)

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### ***Questions about the THT***



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