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U.S. Transportation and Health Tool: Data for action



Tegan K. Boehmer^{a,*}, Arthur M. Wendel^{a,1}, Frederick Bowers^b,
Katherine Robb^c, Ed Christopher^{b,2}, Jason E. Broehm^d, Ken Rose^e,
Joseph Ralph^a

^a US Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Environmental Health, 4770 Buford Highway NE, MS F-58, Atlanta, GA 30341, USA

^b US Department of Transportation, Federal Highway Administration, 1200 New Jersey Avenue, SE, Washington, DC 20590, USA

^c American Public Health Association, Center for Public Health Policy, Environmental Health, 800 I Street NW, Washington, DC 20001, USA

^d US Department of Transportation, Office of the Secretary, 1200 New Jersey Avenue, SE, Washington, DC 20590, USA

^e US Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, 4770 Buford Highway NE, MS F-77, Atlanta, 30341, USA

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ABSTRACT

Transportation investments have the potential to improve health, but readily available data to guide transportation decisions that could promote health are limited. In October 2015, the U.S. Department of Transportation (USDOT) and the Centers for Disease Control and Prevention (CDC) released the Transportation and Health Tool (THT). The tool is a resource to help transportation professionals in states and metropolitan areas access data about transportation and health in their jurisdictions and stimulate discussions on how to improve public health through transportation planning and policy. To develop the tool, a multi-disciplinary team identified 190 possible data indicators. Using input from expert panel workshops and criteria that addressed data availability, geographic scale, timeliness, feasibility, validity, and topic area, the team selected 14 transportation and health indicators that covered the four priority topic areas of safety, active transportation, air quality, and connectivity. The THT contains the raw values for each indicator and a standardized score to enable comparisons. Additionally, the THT contains 25 evidence-based strategies that can help practitioners in states and metropolitan areas take action to improve health outcomes.

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1. Introduction

Transportation investments have the potential to substantially improve health in the United States. Transportation strategies can reduce traffic-related injuries and fatalities, increase physical activity, reduce emissions of traffic-related air pollutants, and increase access to health-promoting destinations ([Battele and Texas A&M Transportation Institute, 2014](#);

* Corresponding author.

E-mail addresses: tboehmer@cdc.gov (T.K. Boehmer), awendel@cdc.gov (A.M. Wendel), federick.bowers@dot.gov (F. Bowers), katherine.robb@apha.org (K. Robb), edc@berwyned.com (E. Christopher), jason.broehm@dot.gov (J.E. Broehm), kfr2@cdc.gov (K. Rose), jralph@cdc.gov (J. Ralph).

¹ Current affiliation and address: U.S. Department of Health and Human Services, Agency for Toxic Substances and Disease Registry, 1200 6th Ave Suite 900, Seattle, WA 98101, USA.

² Retired December 31, 2015; Current address: 3112 Maple Avenue, Berwyn, IL, 60402, USA.

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Goodwin et al., 2015; Heath et al., 2006). Despite growing awareness of the connection between public health and transportation, data to guide decisions about how transportation investments can promote health are limited. The availability and consistency of data that address the breadth of health outcomes related to transportation could be enhanced at the local, state, and national level.

Improving health through transportation is a goal of multiple federal endeavors, including the U.S. Department of Transportation's (USDOT) *Safer People, Safer Streets* initiative (2015), the U.S. Department of Health and Human Services' *Healthy People 2020* (2010) and *Step It Up! The Surgeon General's Call to Action to Promote Walking and Walkable Communities* (2015), and the Centers for Disease Control and Prevention's (CDC) *Recommendations for Improving Health Through Transportation Policy* (2010). In addition, the U.S. National Prevention Strategy identifies "healthy and safe community environments" as one of four strategic directions to improve health and well-being. The strategy includes recommendations to integrate health criteria into decision making across multiple sectors and enhance cross-sector collaboration in community planning and design to promote health and safety (National Prevention Council, 2011).

In 2012, USDOT and CDC began an interagency collaboration to jointly sponsor a resource for states and metropolitan areas to promote transportation decision making that supports health. The vision of the effort was to provide a web-based tool that could easily identify opportunities to improve public health through transportation planning and policy. The resulting Transportation and Health Tool (THT) has three overarching goals: (1) increase awareness about the links between transportation and health, (2) support collaboration between transportation and public health sectors, and (3) provide data to guide health-supportive transportation policies and project decisions at the federal, state, and local levels. The THT was released in October 2015 and is available at www.transportation.gov/transportation-health-tool. This paper describes the development of the THT and how to use the tool.

2. Development and content

A multidisciplinary team of transportation and public health professionals from USDOT, CDC, and the American Public Health Association (APHA) formed the core project team. The project team also convened an expert panel to help guide the THT development. Based on input from the expert panel, the THT was designed so that users can view and compare data on a set of transportation and health indicators. It also identifies evidence-based strategies for improving the indicators and health outcomes. The project team identified transportation professionals as the primary audience for the THT and public health professionals as the secondary audience.

The simplified logic model in Fig. 1 shows how meeting the THT goals of increased awareness and cross-sector collaboration can lead to more fully informed decisions and the implementation of health-promoting transportation policies. Ultimately, these steps can improve the THT indicators and health outcomes related to health equity, safety, physical activity, air quality, and access to destinations. More information on the five pathways through which transportation influences health can be found in the "Literature and Resources" section of the THT (<https://www.transportation.gov/mission/health/literature-and-resources>).

2.1. Indicator data

The primary component of the THT is a set of indicators that link health and transportation and provide a basis to assess performance. An initial list of 190 potential indicators was identified through a comprehensive literature review. Using criteria that addressed data availability, geographic scale, timeliness, feasibility, validity, and topic area, the project team narrowed the list to 45 indicators. Based on input provided by the expert panel in a series of workshops, the project team selected a final set of 14 indicators that covered the priority topic areas of safety, active transportation, air quality, and connectivity (Table 1). More information on the indicator selection process can be found online (<https://www.transportation.gov/mission/health/indicator-selection-process>). During the scoping process, the team decided that the THT should present nationally available data for states and metropolitan areas. In the THT, metropolitan area refers both to metropolitan statistical areas (MSA) and to urbanized areas (UZA), as defined by the U.S. Office of Management and Budget (2010) and U.S. Census Bureau (2011), respectively.

Twelve of the 14 indicators are available for states, eight are available for MSAs, and two are available for UZAs. Some of the smaller MSAs and UZAs are missing data for certain indicators. For each geographic area, the THT provides raw values and "standardized scores" for all the available indicators. Standardized scores provide a consistent measurement scale across a diverse set of indicators. Standardized scores are percentile-based and presented on a 1–100 point scale where 50 is the median and higher scores always represent better performance from a health perspective. In some instances, a higher raw value corresponds to a higher score (e.g., seat belt use). In other instances, a higher raw value corresponds to a lower score (e.g., vehicles miles traveled per person). Scores also allow for comparisons across locations within the same geographic level. For example, states, MSAs, or UZAs with a score > 50 are above the median for that indicator compared with all other states, MSAs, or UZAs, respectively. More information about the THT indicator scores can be found online (<https://www.transportation.gov/mission/health/tool-scoring-methodology>).

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