

Shawn M. Turner

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Senior research engineer at the Texas A&M Transportation Institute (TTI) and head of the Mobility Division in TTI's Planning and Environment Group, Shawn M. Turner has applied the principles of continuous improvement and constant learning to his 25-year transportation research career. His research interests—data and information systems for decision making and pedestrian and bicycle transportation—adapt easily to the changes enabled by new technology and methods.

“That is where research comes into play,” he observes. “How can technology help with a task that was not possible even five years ago? Can new analytic methods produce more accurate and comprehensive results?”

In the late 1990s, Turner worked to integrate the Archived Data User Service (ADUS) into the National ITS Architecture.



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“At the time, public agencies were deploying lots of automated sensors to monitor traffic in real time but were discarding the sensor data that was more than 5 minutes old,” Turner recalls. “ADUS created a framework to permanently save these valuable data.” Since then, it has become routine to archive real-time sensor data from traffic management and operations centers and to use those data for historical analysis.

When GPS-enabled smartphones came onto the market in the mid-2000s, private companies like INRIX, HERE, and TomTom collected real-time GPS data for traveler information applications. Turner advocated strongly for the companies to archive and resell the historical travel speed data for mobility analysis. The use of private-sector GPS data for mobility analysis—understanding congestion, origin–destination patterns, and trip routing—now has become standard practice, and FHWA has incorporated the use of private-sector GPS data into the Final Rule on System Performance Measures. Turner works with public agencies to implement the new GPS data sets and to monitor approaches and with private data providers to broaden and improve their products.

“In the past 10 to 15 years, I have seen growing interest from transportation practitioners in bicycling and walking—and

with this interest comes the need for better data for planning, design, safety analysis, and performance reporting,” he comments. Combining a keen interest in data with a love of pedestrian and bicyclist transportation, Turner conducts research in usage monitoring, data collection and quality assurance, planning methods and tools, and safety and behavioral evaluations.

“Even though most of my career has been focused on applied, practice-ready research, I like to think that research is analogous to a balanced investment portfolio,” Turner notes. “Applied research can pay a steady dividend of results to help practitioners progress and improve. Basic research is more about those few elusive breakthroughs that can propel practitioners to leaps of progress.”

Turner developed systematic test protocols for evaluating the accuracy of pedestrian and bicyclist counters and supported adoption of pedestrian hybrid beacons, rectangular rapid-flashing beacons, and other innovative treatments for pedestrian crossings. Turner also developed a trail monitoring guide for the National Park Service, updated FHWA’s bicycle and pedestrian transportation university course, and conducted some of the first comprehensive automatic trail counter evaluations in 2005 and 2006.

Turner joined the Transportation Research Board (TRB) Standing Committee on Urban Transportation Data and Information Systems in 1999. He is chair of the TRB Pedestrians and Cycles Section and is past chair of the Standing Committee on Pedestrians, the Archived Data User Service Subcommittee, and the Task Force on the Traffic Monitoring Conferences. As chair of the Pedestrians Committee, Turner guided efforts to identify and publicize practice-ready papers, working with the Institute of Transportation Engineers and the Association of Pedestrian and Bicycle Professionals.

“Increasingly, my measure of success is how many practitioners are using the analytic methods I have recommended or advocated,” Turner observes. “That is the ultimate compliment—knowing that I have thought through the implementation challenges and that I have understood what practitioners need well enough to provide a product that is useful in day-to-day practice.”

As a member of an American Society for Testing and Materials technical committee, Turner has assisted in the development of several metadata and archived data standards. He also advises federal agencies on research agendas, delivers university lectures on pedestrian and bicycle transportation, and leads bicycle safety classes. He is a licensed professional engineer in Texas and an instructor with the League of American Bicyclists.