

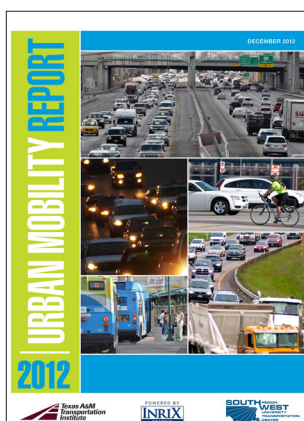


UTC Spotlight

University Transportation Centers Program

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2012 Urban Mobility Report Released With New Congestion Measures



The 2012 Urban Mobility Report from the Texas A&M Transportation Institute with sponsorship from the Southwest Region University Transportation Center (SWUTC) includes two new ways to describe the effects of traffic congestion problems. Unpredictable travel time is given its own measure in the new report, and the environmental effects are

2012 Urban Mobility Report

addressed with an estimate of the carbon dioxide emitted in congested conditions. The usual measures of extra travel time and fuel consumed and the costs of those elements are also included in the dataset for 101 urban areas from 1982 to 2011.

Congestion and Planning Time Index

The eroding reliability of travel conditions nationwide is illustrated by the PTI, which estimates the amount of time needed for a timely arrival when driving in rush hour traffic. With an estimated 19 successes for every 20 attempts, the PTI should prove invaluable for meeting time critical schedules, such as airline departures, just-in-time shipments, medical appointments, or social commitments. For instance, if the PTI for a particular trip is 3.00, a traveler would allow 60 minutes for a trip that typically takes 20 minutes when traffic is flowing freely.

PTIs on freeways vary widely across the Nation, from 1.31 (about 9 extra minutes for a trip that takes 30 minutes in light traffic) in Pensacola, Florida, to 5.72 (almost 3 hours for that same half-hour trip) in Washington, D.C.

“We all understand that trips take longer in rush hour, but for really important appointments, we have to allow increasingly more time to ensure an on-time arrival,” says Bill Eisele, a SWUTC researcher and report co-author. “As bad as traffic jams are, it’s even more frustrating that you can’t depend on traffic jams being consistent from day-to-day. This unreliable travel is costly for commuters and truck drivers moving goods.”

Congestion and Air Quality

In addition to PTI, the 2012 UMR also debuts an estimate of the additional carbon dioxide (CO₂) emissions attributed to traffic congestion: 56 billion pounds – about 380 pounds per auto commuter. The analysis of CO₂ was made possible by a collaborative partnership between SWUTC and the National Center for Freight and Infrastructure Research and Education (CFIRE).

Congestion in the USA

Traffic congestion in U.S. cities has remained relatively stable in recent years—a phenomenon directly attributable

Top 10 List for Freeway Planning Time Index

Urban Area	Freeway Planning Time Index	Annual Hours of Delay per Auto Commuter	Annual Congestion Cost per auto Commuter (\$)
Washington DC-VA-MD	5.72	67	1,398
Los Angeles-Long Beach-Santa Ana CA	4.95	61	1,300
New York-Newark NY-NJ-CT	4.44	59	1,281
Bridgeport-Stamford CT-NY	4.40	42	902
Provo-Orem UT	4.39	25	514
Austin TX	4.26	44	930
Portland OR-WA	4.26	44	937
Boston MA-NH-RI	4.25	53	1,147
Denver-Aurora CO	4.08	45	937
San Juan PR	4.06	29	625

National Congestion Totals:

- 5.5 billion extra hours of travel time
- \$121 billion in total delay and fuel costs (or \$818 per U.S. commuter)
- \$27 billion in truck freight moving costs (value of delayed shipments is not included in this amount)

to a slow economy. But as the economy strengthens, the trend towards ever increasing congestion is expected to resume, underscoring the link between traffic and the economy, according to the UMR. Rankings of the Nation's most congested cities vary slightly from year to year, and many of this year's (2012 report using 2011 data) top 10 are repeat performers. Washington, D.C. tops the list, followed by Los Angeles, San Francisco-Oakland, New York-Newark, and Boston. The remaining five include Houston, Atlanta, Chicago, Philadelphia, and Seattle. The UMR provides a detailed illustration of traffic problems in a total of 498 U.S. urban areas.

Highlights from the research illustrate the effects of the Nation's traffic problems:

- The amount of delay endured by the average commuter was 38 hours, up from 16 hours in 1982.
- "Rush hour" is 6 hours of not rushing anywhere.
- Congestion is becoming a bigger problem outside of "rush hour," with about 40 percent of the delay occurring in the mid-day and overnight hours, creating an increasingly serious problem for businesses that rely on efficient production and deliveries.

Fuel wasted in congested traffic reached a total of 2.9 billion gallons – enough to fill the New Orleans Superdome four times. That's the same as 2010, but short of the

3.2 billion gallons wasted in 2005. The Travel Time Index (the difference in time required for a rush hour commute compared to the same trip in noncongested conditions) remained steady at 1.18, still short of the 1.23 level in 2005.

"The methods and measures developed and used in the *Urban Mobility Report* have been successfully implemented for policy making and prioritizing congestion-mitigating projects," says report co-author and researcher Tim Lomax. "In light of the recent signing of the Moving Ahead for Progress in the 21st Century (MAP-21) Act, there is greater importance on using such measures to prioritize transportation improvement spending to get the highest investment return for the public."

Researchers say that the most effective way to address traffic congestion varies from one urban area to another, but that in all cases, a multifaceted approach should be used, relying on more efficient traffic management and public transportation in addition to new construction. Travel options such as flexible work hours and telecommuting should also be part of the mix.



Dallas congestion

Texas A&M

The UMR is acknowledged as one of the most authoritative sources of information about traffic congestion in the United States and its possible solutions. The report is widely quoted in the media and in legislative and policy discussions through the U.S. Within the first week of the 2012 report release on February 5th, coverage totaled 264 TV broadcast clips (6,736,726 audience circulation), 1,366 print/online/radio articles (25,200,400 audience circulation) and 800,000 additional Facebook users and Twitter followers.

About This Project

This research is led by Tim Lomax, Ph.D., P.E., Senior Research Engineer and Regents Fellow with co-authors David Schrank, Ph.D., Associate Research Scientist and Bill Eisele, Ph.D., P.E., Senior Research Engineer at the Texas A&M Transportation Institute. The Texas A&M Transportation Institute is an agency of The Texas A&M University System. The report is the third prepared in partnership with INRIX, a leading private-sector provider of travel time information for both commuters and shippers. A copy of the full report, along with data tables and other supporting materials, can be found at: <http://mobility.tamu.edu/>

This newsletter highlights some recent accomplishments and products from one University Transportation Center (UTC). The views presented are those of the authors and not necessarily the views of the Research and Innovative Technology Administration or the U.S. Department of Transportation, which administers the UTC program.

