



TESTIMONY

100 Most Congested Roadway Segments in Texas: Congestion Relief Strategies

**Testimony Before the
Senate Committee on Transportation and Homeland Security**

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Senate Transportation and Homeland Security Committee Hearing
100 Most Congested Roadway Segments in Texas:
Congestion Relief Strategies

The Texas Department of Transportation (TxDOT) has a commitment to the people of our State to determine the most congested roadways and work with our local communities to help identify options to address congestion issues. As such, the Lieutenant Governor of Texas has charged this committee to review the 100 most congested roadway segments as identified by the Texas Transportation Institute (TTI) and TxDOT as required by Rider 56, 2010 – 2011 General Appropriations Act; and determine if alternative congestion relief modes have been identified to relieve segments in areas where the addition of lanes is not possible. This can include the consideration of instituting park and rides and encouraging employee flex times to relieve congested roadway segments.

100 MOST CONGESTED ROADWAY SEGMENTS

As mentioned, TxDOT's appropriations bill requires that information identifying the 100 most congested roadway sections in the State be posted on our website. It also requires estimates of the annual hours of travel delays and the economic cost of these delays for each of those sections. In addition to these requirements, the rider stipulates that no TxDOT District in which the congested road sections are located can receive any transportation money from the state until the information is posted.

The information was posted to the department's website prior to September 1, 2009, and has been updated and will continue to be updated as new information and analyses become available. The program is located at <http://apps.dot.state.tx.us/apps/rider56a/list.htm>, and Attachment A to this testimony includes the list of roadways. The online program also includes more detailed information on how the congested roadways list was created. We utilized methodology developed by TTI to identify and help evaluate the criteria to determine the roadway segments.

All roads in the state were included in the analysis, but as a practical matter, only the freeways, toll roads, expressways, frontage roads, major arterial streets and minor arterial streets were included. These are the most heavily traveled roads and the ones with the most comprehensive sources for data to conduct the necessary research. The sections identified for analysis were reviewed by transportation staff from each of the associated TxDOT districts and the local Metropolitan Planning Organizations (MPO) familiar with the local road network to ensure the appropriateness of the section definitions. The list was also reviewed by the Lieutenant Governor's office prior to posting to ensure the information conformed to the requirements of the Rider and their intent as the authors of the Rider.

TTI's Texas Congestion Index (TCI) was utilized to help determine the congested roadway segments. This index is a ratio of peak travel time to off-peak travel time. For example, a value

of 1.3 indicates a trip that takes an average of 20 minutes during off-peak hours would take an average 26 minutes in the peak period. The TCI is specified in the Rider, which states the index should include two components to define congestion: the annual hours of travel delays; and the economic value of delays.

The travel delay, or total amount of wasted time, is produced by comparing the travel time at congested speeds to the free flow speed on each roadway type. The economic value of delays analyzes two cost components associated with congestion: delay cost and fuel cost. These values are directly related to the travel speed calculations. Additional information and equations are available on our website which show how to calculate the cost of delay and fuel effects of congestion, which is a simplified version of the procedure used in TTI's Urban Mobility Report. In 2007, the most recent year of data, the average cost for an hour of person delay was approximately \$21 per hour. This value was used as a simplified estimate of congestion cost, including delay and fuel costs. The delay cost is an estimate of the value of lost time in passenger vehicles and the increased operating costs of commercial vehicles in congestion.

EFFORTS TO IMPROVE CONGESTION

Of the 100 Most Congested Roadways, we have identified projects that will have congestion relieving impacts on about half of these roadway segments. These projects are outlined on the website, and include congestion relief measures such as:

- Building, improving or widening frontage roads
- Building or improving high occupancy vehicle, or managed lanes
- Building or improving an interchange or direct connector
- Adding main lanes
- Other improvements to smooth the flow of traffic, such as reversing on-ramps, building dedicated turn lanes, or widening shoulders

Projects that will impact congestion levels but do not include adding capacity to the roadway include managing access points to better reflect road use and the installation of intelligent transportation systems to help the department to manage traffic levels and inform motorists of situations that impact their travel speeds and roadway congestion levels. We continually work with our local planning partners to identify and evaluate congestion relief alternatives when the addition of roadway capacity is not possible. While TxDOT has little authority to dictate the use of alternative relief measures, we work with MPOs and stakeholders to evaluate what can be done.

The 2011 UTP includes 62 projects valued at just over \$4.3 billion which we feel will help improve the congestion levels on some of the segments identified in the 100 Most Congested Roadway Segments. The UTP was adopted by the Texas Transportation Commission in April, 2009 and is an 11-year plan to guide transportation project development and construction. It

includes a listing of projects which are authorized for development as approved by the Commission. Project development includes activities such as preliminary engineering work, environmental analysis, right-of-way acquisition, and design.

Of the 62 projects, seven are American Recovery and Reinvestment Act funded projects totaling \$96 million, 29 are partially funded concession revenue projects valued at \$1.1 billion, and one is a partially funded Proposition 14 project valued at \$74 million. In addition, all but four of these 62 projects are included in the current Statewide Transportation Improvement Program to be developed in the near term.

There are some added capacity projects which will provide congestion relief to one or more of the 100 Most Congested Roadway Segments where added capacity is not an option for the roadway on the list. For example, the Wurzbach Parkway project in northern San Antonio will provide congestion relief alternatives to IH 35 (specifically numbers 21 and 33 on the list of 100 Most Congested Roadway Segments), Loop 1604, and IH 410 without adding capacity to those roadways. This project is located roughly halfway between IH 410 and Loop 1604 and is approximately 11.5 miles. Substantial local growth contributed to the need for the project, and \$130 million in Proposition 12 General Obligation Bonds have been identified to develop this project in the near term which will positively impact the region's congestion levels. Upon completion of the Wurzbach Parkway, it is anticipated the region will see a reduction of roughly 1.3 million hours of delay wasted sitting in traffic, and an almost \$2.5 million reduction in average congestion costs.

In relation to Proposition 12 bonds, several projects were selected by the Commission which will impact the congestion levels of the 100 Most Congested Roadway Segments. One project includes the expansion of Loop 375 in El Paso with a project value of \$79 million, which will relieve congestion on IH 10 in El Paso which is currently listed as the 55th most congested roadway in Texas. There are two projects in the Houston area receiving Prop 12 funds: one to expand IH 45 south of downtown Houston, number 24 on the list, valued at \$122.5 million; and one to improve the interchange at IH 610 at US 290, number 10 on the list with residual congestion relief impacts anticipated on segments numbers 23 and 29. Finally, the IH 30 project in Dallas County to construct new roadway lanes valued at just over \$2 million will impact congestion levels on segment number 12.

Among the categories of projects receiving Prop 12 funds, a total of \$1.1 billion was selected to improve the IH 35 corridor between Salado and Hillsboro as a corridor of statewide significance. While this segment of IH 35 is not included in the list of 100 Most Congested Roadway Segments, other segments of IH 35 appear on the list in 14 different areas. Eight of these areas are south of the projects and the other six are in North Texas. Improving mobility between these congested areas will improve overall travel times on this international trade facility.

For those areas of the state that generate commuting traffic that contributes to congestion in our metropolitan and large urban areas, TxDOT has participated in the development of park-and-ride facilities in these rural and small urbanized areas, most often through selection of park-and-ride projects submitted to TxDOT in response to grant opportunities. For example, when oil overcharge funds were available, several park-and-ride facilities were acquired and constructed around the state. In fact, these are usually called park-and-pool lots (because they provide parking space most often for riders using car pools instead of buses). Most recently, five park-and-ride lot projects were funded through ARRA: at Sterling Ridge north of Houston, at SH 36 in Ft. Bend County, in Mineral Wells, in Cleburne, and in the Sherman-Denison area.

Ride sharing, which involves matching unused capacity in private vehicles with individuals needing rides, is encouraged by TxDOT, metropolitan planning organizations, and metropolitan transit authorities. TxDOT also participates in metropolitan planning for travel demand management activities that encourage alternatives to single occupancy vehicle trips. This includes ride sharing, car pools, van pools, planning for managed lanes, telecommuting, development of flex work schedules or compressed work schedules, and similar activities.

CONCLUSION

There are many measures in place to emphasize the priority of addressing the needs for these roadway segments. For example, the requirements of Rider 55, 2010 – 2011 General Appropriations Act, require the department and MPOs to analyze the congestion relief anticipated for the first 50 Most Congested Roadway Segments for any funds used by the Proposition 12 General Obligation Bonds. We continue to work with our partners to place a priority on relieving the congestion that plagues the major population centers of Texas, and we remain committed to researching and implementing congestion relief measures to the best of our ability to quickly and efficiently improve travel reliability on the 100 Most Congested Roadway Segments.