Testimony of David Ellis
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before the
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Appropriations Sub-Committee on Articles VI, VII and VIII
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Mr. Chairman, Members of the Subcommittee, my name is David Ellis. I am a Research Scientist at the Texas A&M Transportation Institute and Manager of the Infrastructure Investment Analysis Program. I was asked to address three topics today and I will be brief.

First, I was asked to discuss the current status of transportation infrastructure in Texas, specifically as it relates to highways; second, to address projected transportation needs in the State; and third, to talk about potential funding solutions for transportation infrastructure in the future.

With respect to the status of highway transportation infrastructure in Texas, we face significant challenges. TTI released the 2012 Urban Mobility Report just last week. In that report, Texas' 10 largest cities had a combined congestion cost in excess of $12 billion dollars including delay, fuel and truck freight moving costs. Looked at another way, among the State's four largest cities, delay per auto commuter ranged from 38 hours annually in San Antonio to 52 hours annually in Houston. In other words, this delay equals from a week to almost a week and a half of unproductive time per commuter spent stuck in traffic. Time that could instead be spent with family and friends.

It is important to note that one of the reasons that Texas faces these transportation challenges is that Texas has had relative success in terms of economic health and growth. I'm reminded of what Alan Pisarski once told me. Alan is a long time, nationally recognized transportation expert and author of, among other things, the Commuting in America series. Alan said, "Part of Texas' problem is that it's a victim of its own success. You'd have fewer problems with traffic congestion if the economy was really bad." He's right. In fact, over the last 40 years, we've seen the number of people who live in Texas increase by 125 percent, the number of vehicles increase by 172 percent and the number of miles we drive increase by 238 percent. At the same time, the lane-miles of state-maintained roadways (our highways, farm-to-market roads primarily) have increased by only 19 percent over that same period of time.

All of that doesn't contribute to a solution, but it does, I believe, help contribute to understanding part of the reason we have a problem.

So what's the rest of the reason? It's pretty simple. Funding.

First, let's look at where we are. The average Texas pays about $14 per month in auto taxes and fees. Nationally, Texas ranks 44th among the 50 states in taxes and fees associated with vehicle ownership.

As you are aware there are three major sources of funding for roadway improvements in Texas. The first of these is the state motor fuels tax, the second is reimbursements from the federal motor fuels tax and the third is vehicle registration fees.

As you are also aware, there are long-term, systemic problems associated with the first two of those three major sources of revenue. State and federal fuel taxes, which have not been increased in 20 years, lose purchasing power each year for two reasons. First, roadway construction prices generally increase each year. Second, year in and year out, vehicles have improved fuel efficiency allowing the same or more travel to occur while providing a revenue stream that produces less revenue per mile of travel. Unlike a sales tax that is, in fact, a tax on a price, the fuel tax is a tax on the unit of measure – a gallon. Therefore each year, the purchasing power of that revenue stream is diminished. So much so, that the state fuel tax, last increased to 20 cents in 1991, now purchases about 9.2 cents of construction. As I mentioned earlier, these trends will only continue. In fact, the deterioration in the purchasing power of the motor fuels tax as a result of the increasing market penetration of hybrid and alternative fuel vehicles will only accelerate the problem.

The third source of revenue I mentioned, vehicle registration fees, has continued to increase as the number of vehicles in Texas has increased. It too, however, suffers from the impact of inflation as it is a fee levied on a class of vehicles, passenger cars for example, as opposed to a value. Consequently, whatever gain is realized as a result of an increase in the number of vehicles is partially offset by increases in the cost of construction and maintenance.

In sum, the Texas Department of Transportation, like most departments of transportation across the country, face significant funding problems.

I mentioned a few moments ago that Texas has three major sources of transportation revenues – and that's true. Recently, the State has chosen to add a fourth. That fourth source of transportation revenue has been the issuance of debt. Today, debt service on the Texas Mobility Fund bonds, Proposition 12 and Proposition 14 bonds, and obligations associated with pass- through tolls, currently amounts to about $800 million per year and will grow to $1 billion per year in the near future. While the issuance of

bonds has allowed the State to move forward with critically needed projects in the short- term, it is not a sustainable policy in the long-term.

The situation is such that, for the foreseeable future, given the current tax and fee structure and the need to pay debts and maintain the current infrastructure, there will be little money left over to add new capacity – while at the same time trying to deal with continued growth. In short, the State is fighting an increasing difficult battle with an increasingly shorter stick.

So, Texas faces significant challenges in maintaining the quality of our transportation system and, in turn, our quality of life. How big are those challenges?

Three years ago the Texas A&M Transportation Institute, along with the Center for Transportation Research at the University of Texas, provided the staff for the 2030 Committee. The Committee, composed of statewide business leaders, was charged with looking out 20 years into the future and estimating the state's transportation needs. The Committee did so and determined that, in 2010 dollars, in order to keep mobility from getting worse, total transportation needs were approximately $270 billion. Over that same period of time, assuming current revenue streams, the State would have approximately $100 billion to spend. Generally, based on historic patterns, about two-thirds of the $270 billion would be assumed by the state, with approximately one-third assumed by other levels of government (cities, counties, toll authorities, etc.). If that pattern remains the case, approximately $180 billion of that $270 billion would ultimately be required of the State, with the remaining $90 billion becoming the responsibility of other governmental entities.

The difference between the $100 billion the State will likely have to spend assuming current revenue streams, versus the $180 billion required to maintain current mobility levels will need to be addressed. There are two important points to remember about this estimate however. First, finding a way to cover the $80 billion gap will not necessarily improve mobility, it will only keep mobility from getting worse. Second, the $80 billion is in 2010 dollars. Even assuming relatively modest inflation rates, the amount of revenue needed will actually be significantly more.

Given the dimensions of this problem, what is the possible solution? First, we need to continue to focus on both sides of the issue – to identify mechanisms that enhance the State’s ability to build more supply and, in addition, to identify ways that we can reshape, and perhaps even reduce, the rate of increase in demand. Both achieve the same result.

To the first point, as I mentioned, the fuel tax will ultimately outlive its usefulness as a fair method of taxing roadway use. At some point, we will need to move to another system, whether it's a fee on vehicle miles traveled that's paid at the pump like the fuel tax, or assessed as a part of vehicle inspection fees or registration fees. It's important to keep in mind that the fuel tax was first imposed because it represented a reasonably accurate barometer of how much an individual used the roadway system – the more miles you drove, the more fuel you used, the more tax you paid. Now, for the reasons I mentioned earlier, every year it becomes a less accurate reflection of roadway use. Capturing the sales tax on motor vehicles is another way to provide more revenue. There are a number other options, including finding more opportunities for public/private partnerships, greater use of toll facilities, etc. And as I sit here talking about them, I realize it is much easier to do that than it is for the Legislature to pass them and for the public to pay them.

Finally, I mentioned identifying ways that we can reshape, and perhaps even reduce, the rate of increase in demand. To the extent we can do that, we lessen the cost of expanding the system by reducing the extent the system must be expanded. Strategies that come to mind include:

Leverage as much service as possible from our present infrastructure – Many low-cost improvements have broad public support and can be rapidly deployed. These traffic management programs require innovation, constant attention and adjustment, but they pay dividends in faster, safer and more reliable travel. Rapidly removing crashed vehicles, timing traffic signals so that more vehicles see green lights, and improving road and intersection designs are relatively simple actions.

Add capacity in critical corridors – Handling greater freight or person travel on freeways, streets, rail lines, buses or intermodal facilities often requires "more". The Rider 42 Study currently underway is doing just that – identifying the most congested roadways in our major metropolitan areas, identifying a solution, the cost and options for how they might be funded. Projects addressed in the study have the greatest impact considering factors including congestion, economic benefits, user costs, safety and pavement quality -- ensuring that public funds provide the greatest "bang for the buck".

Change the usage patterns – There are solutions that involve changes in the way employers and travelers conduct business to avoid traveling in the traditional "rush hours" or to reduce the number of single occupancy vehicles on the road. Flexible work hours, internet connections or phones allow employees to develop work schedules that meet family and the job needs.

Provide choices – This might include different routes, travel modes or lanes that involve a toll for high-speed and reliable service—a greater number of options that allow travelers and shippers to customize their travel plans.

Finally, **diversify the development patterns** – These typically involve denser developments with a mix of jobs, shops and homes, so that more people can walk, bike or take transit to more, and closer, destinations. Sustaining the "quality of life" and providing continued economic development without the typical increment of mobility decline appears to be part, but not all, of the solution.

In the final analysis, we face challenges. Some are the result of the tremendous economic success we've seen in Texas. Some are the result of a method of financing our roadways that no longer accurately represents our use of our roadways. The solutions are expensive, but have a significant return on investment. And, the smarter and more efficiently we use our current system, the more we can lessen the cost.

I'll be happy to try to answer whatever questions you may have.