Toward a New Surface Transportation Economic Model
Secretary Mary Peters
U.S. Department of Transportation

Our country is at a transportation policy crossroads. For the first time since the creation of the Interstate Highway System, we have an amazing opportunity to come together and completely re-assess our approach to financing and managing surface transportation systems. For too long, we have tolerated exploding highway congestion, unsustainable revenue mechanisms and spending decisions based on political influence as opposed to merit.

Now, thanks to technological breakthroughs, changing public opinion and highly successful real-world demonstrations around the world, it is clear that a new path is imminently achievable if we have the political will to forge it. That path must start with an honest assessment of how we pay for transportation, not simply how much (our current focus). In fact, our continued transportation financing challenges are in many ways a symptom of these underlying policy failures, not the cause.

The Fuel Tax – An Ineffective, Unsustainable and Unpopular Revenue Mechanism

The fuel tax has proven ineffective at reducing congestion

Because gas and diesel taxes are levied regardless of when, where or how someone drives, a misperception has been created that highways are "free." As with any scarce resource that is perceived to be free, demand will chronically exceed supply. In the case of highways, this peak demand problem is serious and growing worse in every medium or large city in the U.S. While highway spending at all levels of government has increased 100 percent in real dollar terms since 1980, the hours of delay during peak travel periods has increased almost 200 percent over the same time period.

Traffic congestion affects people in nearly every aspect of their daily lives – where they live, where they work, where they shop, and how much they pay for goods and services. According to 2005 figures, in certain metropolitan areas the average rush hour driver loses as many as 60 hours per year to travel delay – the equivalent of one and a half full work weeks, amounting annually to a “congestion tax” of approximately $1,200 per rush hour traveler in wasted time and fuel. Nationwide, congestion imposes delay and wasted fuel costs on the economy of at least $78 billion per year. The true costs of congestion are much higher, however, after taking into account the significant cost of unreliability to drivers and businesses, the environmental impacts of idle-related auto emissions, increased gasoline prices and the immobility of labor markets that result from congestion, all of which substantially affect interstate commerce.

Traffic congestion also has an increasingly negative impact upon the quality of life of many American families. In a 2005 survey, for example, 52% of Northern Virginia commuters reported that their travel times to work had increased in the past year, leading 70% of working parents to report having insufficient time to spend with their children and 63% of respondents to report having insufficient time to spend with their spouses.

Nationally, in a 2005 survey conducted by the National League of Cities, 35% of U.S. citizens reported traffic congestion as the most deteriorated living condition in their cities over the past five years; 85% responded that traffic congestion was as bad as, or worse than, it was in the previous year. Similarly, in a 2001 survey conducted by the U.S. Conference of Mayors, 79% of Americans from ten metropolitan areas reported that congestion had worsened in the prior five years; 50% believe it has become 'much worse'.

In a report released in July 2007 entitled "Surface Transportation: Strategies Are Available for Making Existing Road Infrastructure Perform Better," the Government Accountability Office (GAO) cited existing revenue mechanisms as the culprit, stating:

> "The existing revenue-raising structure provides no incentive for users to take these costs (delays, unreliability and pollution) into account when making their driving decisions. From an economic perspective, a mechanism is needed that gives users price incentives to consider these costs in deciding when, where, and how to drive. Because the existing structure does not reflect the economic, social, and environmental costs of driving at peak periods, drivers who may have flexibility to share rides, use mass transit, use more indirect but less congested routes, or defer their trips to uncongested times have no financial incentives to do so. Without such incentives, the transportation system will be headed for more frequent occurrences of congestion that last longer, resulting in more time spent traveling, greater fuel consumption, and higher emissions in the long run."

The fuel tax also results in an inefficient use of resources

Federal gasoline taxes are deposited into a centralized trust fund and allocated based on political will. Major spending decisions often have nothing to do with underlying economics, engineering realities or consumer needs. Stand-alone new programs that have no broader national purpose and pet project earmarks have proliferated in recent years. The 2005 transportation funding bill, for example, included more than 6,000 politically driven earmarks reported to cost some $24 billion.

The real cost of these earmarks is much higher. Looking at a sample of various recent earmarks, we found that the Federal earmark amounts themselves comprised on average only 10% of the total project cost. Because of this, States will typically either delay the earmarked project indefinitely or re-allocate resources from higher priorities to fill the funding gap. In addition, earmarks present administrative burdens for States that must dedicate scarce personnel resources to managing lower priority projects that are subject to earmarking. In short, earmarks ripple through the entire Federal-aid program structure.

The fuel tax is unsustainable in the future

Next year, outlays from the highway account are expected to exceed tax receipts by billions of dollars. A multi-billion dollar deficit in the Federal Highway Trust Fund is expected in 2009, prior to the end of the current highway bill. A flattening of national vehicle miles traveled (VMT), coupled with the growing popularity of more fuel efficient vehicles, is likely to negatively impact revenue collection from traditional transportation fuel taxes at all levels of government.

Further, under the enactment of the Energy Independence and Security Act of 2007, automobile fuel economy standards will increase 40 percent by 2020. This will save billions of gallons of fuel, but further erode the long-term revenue potency of fossil-based fuel taxes. Increasing our reliance on fossil-based fuel tax revenues to sustain our nation's surface transportation systems, while simultaneously striving to reduce U.S. oil consumption and promote the production and use of alternative fuels puts two national policy imperatives in direct conflict with each other.

The fuel tax is unpopular, but effective alternatives are not

Around the country, a growing number of public opinion polls reflect the unpopularity of gas and diesel taxes, particularly when compared to open road electronic tolling. Most recently, in a King County, Washington survey conducted in December 2007, respondents preferred financing the reconstruction of a major bridge with electronic tolling instead of gas taxes by a margin of 77 to 17 percent. In addition, the concept of variable tolling using new technologies in which prices vary regularly based on demand levels received support from 76 percent of respondents and opposition from only 22 percent.

A survey of public opinion surveys conducted in November 2007 for the Transportation Research Board by the research firm NuStats found that "in many parts of the U.S., a wide gap exists between elected officials' perceptions of what the public thinks about tolling and road pricing and what public opinion actually is." Summarizing their findings, the report said, "in the aggregate there is clear majority support for tolling and road pricing. Among all surveys, 56 percent showed support for tolling or road pricing concepts. Opposition was encountered in 31 percent of the surveys. Mixed results (i.e., no majority support or opposition) occurred in 13 percent of them."

In the 2007 edition of their Annual Survey of U.S. Attitudes on Tax and Wealth, the Tax Foundation wrote, "the one surprise this year was at the state and local level, where gas taxes were viewed as the least fair tax. That's the first time any state-local tax has edged famously-disliked local property taxes out for the honor of most unfair tax."

Solving the Problem

Direct Pricing of Roads

Virtually every economist who has studied the transportation says that direct pricing of road use, similar to how people pay for other utilities, holds far more promise in addressing congestion and

generating sustainable revenues for re-investment than do traditional gas taxes. And thanks to new technologies that have eliminated the need for toll booths, the concept of road pricing is spreading rapidly around the world. The brilliance of road pricing is that it achieves three major policy objectives simultaneously.

First, it will immediately reduce congestion and deliver substantial economic benefits. Drivers have proven in a growing array of road pricing examples in the U.S. and around the world that prices can work to significantly increase highway speed and reliability, encourage efficient spreading of traffic across all periods of the day, encourage shifts to public transportation and encourage the combining of trips. In fact, the National Household Travel Survey shows on an average workday, 56% of trips during the morning peak travel period and 69% of trips during the evening peak travel period are non-work related, and 23% percent of peak travelers are retired.

Second, it will generate revenues for re-investment precisely in the locations that need investment the most. Recent estimates in a forthcoming paper, "Toward a Comprehensive Assessment of Road Pricing Accounting for Land Use" by economists Clifford Winston and Ashley Langer at the Brookings Institute conclude that utilizing congestion pricing in ONLY the largest 98 metropolitan areas would generate approximately $120 billion a year in revenues while simultaneously solving the recurring congestion problem in those areas. Implementation of a broader road pricing strategy tied to wear and tear and reconstruction costs would obviously produce even higher revenue. In 2006, as a nation, we spent approximately $150 billion on all of our highways. State and local officials would even gain additional flexibility to reduce the wide array of taxes currently going into transportation that have nothing to do with use of the system.

Third, direct pricing will reduce carbon emissions and the emissions of traditional pollutants. According to Environmental Defense, a nonprofit environmental organization, congestion pricing in the city of London reduced emissions of particulate matter and nitrogen oxides by 12 percent and fossil fuel consumption and CO_2 emissions by 20 percent; a comprehensive electronic road pricing system in Singapore has prevented the emission of an estimated 175,000 lb of CO_2; and Stockholm's congestion pricing system has led to a 10-14 percent drop in CO_2 emissions.

A More Focused Federal Role

Until we decide what our national transportation priorities are, and what roles are appropriate for federal, state and local government as well as the private sector, we will be unable to adequately address our nation's infrastructure needs. Trying to be all things to all people has proven to be an unsuccessful strategy.

The Department believes that the federal role in transportation should be more limited than it is today, concentrating on:

- Improving and maintaining the condition and performance of the Interstate Highway System. Roughly one quarter of all highway miles traveled in the U.S. takes place on the Interstate System;

- Reducing congestion in major metropolitan areas and increasing incentive funds to State and local officials that pursue more effective congestion relief strategies. A more effective integration of public transportation and highway investment strategies is central to this challenge;
- Investing in and fostering a data-driven approach to reducing highway fatalities;
- Using Federal dollars to leverage non-Federal resources;
- Focusing on cutting edge, breakthrough research areas like technologies to improve vehicle to infrastructure communications; and
- Establishing quality and performance standards.

To better prioritize funding, earmarks should be eliminated. In a September 2007 report by the DOT Inspector General, a review was done of 8,056 earmarked projects within the Department's programs that received more than $8.54 billion for FY 2006. 99% of the earmarks studied "either were not subject to the agencies' review and selection process or bypassed the states' normal planning and programming processes".

Beyond earmark proliferation, there are a wide array of special interest programs that have been created to provide funding for projects that may or may not be a State and local priority. While it is true that not all earmarks or special interest investments are wasteful, it is also true that virtually no comparative economic analysis is conducted to support these spending decisions. No business could survive for any meaningful period of time using a similar investment strategy. Recent studies have shown that the economic return on highway capital investments have declined into the low single digits.

Institute Benefit Cost Analysis

Currently, approximately 20 States make some use of benefit-cost analysis (BCA) in managing their transportation programs. Only 6 States use the technique regularly, however. This means that the vast majority of transportation decisions in the U.S. today are currently being made with only minimal reference to the projected benefits and costs of a specific course of action relative to another course of action. The GAO recently conducted two studies to identify the key processes for surface transportation infrastructure planning and decision-making, with a particular emphasis on the role of economic analysis methods and the factors that affect the use of such methods.

Among other reasons, GAO cited "political concerns" for why BCA is not more widely used in U.S. public sector surface transportation decision-making. GAO observed that projects may be important for a particular interest group or constituency even though it is not efficient from an economic standpoint.

GAO also noted that BCA results are rarely reviewed in light of actual project outcomes. In other words, not only is BCA underused in the project planning process, it is also rarely used to assess the efficacy of previous investments. This is in stark contrast to typical capital investment models employed in the private sector. It is important that we establish far more productive means to ensure that scarce resources are flowing to projects that benefit the public the most. BCA is likely to be one of our most effective tools to advance that objective.

Unleash Private Sector Innovation and Competition

A May 2007 cover story in Business Week described "the flood of money" looking to invest in U.S. infrastructure. This is a testament to the long-term potential and stability of the U.S. economy since the U.S. transportation infrastructure market is currently more closed to investors than virtually all of the major economies in Europe and Asia. A successfully implemented Public-Private Partnerships (PPP's) program can greatly advance the public interest by responding directly to the transportation challenges we currently face. Those challenges include:

- Chronic undercapitalization – Since these are long-term investments, investors are more likely than governments (who are subject to annual budgetary pressures) to sufficiently capitalize a transportation asset up front in order to reduce operating and maintenance costs over the life of the asset.
- Congestion/declining system reliability – Private operators have strong incentives to ensure high levels of throughput (and speed), because more vehicles equals greater investment returns.
- Misallocation of investment resources – Private investment is research-based and follows demand, not political influence.
- Accountability to the user – Private infrastructure providers typically provide higher levels of customer service.
- Accountability to the taxpayer – Users pay directly for the benefits they receive and subsidies are transparent and justified.
- Faster project delivery – Investors cannot afford to have capital tied up indefinitely so construction and design delays are avoided.
- Need for system expansion and reconstruction – An increasing portion of state transportation dollars support preservation and maintenance of the existing system, leaving an unfilled gap to expand or reconstruct.

A study just released in December 2007 and sponsored by Infrastructure Partnerships Australia and conducted by Allen Consulting Group and the University of Melbourne found that "under traditional 'design and construct' contract procurement systems, the cost of infrastructure projects tends to blow out significantly, compared with PPPs. An analysis of 21 PPPs and 33 traditional projects suggested that traditional projects generated cost of overruns of $672 million on a contracted cost budget of about $4.5 billion and were completed 24 percent later than budgeted on a value weighted basis. On the other hand, PPPs were found to be relatively neutral on both cost overruns and on-time delivery."