Backgrounder

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Rush Hour: How States Can Reduce Congestion Through Performance-Based Transportation Programs

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Traffic congestion in most of America's metropolitan areas has worsened steadily over the past two and a half decades and is at its worst in the nation's major commercial centers. There is growing evidence that this congestion, once considered merely a nuisance and an unpleasant side effect of modernization and prosperity, is impeding economic activity in some metropolitan areas—a trend that could diminish prosperity by raising the cost of products and services by way of higher transportation costs and wages, uncertain delivery, and production delays.

The most commonly used indicator of metropolitan-area traffic congestion is the Travel Time Index (TTI), produced each year by the Texas Transportation Institute at Texas A&M University.[1] Calculated for 85 urban areas, the TTI measures the additional time spent on a trip during peak traffic hours as compared to the same trip off-peak. For example, a TTI of 1.20 indicates a 20 percent time penalty in peak hours compared to off-peak travel times—a 20-minute off-peak trip would take 24 minutes during rush hour.

Table 1 shows the trends in the average TTI for all 85 areas combined and for a few select urban areas. The data reflect that, on average and in many urban areas, traffic congestion is worsening.

A key reason for this worsening congestion is that road capacity has not kept pace with population, licensed drivers, automobiles, or vehicle miles traveled (VMT). Indeed, the former chairman of the U.S.

Talking Points

- Government programs in a growing number of states are becoming subject to performance-based systems to ensure that unresponsive bureaucracies are held accountable to the same standards of performance that have always been common in the private sector, where the difference between success and failure is often a matter of survival.
- Many states are adopting performance-based plans of varying degrees of value for their transportation departments. Many of these plans are recent in implementation and had little previous experience to draw upon in developing the system. As a result, most should be viewed as works in progress that will likely experience some measure of modification over time in response to citizen feedback and to the rate of progress toward goals.
- As more and more states adopt such plans, the rate of experimentation will accelerate, the number of successful practices will increase, and these discoveries, in turn, will displace those found to be of limited value.

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Table 1 B 1995

Trends in Travel Time Index for Select Areas

Urban Area	1982	1993	2003
Los Angeles	1.30	1.73	1.75
Chicago	1.18	1.34	1.57
Washington, D.C.	1.18	1.38	1.51
Portland	1.05	1.24	1.37
Richmond	1.03	1.07	1.09
Houston	1.28	1.24	1.42
85 Area Average	**1.12**	**1.28**	**1.37**

Source: Texas Transportation Institute.

House Committee on Transportation and Infrastructure noted in 2003 that since 1970, the number of licensed drivers had risen by 71 percent, the number of registered vehicles had risen by 99 percent, and miles driven had risen by 148 percent, and yet new road miles had increased by just 6 percent.[2] Under these circumstances, it is not surprising that traffic congestion has worsened: Too many cars and trucks are sharing too little pavement.

Recent TTI data also raise questions about the validity of one of today's more enduring urban myths: that a community cannot build its way out of congestion. Mid-sized cities like Richmond, Virginia, for example, have little congestion because they have added capacity to match their traffic needs.

Houston improved its TTI during the 1980s and improved its relative congestion rank by building *more* roads in the metropolitan area. Between 1983 and 1985, Houston had the worst traffic congestion in the nation. In 1986, its TTI peaked at 1.42, but then it began to fall, declining to 1.23 in 1992. Over the same period, its ranking went from worst in the nation to 15th. But Houston has since surrendered these gains and is back at a TTI of 1.42, putting it six above last place.[3] Despite this evidence that road-building can combat congestion, few American communities have tried it.

In response to the decline in the quality of transportation services offered their constituents, federal, state, and local officials and their respective departments of transportation (DOTs) often respond by arguing that the anemic growth in capacity demonstrates that their highway and transit programs are underfunded and that more financial resources are needed to reverse the trend, relieve congestion, and improve mobility. The facts, however, indicate otherwise.

Since 1970, the federal government has spent (in inflation-adjusted 2005 dollars) nearly $800 billion on roads, and the 50 state departments of transportation combined have spent an even larger sum. Yet despite this vast amount of money, capacity increased by only 6 percent. The outcome for transit spending was considerably worse: Annual expenditures have risen 275 percent, in inflation-adjusted terms, since 1970 while transit ridership has risen less than 20 percent. This indicates a return of less than 10 cents for each additional dollar spent on transit. Over the same period, transit's market share has declined by more than one-half, to 1.6 percent of urban travel, and transit carried only 4.7 percent of commuting to work trips in 2005.[4]

Given the apparent failure of the public sector to produce much new capacity for the great sums of money it has spent on transportation programs, taxpayers and elected representatives have become reluctant to support many of the transportation-related tax increase proposals at the federal, state, and local levels. As a result, the federal highway

1. David Schrank and Tim Lomax, "The 2005 Urban Mobility Report," Texas A&M University, Texas Transportation Institute, May 2005, Appendix B, at *http://mobility.tamu.edu/ums/report/methodology_appB.pdf*. Other measures of congestion compiled and reported by the Texas Transportation Institute include "annual delay per traveler," "congestion cost," and "excess fuel consumed."
2. Representative Don Young, "New Measure Will Meet Transportation Needs," *Roll Call*, December 8, 2003, p. 4.
3. "Performance Measure Summary for Houston," Texas A&M University, Texas Transportation Institute, May 2005, at *http://mobility.tamu.edu/ums/congestion_data/tables/houston.pdf*.
4. U.S. Census Bureau, American FactFinder, "United States—Selected Economic Characteristics: 2005," at *http://factfinder.census.gov/servlet/ADPTable?_bm=y&-qr_name=ACS_2005_EST_G00_DP3&-geo_id=01000US&-ds_name=&-redoLog=false*.

program and the state DOTs have been forced to make do with current levels of financial resources, which recently have stagnated because dedicated tax and fee revenues (mostly from fuel taxes) have flattened out with the leveling off of VMTs since 2000. In response, public officials have cited funding limitations as an excuse for their inability to stem the decline in mobility over the future, and some have attempted to turn the blame back on motorists (for driving too much) and local communities (for building too many houses).

Emerging Emphasis on Performance Measures and Quantitative Goals for DOTs

While some state transportation officials have been content to shift the blame, others are adopting new strategies to use available resources more efficiently in order to provide the greatest measure of transportation services. These plans differ significantly in detail, but all of them rely on quantitative performance measures that the state DOT is required to attain over a specified period of time.

Among the several performance plans implemented to date, the most direct is that of Texas, where the state DOT is mandated to reduce congestion in the state's metropolitan areas by 50 percent in 25 years. The Georgia legislature adopted a similar plan, requiring its DOT to reduce Atlanta's TTI to 1.35 over the next several years. By holding public officials responsible for achieving quantitative goals within a specified time span, state DOTs have a powerful incentive to spend their limited resources efficiently on projects that have the maximum impact in reducing congestion and improving mobility.

Although congestion relief should be the most important goal, other quantitative performance goals could be included in a state performance plan. These include measures of safety, roadway incidents and response time, maintenance and repair, environmental quality, and emergency preparedness.

When measurable goals are in place, projects that may be popular with influential constituencies and powerful elected officials but ineffective in achieving mobility and congestion relief are discouraged because they would jeopardize goal attainment. Likewise, efforts to promote costly but underutilized modes—often under the guise of providing "transportation choice"—treat a state's DOT as if it were an affirmative action program operating on the principles of "No Trolley Left Behind."

Essential to the creation and operation of a system based on quantitative performance goals is the availability of timely and accurate information covering all facets of a state's transportation system. This includes measures of regional congestion, road conditions, and safety measures as well as extensive details on operational and capital costs by mode, geography, and project needed to conduct the cost-benefit analyses critical to any performance-based program.

Because few states collect and compile the volume and type of data necessary to operate a performance-based accountability system effectively, one of the earliest steps in implementing such a system is to establish a comprehensive data collection and reporting system. The availability and dissemination of detailed data on all facets of a state's transportation network are also essential to gaining, justifying, and holding support for the program among the public, the media, and other state officials.

Without quantitative performance goals and a comprehensive set of data on needs, congestion, conditions, opportunities, and comparative costs, any DOT—whether federal, state, or local—will be hard-pressed to invest its funds on programs and projects that provide the maximum benefit to its citizens. Absent such information and the concise goals to guide the allocation of limited resources, the outcome would be less than optimal, and scarce resources would be wasted on inefficient and ineffective programs and projects, as they are in most states and municipalities today. Instead of being focused on mobility enhancement, most federal, state, and local programs and projects are chosen to accommodate influential constituencies, powerful elected officials, and whatever is currently in fashion among America's planning community.

As a consequence, safety and mobility are compromised as political leaders pursue the fashionable, ephemeral trends offered up by the aesthetic elites to help people better relate to the "built envi-

ronment" or to that even more fashionable institution, "human settlement." From these fashions spring such policies as "transportation choice," in which the goals of congestion mitigation and safe roads lose out to rhetoric borrowed from the reproductive and civil rights movement. One former university professor and Sierra Club officer suggests, in regard to rebuilding the New Orleans transportation system, that:

> Reconceptualizing New Orleans's transport and land use would be a great place to begin. But wherever and however it happens, the next innovations should create transportation systems that enhance opportunities for diverse populations and for diverse styles of life.[5]

For those communities searching for a transportation policy that goes beyond the process of "reconceptualizing…for diverse styles of life," a performance-based system anchored on the attainment of measurable goals related to mobility and congestion relief and safety enhancement requires the development of a comprehensive set of data on how the citizens of the state choose to travel, measures of relative costs and benefits among competing modes and projects, current conditions of infrastructure quality, and the quality of system service (safety and congestion, for example) provided to the users who largely fund the system through their user fees and taxes.

Costs and Benefits, Modes and Choices

Most transportation programs are ill-equipped to serve their users because they lack basic information on how much it costs to provide a particular transportation service by mode and by location. Few, if any, state DOTs have attempted such analyses, and the federal government has done it only once.[6] Absent information on unit costs by mode of transportation, officials cannot allocate scarce resources effectively among alternative modes to maximize consumer mobility.

Table 2 reports the results of a one-time federal study of the value of the federal subsidies received to passengers of different modes of transportation per thousand miles traveled. As the table reveals, passenger subsidies for some modes—namely, transit—are substantially more expensive than subsidies for others.

Table 2 B 1995

Net Federal Subsidies by Mode, FY 2002

Mode	Cost per 1,000 Passenger Miles
Automobiles	$-1.79
Buses	$4.66
Commercial Aviation	$6.18
Transit	$159.24
Rail (Amtrak)	$210.31
All Modes	**$1.72**

Source: U.S. Department of Transportation, Bureau of Transportation Statistics, "Federal Subsidies to Passenger Transportation," December 2004, p. 25, Table 3, at *www.bts.gov/programs/federal_subsidies_to_passenger_transportation/pdf/entire.pdf* (January 9, 2007).

Note also that at the federal level, automobiles yield a *profit* to the government because the user fees motorists pay into the highway trust fund via the 18.3 cent per gallon federal fuel tax exceeds spending on roads. The remainder of the fuel-tax money is diverted to transit, sidewalks, flower gardens, hiking trails, replica sailing ships, and many other non-road purposes. As one study notes, only about 60 percent of federal highway gas-tax spending is devoted to general-purpose roads.[7]

Absent information on modal/project unit costs, state DOTs have no way of determining how best to

5. Paul Craig, "In Praise of Diversity," *ACCESS: Transportation Research at the University of California*, No. 27 (Fall 2005), p.1, at *www.uctc.net/access/27/Access%2027%20-%2001%20-%20Opinion%20-%20In%20Praise%20of%20Diversity.pdf*.
6. See "Federal Subsidies to Passenger Transportation," U.S. Department of Transportation, Bureau of Transportation Statistics, December 2004. Congress subsequently eliminated funding for the program, and its 2004 report was the first and last.
7. See Wendell Cox, Alan E. Pisarski, and Ronald D. Utt, eds., *21st Century Highways: Innovative Solutions to America's Transportation Needs* (Washington, D.C.: The Heritage Foundation, 2005), p. 170.

allocate their fixed financial resources among competing uses to serve the citizens of the state most effectively. For example, such information would be a valuable resource for a state DOT that is attempting to get the greatest mobility bang from its limited budget.

Table 3 B 1995

Modal Share of Commuting to Work, 2005

Mode	California	Georgia	Illinois	Virginia	U.S.
Car, van, truck (driven alone)	74.0%	80.0%	75.0%	78.4%	77.0%
Carpooled	12.5	11.3	9.4	11.3	10.7
Transit	4.7	2.2	8.2	3.7	4.6
Walked	2.5	1.3	2.6	1.7	2.5
Other	2.0	1.6	1.4	1.3	1.6
Worked at home	4.3	3.6	3.3	3.5	3.6

Source: U.S. Census Bureau, 2005 American Community Survey, Selected Economic Characteristics.

Suppose, for example, that the DOT identifies a certain corridor as suffering from severe congestion and subsequently reviews alternative modal options as potential remedies subject to whatever budgetary limitations are imposed on it. Obviously, it would want to use the most cost-effective mode, and the relative cost information—such as that provided in Table 2—would be essential to making the best decision. In essence, the current predicament confronting state DOTs is not dissimilar from that which would confront a family trying to get the best nutritional value on a limited budget in a supermarket that posted no prices.

Another overlooked set of data that would be valuable to state and federal DOTs is how Americans choose to move from point A to point B among the many options offered them and what this information implies for prospective public investment among the modes. Table 3, using data from the U.S. Census, illustrates the preferred choices for travelers nationwide and for those in select states. Overall, the disproportionate share of travelers (motorists and carpoolers) are availing themselves of the most cost-effective mode—from the federal perspective as described in Table 2—while fewer than 5 percent on average are using the most expensive mode: transit and rail, including Amtrak.

For the typical DOT, data from these two tables would suggest that it might want to give some serious consideration to tilting the current allocation of resources from transit (and other costly modes) to roads to get the biggest bang at the least cost in budget resources.

Table 3 also reveals that the number of Americans working at home nearly matches the number who commute via public transportation. Even carpooling's share exceeds transit's share by two to three times. And unlike transit, both working at home and carpooling impose little or no cost on taxpayers.

Given that carpooling would provide a "profit" (from the federal perspective), transportation policies that encourage and facilitate carpooling could have a monumentally greater impact per dollar spent than those that favor transit would have. Despite the disproportionate differences in the cost–benefit relationships among these modes, the most recent federal highway bill, SAFETEA-LU, allocates about 25 percent of federal spending to transit but only about a tenth of 1 percent to promote and facilitate car and van pools.[8] With carpoolers nationally providing 10.7 percent of commuting trips, compared to 4.6 percent for transit, a reallocation of resources might be in order.

8. Despite carpooling's greater market share and lower cost than transit, no specific federal program promotes it. Such federal funds as are available come from the Congestion Mitigation and Air Quality Program (CMAQ), which receives about 3.7 percent of all federal highway program spending. In turn, CMAQ spending is divided among transit, bicycle, and car- and van-pool programs; only about 2.4 percent of CMAQ money goes to car and van pools, according to a TRB study of highway spending between 1992 and 1998.

Under the circumstances and with the cost differentials described above, a performance-based system would suggest that states and the federal government examine the potential benefits of shifting public financial resources, civic energy, and government attention from transit to carpooling and telecommuting so as to maximize the impact of available financial resources on improving mobility. While many have noted the declines in both carpooling and transit over time,[9] shifting some resources from transit to carpooling (e.g., to fund more and bigger parking lots and collection stations at critical connection points), deregulating carpools (allowing fees to be charged), and telecommuting (e.g., modifications in labor laws and incentives for remote telecommuting centers) might reverse that trend.

Relying on the Market

The issue of what type of mode serves what market under what measures of efficiency merits more attention than it has received in the transportation literature. For the most part, the debate between roads versus trolleys and other transit devices is a false one, generally pitting one government monopoly (the state and federal highway program) against another (the local public transit authority, which is often protected against competition by law).

As demonstrated in London, Denver, and other major metropolitan areas in Europe and Asia, the relaxation of anti-competition regulations—such as by competitive contracting—can lead to substantial cost reductions and service improvements by involving private contractors who can perform the same services at much lower costs or with reduced subsidies. Indeed, the comparative mode costs that have been compiled, such as those in Table 3, are not always intrinsic to certain modes or inevitable. Rather, such figures are often inflated as a consequence of operations confined to unionized and bureaucratic public-sector monopolies.

When these high costs are fully exposed, officials can undertake concentrated efforts to reduce costs in order to stretch limited resources across more projects and opportunities. This opportunity should be explored in states with substantially underutilized transit systems but very congested highways (of the sort, for example, found in Atlanta, Georgia) so that the money saved in transit could be reinvested in highways, which is the mode used by most commuters in the state.

Related to the issue of comparative costs and cost savings are opportunities for revenue enhancement to finance operations and investment in new projects. Once performance goals are set and time frames are established for their fulfillment, a state can then calculate the financial resources needed to accomplish them. If the sum exceeds the resources available from existing fees and taxes, and if the state is committed to reaching its goals within the specified time frame, additional financial resources will be required. Those extra resources, however, need not be derived from new or higher taxes, but rather could come from tolls and other user fees, including higher fares for transit. In either case, the revenues derived from these user fees could service the debt incurred by the projects needed to meet the performance goals.

Additional resources could be derived from public–private partnerships in which the private sector provides the capital while toll or other fee revenues provide private investors with a return on investment that is competitive with other investment opportunities available in the private sector. Similarly, the state could encourage private transportation investments—such as new toll road capacity to relieve congestion or competitive contracting of transit—that help the state to meet its goals. Whatever the source and volume of the new revenues, and whatever the modal choices competing for funding, a quantitative performance-based system allows the financial needs to be determined more precisely and allocated more effectively than is common today at the federal and state DOTs.

9. See, e.g., Alan E. Pisarski, *Commuting in America III: The Third National Report on Commuting Patterns and Trends*, National Research Council, Transportation Research Board, National Cooperative Highway Research Program *Report* No. 550, October 2006.

These options are illustrative of the mobility enhancement opportunities that present themselves to a public entity—whether federal, state, or local—that adopts a meaningful performance plan to reverse worsening traffic congestion and improve mobility for all of its constituents.

Basic Principles for Performance and Accountability Legislation

One way to translate the above-described processes and goals into legislation that establishes an operational program based on quantitative measures of performance and accountability is to group the necessary tasks into a series of separate, well-defined steps that, when combined, will lead to an effective program that can be operated by any state DOT. Based on the preceding analysis, a state transportation program built on quantitative measures of performance and accountability should include five components:

1. **State Traffic Flow Improvement Plan.** This plan will include immediate, low-cost, high-return investments throughout the state that reduce congestion and other impediments to traffic flow that affect safety and the environment. Such actions will include traffic management improvements, vehicle incident response systems, ramp metering, and other information technologies that enhance the flow of the state's existing investment in its transportation system. This program should be completed within 18 months of enactment.
2. **State Traffic Congestion Reduction Program.** This plan will include longer-term capital investments as part of a performance-based investment plan to reduce congestion throughout the state. Investments will be ranked by their ability to reduce delay. Performance of the system and progress toward the goal will be strictly monitored. The goal of this program is to increase the entire state's competitiveness in both the national and international spheres.
3. **State Infrastructure Improvement Plan.** This plan will include actions to bring the condition of the state's inadequate bridges, roadways, and transit facilities up to acceptable levels. Those levels will be strictly monitored and rated against predefined quantitative performance standards of quality.
4. **State Traffic Safety Enhancement Plan.** This plan will include the provision of safer and more secure transportation services on the state's roadways and rails and will be a key component of the DOT's measure of performance and accountability. This plan will establish goals for improving safety as measured by the annual rate per 100 million VMT of collisions, personal injuries, and fatalities in the state.
5. **State Data Collection and Reporting Plan.** This plan requires the state to establish a comprehensive and timely data collection and reporting system that covers operating and capital costs by mode and by normalized standards such as per-passenger-per-mile measures; truck volume and truck share of VMT; quality of service measures in terms of congestion and safety; quantitative measures of the quality of infrastructure, including roadbeds and bridges; daily usage by mode by number of passengers; and any and all other data necessary to fulfill the performance goals established in the plans. The data will also be used to provide meaningful periodic reports to the governor, legislature, and public on all measures of performance and progress, or lack thereof, toward the goals established in the legislation.

Model for a Legislative Proposal to Create a State Transportation Performance and Accountability Program

Combining the principles and proposals of the preceding two sections yields a general legislative proposal that could serve as the basis for model legislation in any state. Where specific references to specific metropolitan areas are required, this draft uses, by way of example, the state of Virginia, where two of the authors reside. This model legislative language can be modified, adapted, and expanded to accommodate the characteristics and interests of any state.

TRANSPORTATION PERFORMANCE AND ACCOUNTABILITY ACT OF 2006

A BILL to minimize traffic congestion, contribute to the economic growth of the State, and improve the well-being and safety of all Virginians.

Background and Purpose

The state finds that the state's worsening transportation problems are imposing substantial costs on the state's citizens and businesses; and

Traffic congestion in the state's major metropolitan areas has worsened over time and in relation to comparable metropolitan areas in other states; and

Traffic congestion diminishes air quality and safety; and

Traffic congestion undermines the state's economic health, its citizens' quality of life, and prosperity and perpetuates poverty; and

The absence of a specific concrete plan by the state government to address traffic congestion ensures that it will continue to worsen.

The purpose of the state's Transportation Performance and Accountability Act is to minimize traffic congestion to contribute to the economic growth of the state and to the well-being and safety of all the state's citizens.

I. Major Metropolitan Traffic Congestion Reduction Objectives

The Traffic Congestion Reduction Program shall apply to all counties and cities within major metropolitan areas (as defined).

Long-Term Traffic Congestion Reduction Objective: The state DOT shall adopt an objective to reduce traffic congestion in the major metropolitan areas of the state within 25 years of enactment. The objective shall be a Travel Time Index[10] of no more than 1.20 (compared to 1.51 in 2003) in the Washington metropolitan area; 1.15 in the Virginia Beach metropolitan area (compared to 1.21 in 2003); and 1.05 in the Richmond metropolitan area (compared to 1.09 in 2003).

Interim Traffic Congestion Reduction Objectives: The state DOT shall adopt interim objectives that reduce the Travel Time Index each five years on a "glide path" toward the 2032 objective.

Traffic Congestion Reduction Plan: The state DOT shall propose a cost-effective plan to achieve the long-term and interim objectives at the lowest possible cost. The principal purpose of the plan shall be to identify the roadway resources and strategies that would need to be implemented to achieve the long-term and interim traffic congestion reduction objectives. The plan shall include cost estimates and the cost per reduced delay hour compared to the status quo case for the achievement of the long-term and interim traffic congestion reduction objectives.

Preservation of Free (Gas Tax–Financed) Roads: The Traffic Congestion Reduction Plan shall not include the use of tolling or road pricing except (1) where it is already in use or (2) for capacity expansion. No lanes currently operating without tolls shall be converted to tolling or road pricing except as such tolls are restricted to new users and the funds so raised are devoted to capacity expansion and improvement on the roadway so tolled.

Roadway Segment Standard: The state DOT shall propose a maximum Travel Time Index objective to be applied to all freeway equivalent roadway segments in the major metropolitan areas.[11]

10. *Travel Time Index* (TTI): Defined as the additional time spent on a trip during peak hours as compared to the same trip off-peak. For example, a ratio of 1.20 indicates a 20 percent time penalty in peak hours compared to off-peak travel times (e.g., a 20-minute off-peak trip at 1.20 would take 24 minutes). The TTI is compiled annually by the Texas Transportation Institute at Texas A&M University. For additional details, see *http://mobility.tamu.edu/ums/report/methodology_appB.pdf*.

Reduced Delay Hour Standard: To the maximum extent feasible, the state DOT shall apply a cost-per-delay-hour standard in project evaluation within each of the major metropolitan areas. Costs shall include only actual proposed monetary expenditures by the state or other organizations making actual monetary expenditures with respect to the projects under consideration.[12]

Project Evaluation: In all of its project planning, the state DOT shall consider the cost per reduced delay hour as a factor in decision-making. The state DOT shall require the use of the cost-per-delay-hour factor in the major project planning by any authority, agency, or jurisdiction receiving transportation funding from the state. Major projects shall include any project with a projected cost of $10 million or more. While the program is focused appropriately on highway improvements, any improvement that is less costly per reduced delay hour than the highway improvement in the same corridor will be fundable under this program. All major projects will be re-evaluated two years after completion to ascertain actual delay improvements and actual benefits and costs.

II. Statewide Traffic Flow Improvement Plan

Incident Management: Provide effective incident management that reduces annual incident congestion delay by at least 25 percent within five years from date of enactment.

Congestion Delays: Reduce delays caused by congestion on roadways that are scheduled for improvement projects by an average of 10 percent per year.

Construction-Related Delays: Reduce delay caused by congestion in construction work zones by 10 percent per year.

III. Statewide Infrastructure Maintenance and Improvement Program

Pavement Conditions: Maintain annually at least 80 percent of the state's road surface in acceptable ride quality condition as measured by the International Roughness Index.

Bridge Safety and Maintenance: Maintain annually all bridges identified as weight restricted and/or structurally deficient so that there is no adverse effect of their safe use by emergency vehicles, school buses, and vehicles servicing the area economy.

Pothole Repair: Repair all reported potholes located in the roadway within one day of the receipt of notification 98 percent of the time except during emergencies and adverse weather.

IV. Statewide Safety Enhancement Program

Reduce the Number of Injuries and the Injury Rate: The state DOT will be required to reduce the injury rate, as measured by injuries per 100 million vehicle miles traveled (VMT), by an average of 2 percent per year over the next 10 years and to reduce the number of injuries by 1.5 percent per year over the next 10 years.

Reduce the Number of Fatalities and the Fatality Rate: The state DOT will be required to reduce the fatality rate, as measured by fatalities per 100 million VMT, by an average of 2 percent per year over the next 10 years and to reduce the number of fatalities by 1.5 percent per year over the next 10 years.

Develop Statewide Transportation Emergency Preparedness Plan: The state DOT will develop emergency preparedness plans, including regional evacuation plans, to respond to natural disasters, incidents related to homeland security, and serious

11. *Freeway equivalent roadways*: Controlled-access roadways such as, for example, interstate highways, interstate standard non-interstate roadways, toll roads, and parkways. Each freeway equivalent roadway shall be divided for reporting purposes into roadway segments of no more than five miles in the major metropolitan areas.
12. *Cost per reduced delay hour*: The total cost of a program or project divided by the change in total hours of person trip delay compared to the delay hours that would have occurred without the program or project.

disruption of major arteries due to infrastructure failure or serious traffic accidents.

V. Annual Reporting

The information contained in the Annual Report at right shall be reported to the legislature and the citizens of the state on an annual basis (which would require the state DOT to obtain information from other agencies along the lines of the information they already report to federal agencies, such as the Bureau of the Census and the Federal Transit Administration).

The supplemental information contained in the Supplemental Report below shall be made available annually to the public on the Internet and shall be maintained on the Internet for 25 years (which would make the reporting available throughout the planning period).

Annual Report

	State	Each Major Metropolitan Area	Each Jurisdiction (County and City) in Major Metropolitan Areas
Annual vehicle miles:			
All roads			
All roads*			
Commercial trucks			
Annual vehicle person miles:			
All roads*			
Annual passenger miles: Transit			
Annual state and local government expenditure:			
Roads			
Transit			
State and local government expenditure			
Per road passenger mile			
Per transit passenger mile			
Per person mile: Roads			
Per person mile: Transit			
DOT Expenditures			
Total person hours of delay:			
Roads, current year			
Change in person hours of delay			
DOT expenditures per change in person hours of delay			

* Cars, personal trucks, and SUVs

Supplemental Report

Roadway	Segment	Speed limit	Posted Speed	Average Speed Peak Period Peak Direction	Travel Time Index

VI. Biannual Conditions and Performance Report

Every two years, the state DOT will submit to the legislature a Condition and Performance Report modeled on and employing the data that the state DOT submits to the Federal Highway Administration (FHWA) to support the federal Condition and Performance Report prepared under Congressional mandate. This state DOT report will contrast the state's trends to the national trend situation in all areas introduced by the national report.

Conclusion

One by one, government programs in a growing number of states are becoming subject to performance-based systems to ensure that unresponsive bureaucracies are held accountable to the same standards of performance that have always been common in the private sector, where the difference between success and failure is often a matter of survival.

Public education was one of the first state programs to be subject to quantitative measures of performance and accountability, shifting the emphasis of school management and teaching from process to results: For example, what proportion of students are able to read at grade level? The state of Virginia was one of the first to adopt such a system in 1995, when then-Governor George Allen convinced the legislature to enact his Standards of Learning (SOL) program. A focus on accountability for results has dominated most state education debates as well as the federal education debate for the past decade.

Now many states are adopting performance-based plans of varying degrees of value for their transportation departments. Many of these plans are recent in implementation and had little previous experience to draw upon in developing the system. As a result, most should be viewed as works in progress that will likely experience some measure of modification over time in response to citizen feedback and to the rate of progress toward goals.

The Maryland performance plan offers an interesting case study in how such a program can evolve over a relatively short period of time through trial and error. Over the past six years, it has undergone substantial revisions in the DOT's [13] goals and the quality of the information it provides citizens, elected officials, and transportation officials.

As more and more states adopt such plans,[14] the rate of experimentation will accelerate, the number of successful practices will increase, and these discoveries, in turn, will displace those found to be of limited value.

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13. See Maryland Department of Transportation, "2005 Annual Attainment Report on Transportation Performance," December 23, 2004, at *www.mdot.state.md.us/Planning/Plans%20Programs%20Reports/Reports/Attainment%20Reports/2005%20MDOT%20Annual%20Attainment%20Report.pdf*.

14. For links to many of the state transportation performance plans now in place, see Wisconsin State Department of Transportation, "WSDOT Accountability," at *www.wsdot.wa.gov/accountability/default.htm* (January 4, 2007).