



The Maryland Public Policy Institute

RETHINKING
MARYLAND'S
PROPOSED GAS
TAX INCREASE

RETHINKING
MARYLAND'S PROPOSED
GAS TAX INCREASE



The Maryland Public Policy Institute

Published by
The Maryland Public Policy Institute
One Research Court, Suite 450
Rockville, Maryland 20850
240.686.3510
mdpolicy.org

Copyright © 2012

*Nothing written here is to be construed as the official opinion of the Maryland Public Policy Institute
or as an attempt to aid or hinder the passage of any bill before the Maryland General Assembly.*

RETHINKING MARYLAND'S PROPOSED GAS TAX INCREASE

BY WENDELL COX AND RONALD D. UTT, PH.D.

EXECUTIVE SUMMARY

IN LATE 2011 THE BLUE RIBBON COMMISSION on Maryland Transportation Funding issued its report, and recommended that the state fuel tax be increased by a total of 15 cents per gallon in three years' time, and indexed for inflation thereafter; that registration fees be increased 50 percent; and that the titling tax be increased to 6.5 percent. All of these changes are estimated to bring in an additional \$810 million per year when fully implemented. In turn, these additional funds are proposed to be spent on transportation projects in the state.

Since the report was issued, several business groups, legislators, and the governor have either endorsed the plan, or have indicated they may favor an increase in the state's fuel tax, to increase transportation spending to create jobs, relieve congestion, and improve the quality of the infrastructure.

Other business groups and a number of state legislators of both parties are skeptical of these costly proposals and oppose the tax increases. They note that in the past, Maryland has diverted large sums of transportation funds to non-transportation purposes. This report identifies the misallocation of more than half the state's transportation funds that is spent on transit—which serves fewer than 10 percent of commuters at heavy costs and worsening the state's traffic congestion. It further notes that without a sensible investment plan and meaningful goals, these new funds are likely to be as poorly utilized as those in the past.

This report also focuses on the distributional inequities that a fuel tax, and a fuel tax increase, induce among households of different income levels. Although it is widely understood that a gas tax is regressive in the sense that lower-income households pay a greater share of their income on the tax than do higher-income households, this report attempts to better quantify—using data derived from a study recently published by the Transportation Research Board—just how regressive the Maryland fuel tax is — at current levels, and would be if the increases that the Commission has recently proposed are enacted into law.

Specifically, this report estimates that after the proposed tax increase, the lowest-income brackets would pay a share of their incomes more than seven times greater than the share paid by the wealthier households. As a result, the lower-income households likely will choose to decrease their driving to a

much greater extent than would higher-income households, an outcome that has important implications for job access at a time when gas prices are also very high.

Finally, this report describes a number of non-tax approaches that several states have adopted to increase infrastructure funds without increasing taxes. These include performance and financial audits of the state's transportation programs, and the use of public-private partnerships to encourage private sector investment in infrastructure. At present, Virginia is in the process of raising about \$5 billion in non-tax resources to fund major transportation infrastructure projects throughout the state.

INTRODUCTION

As the Maryland legislature and governor confront a \$1.1 billion dollar budget deficit in the coming fiscal year, and as many in and out of the state government simultaneously argue in favor of an ambitious increase in the state's transportation infrastructure spending, both the governor and key sectors of the Maryland's business community propose to resolve this fiscal conflict with an increase in Maryland's state fuel tax by as much as 15 cents per gallon.

Currently, Maryland motorists pay 23.5 cents per gallon of gasoline (24.25 cents for diesel), so the proposed increase would escalate the state's fuel tax to 38.5 cents per gallon, an increase of 64 percent in addition to the 18.4 cents per gallon collected by the federal government. In the process, Maryland motorists would jump from facing the 31st highest overall transportation taxes to the ninth highest. Also note that while Maryland is currently ranked 31st in fuel taxes alone, its tax is nearly two percentage points higher than the average state fuel tax.

While there is much talk among tax hike advocates about the need for more transportation spending and investment, such an outcome would not apparently be forthcoming if taxes were increased, given Maryland's past practices and current transportation programs. And any forthcoming benefits would be offset by the negative economic consequences of an \$810 million annual tax increase on business and consumers.

ECONOMIC IMPACT OF A GAS TAX INCREASE

Any change in taxes—both in volume and how they are collected—impact the economy, individual citizens, and businesses in the state. These impacts include both macroeconomic (statewide) effects, and distributional effects that impact individuals of different incomes, place of residence, and age within the state.

Macroeconomic Effects In the case of the 15 cents per gallon prospective fuel tax increase, the discre-

tionary income of the citizens and businesses of Maryland would be reduced by the estimated \$491 million per year that the additional tax would be expected to raise from motorists and businesses. Other proposed transportation taxes on the motorist would bring this total to an estimated \$810 million per year when fully implemented. In turn, spending on goods and services amounting to a similar, although probably slightly smaller, dollar volume would decline, mostly within the state. Also declining will be the sales tax revenues that might otherwise have been collected by the state on that portion of spending that would have occurred within the state. As such, any jobs created with increased transportation spending could be offset by the \$810 million lost in other spending each year to businesses and consumers.

In addition to the negative impact on consumer and business spending, the gas tax increase will also impact the sales of gasoline within the state, which will adversely affect the incomes of those establishments that sell and distribute gasoline. This is particularly important for Maryland where the major employment/commercial center—the Washington, D.C. region—is comprised of three separate jurisdictions, and each employs significant numbers of citizens from the other jurisdictions. Each jurisdiction maintains its own tax rate, and if Maryland raises its rate by 15 cents per gallon, its tax will be substantially higher than in either Virginia or the District of Columbia, which will certainly tempt cross-border purchase of gasoline.

According to U.S. Census Bureau, each day the Maryland counties of Frederick, Anne Arundel, Montgomery, and Prince George's send an estimated total of 73,700 car commuters to jobs in Virginia, and 144,700 car commuters to jobs in the District of Columbia.¹ At present, the Virginia gas tax is 17.5 cents, D.C.'s is 23.5 cents, while Maryland's is also 23.5 cents. While there is a modest incentive now for some of the 73,700 Maryland car commuters to fill up in Virginia—the 6-cent difference amounts to a savings of 90 cents on a

TABLE 1 DISTRIBUTIONAL EFFECTS OF THE PROPOSED MARYLAND GAS TAX INCREASE

	VMT (MI)	FUEL ECONOMY	GALLONS PER YEAR	CURRENT TAX	PROPOSED TAX	TAX	BURDEN	IMPLIED INCOME
				FED/MD. 41.9¢	FED/MD. 56.9¢	CURRENT	PROPOSED	
NATIONAL AVERAGE	25,061	20.0	1,253	\$524	\$713	1.52	2.07	\$34,338
INCOME GROUPS								
< 20K	15,509	19.4	799	335	455	3.35	4.55	10,000
20K TO 40K	20,693	20.0	1,034	433	588	1.44	1.96	30,000
40K TO 60K	27,627	20.2	1,368	573	778	1.15	1.58	50,000
60K TO 80K	31,778	20.3	1,565	656	890	0.94	1.27	70,000
80K TO 100K	33,195	20.4	1,627	682	926	0.76	1.03	90,000
>100K	33,412	20.0	1,671	700	951	0.47	0.63	150,000
LIFE CYCLE								
WITH CHILDREN	32,085	20.2	1,588	665	904	1.71	2.33	38,783
RETIRED	14,921	18.8	794	333	452	1.35	1.83	24,654
GEOGRAPHIC								
URBAN	20,394	20.7	985	413	560	1.33	1.80	31,125
SUBURBAN	24,100	20.3	1,187	497	675	1.10	1.50	44,829
RURAL	28,958	19.6	1,477	619	840	1.82	2.47	33,884

Sources: See Appendix A

15-gallon fill-up. But if the Maryland gas tax rises to 38.5 cents, then the Virginia fill-up savings is 21 cents per gallon, and \$3.15 per fill-up, while the D.C. savings per gallon would rise from zero to 15 cents a gallon, or \$2.25 per fill-up.

If, over the course of a year, 50 percent of Maryland car commuters chose to fill up in Virginia then the potential tax loss to Maryland would total \$7.7 million, while Virginia would gain \$3.5 million in additional revenues. If the same pattern holds with Maryland commuters to D.C., then Maryland would lose \$15.1 million in tax revenues, while D.C. would gain \$9.2 million. Added to this would be the loss of business and revenues to the Maryland service stations and the gain that would occur in both Virginia and D.C. as sales of fuel and related products increase.

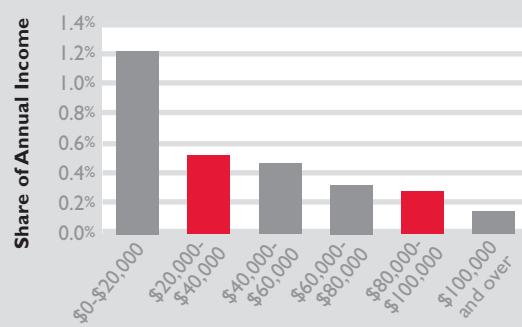
Distributional Effects There is no disagreement among economists and policy makers that a fuel tax is regressive, meaning that the tax burden—measured as a share of the taxes paid out of income earned—is greater for lower- and moderate-income households and less for higher-income households. In the case of fuel taxes, studies have found that whereas higher-income households drive more miles per year than those with lower-incomes, the rate of increase in vehicle miles trav-

eled (VMT) per increase in income is slower than that of the increase in income.

A recent study of the distributional effects of the federal gas tax along the income spectrum was recently completed by a Rand Corporation economist and published by the Transportation Research Board (TRB) of the National Academy of Sciences.² [See Appendix A for a more detailed discussion of the study and issues related to its applicability to the current debate in Maryland.]

Using data from the most recently available Consumer Expenditure Survey (CES), the TRB study identifies the annual VMT recorded by, and the average miles per gallon experienced by, households in various income groups, in different types of locations, and with different characteristics other than income and location. Table 1 presents the TRB data in columns 1 and 2, and converts this information into the gallons of gasoline used per household type in a year (column 3). The TRB/CES data is then used as a base with which to estimate the tax burden of the current total (federal and state) fuel taxes (41.9 cents) levied on motorists in Maryland by demographic characteristic, and the resulting tax burden if the total fuel tax were to rise by 15 cents per gallon (56.9 cents). Columns 4 and 5 present the annual fuel taxes paid by Maryland motorists—by several different demographic cat-

FIGURE 1 PROPOSED MARYLAND GAS TAX INCREASE: IMPACT BY HOUSEHOLD INCOME



egories—for the current level of taxes (4), and the proposed increase (5). Columns 6 and 7 translate this tax payment into “tax burden” which measures the tax payment as a share of income.

Broadly, Table 1 reveals that driving, as measured by VMT, rises with income, albeit at a slower rate. For example, those in the top income bracket earn 15 times more than those in the lowest, but the top earners drive “only” slightly more than twice as much as those in the lowest. Adding to the relative low-income burden is that the autos used by this group are often older than average and have a lower fuel efficiency than those used by the higher-income groups.

As a result of these differences, under current law the relative fuel tax burden for the lowest group is more than seven times than (Figure 4) that faced by those in the highest income bracket. Under current law, column 6 reveals that the lowest income motorists pay 3.55 percent of their income in fuel taxes, while the richest pay less than half of one percent (0.47 percent).

Column 7 provides the net tax burden that would occur if the state fuel tax were increased by 15 cents per gallon. While the relative degree of inequity remains the same, the burden on the lowest-income group jumps by more than a full percentage point (1.2) to 4.55 percent of income, while the wealthiest experience an increase in their tax burden to 0.63 percent, and suffer a 0.16 percentage point increase in the burden.

Another valuable insight from Table 1 is that households with children would have a fairly high tax burden (2.33 percent) relative to income under the proposed increase, because they incur more VMT per year than average for those in that

income bracket. Likewise, rural residents—who incur more VMT than urban and suburban motorists, and drive vehicles with lower fuel efficiency—would experience a higher tax burden (2.47 percent) than suburban and urban residents. Note in particular that rural incomes on average are lower than those in the suburbs, adding further to the relative tax burdens by location.

In sum, the fuel tax is a regressive tax that has a disproportionate impact on households with lower-incomes than those with higher-incomes, and the proposed 15-cent increase in Maryland’s fuel tax would add to that burden in a disproportionate way on those least able to bear it. Likewise, households with children and those in rural areas would also face a greater tax burden than other demographic groups.

THE POSITION OF TAX INCREASE ADVOCATES

At the national level, some of the bills introduced in the U.S. Congress to create a federal infrastructure bank cite the American Society of Civil Engineers’ estimate that \$2.2 trillion in infrastructure spending is needed over the next five years to bring us up to an “adequate” condition. At \$400 billion per year, the engineers would have America spend on infrastructure about what we spend each year on all federal, non-security, discretionary programs, an amount equal to 20 percent of all federal tax collections in FY 2011. Is it really this bad? Have we fallen so far so fast?

In Maryland, Kathleen T. Snyder, president and CEO of the Maryland Chamber of Commerce said “We’re woefully underfunded to the point of not being able to maintain what we have, much less improve transit, or build new roads and bridges.”³ In contrast, Governor Martin O’Malley’s justification for the tax increase has largely focused on creating jobs, and to a lesser extent on congestion mitigation and promoting transit ridership.⁴

In fact, as is described below, the situation is much less serious than described by the advocates of a higher gas tax. Like many such estimates, these exaggerations may be self-serving in that the members of the organizations making the estimates often stand to benefit financially if more money is raised through taxes and spent on infrastructure in response to these alarming assertions.

The civil engineers are only one example of many such infrastructure crisis contentions from a

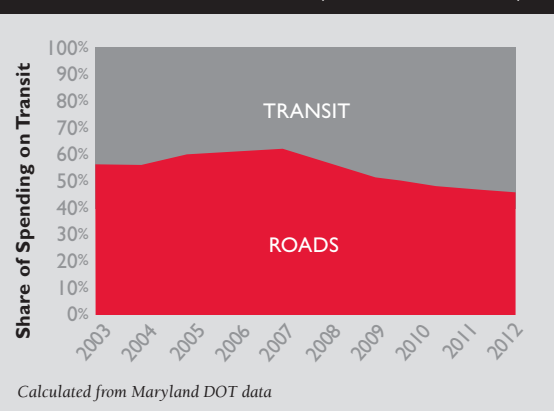
variety of prominent sources. Most of the dozens of infrastructure bills recently introduced in the U.S. Congress spend the first few pages of the proposals documenting the crisis. Such crisis-mongering characterizes much of the transportation discourse in all 50 states, as the press releases of Maryland's own illustrate. It has also become a common theme in the media, and even some of the Occupy Wall Street have taken up the theme, as did Occupy D.C. when it marched on Key Bridge demanding jobs and more infrastructure investment.

MISALLOCATED RESOURCES

In addition to the tax consequences, the absence of a constitutionally protected transportation trust fund in Maryland suggests there is no assurance that the additional funds would be used for transportation purposes. As Delegate Herb McMillan has noted, in the past three years Maryland has diverted money from the transportation trust fund several times to provide funds for non-transportation purposes—including \$370 million in FY2010—when other state revenues fell below desired spending levels.⁵ To put that in perspective, Maryland would need to raise its gas tax by at least 10 cents for two years to offset those recent diversions of transportation tax revenues. With Maryland facing a budget deficit of \$1 billion in the coming fiscal years, the temptation to repeat the diversion process would be heightened again, particularly as it could help preserve current and/or higher state spending levels, and/or avoid raising broad-based taxes such as those on sales and income.

For another, even without any diversions of the increased gas tax revenues to non-transportation purposes, and that all such revenues remained within transportation programs, there is no assurance that the state's political leadership would use these funds to increase capacity to maximize mobility and congestion mitigation. As an earlier Maryland Public Policy Institute report noted⁶, substantial sums of the state's transportation spending is devoted to serving a small segment of the traveling public by way of heavily subsidized modes of travel, notably transit. In the interim, the imbalance has become even worse. Over the past five years, including the current fiscal year, transit will have received 50 percent of MD-DOT's transit and highway funding (excluding transit commercial revenues, principally fares⁷). This is up sharply from the 41 percent in the previous

FIGURE 2 MD-DOT SPENDING: TRANSIT AND ROADS 2003-2012 (excludes transit fares)



five years (Table 2 and Figure 2).⁸ Transit received approximately 95 percent of the \$500 million increase in funding from 2003 to 2012.

In the current fiscal year, MD-DOT intends to spend 54 percent of the total highway and transit spending on transit. But it could be worse. A document published by the General Assembly indicates that the state could be liable for another \$21 million in WMATA subsidies, which would raise the total transit spending to 55 percent.⁹

In 2009, the last year for which complete transit ridership and highway use data are available, 48 percent of the highway and transit spending was on transit, 20 times the statewide transit travel share of 4 percent (Figure 3). At 55 percent, the transit imbalance could reach more than 25 times its funding share compared to its share of travel.

Yet, proponents of the gas tax increases consider this disproportionate funding ratio appropriate. For example, Donald C. Fry, president and CEO of the Greater Baltimore Committee and a member of the Maryland Blue Ribbon Commission on Transportation Funding, wrote that “Maryland has historically funded highways and transit evenly,” noting that funding for the two modes of travel has been similar. Such “even” funding when highways facilitate 96 percent of the passenger movement and *all* of the freight movement represents a misallocation of public funding.¹⁰

The prospect is even more ominous. Not only is Maryland's WMATA tab increasing (above), but also it seems likely to increase even more in the future. *The Washington Post* indicates that the WMATA funding challenges are likely to become more pronounced in the future, with larger fare

TABLE 2 MARYLAND DOT EXPENDITURES: HIGHWAYS & TRANSIT, FY 2003-2012

CAPITAL	WMATA	MTA	HWY	TOTAL
2003	\$160.8	\$227.7	\$828.0	\$1,216.5
2004	\$158.4	\$232.9	\$855.4	\$1,246.7
2005	\$57.2	\$286.3	\$1,022.7	\$1,366.2
2006	\$70.9	\$239.7	\$1,100.6	\$1,411.2
2007	\$75.2	\$151.7	\$1,046.7	\$1,273.6
2008	\$80.0	\$202.5	\$972.6	\$1,255.1
2009	\$74.9	\$268.5	\$863.9	\$1,207.3
2010	\$80.8	\$305.8	\$752.8	\$1,139.4
2011	\$119.9	\$371.2	\$871.7	\$1,362.8
2012	\$146.6	\$361.4	\$873.4	\$1,381.4

OPERATING	WMATA	MTA	HWY	TOTAL
2003	\$129.0	\$303.0	\$233.6	\$ 665.6
2004	\$145.0	\$289.5	\$221.5	\$ 656.0
2005	\$153.3	\$326.6	\$218.6	\$ 698.5
2006	\$167.0	\$347.1	\$203.7	\$ 717.8
2007	\$171.0	\$377.1	\$235.4	\$ 783.5
2008	\$193.0	\$426.8	\$238.8	\$ 858.6
2009	\$210.4	\$474.1	\$239.3	\$ 923.8
2010	\$215.7	\$492.8	\$296.4	\$1,004.9
2011	\$228.3	\$490.3	\$218.0	\$ 936.6
2012	\$239.0	\$528.2	\$212.1	\$ 979.3

CAPITAL & OPERATING	TOTAL TRANSIT	TOTAL HWY	GRAND TOTAL	TRANSIT SHARE
2003	\$820.5	\$1,061.6	\$1,882.1	43.6%
2004	\$825.8	\$1,076.9	\$1,902.7	43.4%
2005	\$823.4	\$1,241.3	\$2,064.7	39.9%
2006	\$824.7	\$1,304.3	\$2,129.0	38.7%
2007	\$775.0	\$1,282.1	\$2,057.1	37.7%
2008	\$902.3	\$1,211.4	\$2,113.7	42.7%
2009	\$1,027.9	\$1,103.2	\$2,131.1	48.2%
2010	\$1,095.1	\$1,049.2	\$2,144.3	51.1%
2011	\$1,209.7	\$1,089.7	\$2,299.4	52.6%
2012	\$1,275.2	\$1,085.5	\$2,360.7	54.0%
INCREASE 2003-2012	\$454.7	\$23.9	\$478.6	
CHANGE	55%	2%	25%	24%
SHARE OF NEW \$	95%	5%	100%	

\$ in Millions (current)

Excludes transit commercial revenues (principally fares)

Calculated from MDOT Budget Overviews: 2005-2012 (Each includes data for 3 years)

increases.¹¹ This would doubtless be accompanied by larger subsidy responsibilities for Maryland and the other funding jurisdictions. At the same time, there are plans to proceed with building the new Red Line in Baltimore and the Purple Line in Montgomery and Prince George's counties. These multi-billion dollar projects, which would

do little or nothing to reduce traffic congestion, could strain the financial ability of MD-DOT and could further exacerbate the funding distortion between highways and transit (Figure 4).

If this imbalance persists, the implication is that the motorists and truckers who pay the revenues earmarked for transportation will receive 45 percent

FIGURE 3 SPENDING PER MILE OF TRAVEL: MD-DOT 2003-2012 (excludes transit fares)

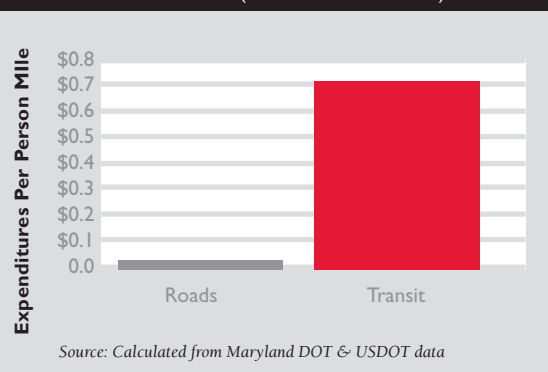
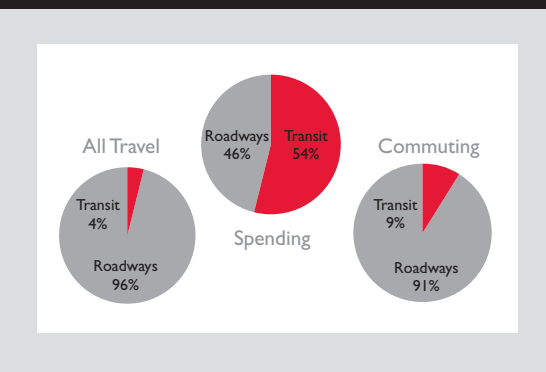


FIGURE 4 SPENDING AND TRAVEL SHARES STATE OF MARYLAND: FY 21012



or less of the benefits. With costly transit projects scheduled for the future—Baltimore’s Red Line and the Montgomery-Prince George’s County Purple Line—this imbalance could worsen to the detriment of mobility and congestion relief in the state.

Transit enjoys wide support in Maryland and the state has steered an increasing share of state highway user revenues to transit operations and projects. However, this increase in funding has not been met by a corresponding increase in ridership. There is no doubt of transit’s ability to provide work trips to major downtown areas, such as downtown Baltimore or central Washington. These concentrated destinations, however, account for between 10 and 20 percent of the employment locations in the metropolitan areas. There is virtually no potential for transit to carry a material share of travel to the 80 to 90 percent of the jobs outside downtown in major metropolitan areas in Maryland (Baltimore and Washington), since the concentration of destinations that are required for automobile competitive service exist nowhere else. This is even truer in the rural areas of the state.

Not surprisingly, even with substantial increases in commuter rail (MARC) service, the addition of light rail lines in Baltimore, and expansion of Metro service in the Washington suburbs, approximately the same share of Marylanders get to work by transit today as did in 1980.

The fundamental problem is that transit cannot compete with the automobile for most trips. Transit trends take much longer than travel by car. For example, in the Baltimore metropolitan area, the average one-way transit work trip takes 53 minutes, nearly double the average trip to work

by car at 28 minutes. In the Washington metropolitan area, the average one-way transit work trip takes 47 minutes compared to the average automobile work trip time of 32 minutes. There is little or nothing that can be done to make transit materially more competitive. Moreover, given the strong association between shorter work trip times and greater economic growth, the focus of transportation policy needs to be on *reducing* travel times, not on measures (such as transit) that have no potential to provide faster travel than by car.

Moreover, service coverage is so sparse to non-downtown locations that most people cannot reach the overwhelming majority of employment by transit in the area in a reasonable amount of time. A recent Brookings Institution report found that, on average, fewer than 10 percent of the jobs in the Washington and Baltimore metropolitan areas can be reached by transit within 45 minutes (one-way) during peak periods. No wonder that nearly 85 percent of Marylanders use cars to get to work, while less than one in 10 use transit. The average work trip travel time by car is 30 minutes.¹² Transit is not a viable option for the overwhelming majority of workers in Maryland, regardless how much is spent.

This conundrum is not limited to Maryland. Throughout the United States, Canada, and Western Europe, the situation is generally the same. Transit effectively serves the core employment areas, which are small relative to overall employment. In this environment, it may be surprising that virtually no metropolitan area has seriously proposed any transit improvements that would tilt the competitive balance away from cars and toward transit. There is a simple explanation. No

TABLE 3 VEHICLE MILES TRAVELED ON THE NATIONAL HIGHWAY SYSTEM PAVEMENT OF ACCEPTABLE AND GOOD CONDITION (1997 -2006)

QUALITY	1997	2000	2002	2004	2006
ACCEPTABLE	89%	91%	91%	91%	93%
GOOD	39%	48%	50%	52%	57%

Source: "Conditions and Performance Report," 2006.

TABLE 4 SHARE OF HIGHWAY BRIDGES THAT ARE STRUCTURALLY DEFICIENT AND FUNCTIONALLY OBSOLETE, (1996 – 2006)

QUALITY	1996	1998	2000	2002	2004	2006
TOTAL DEFICIENCIES	34.2%	32.0%	30.8%	29.6%	28.6%	27.6%
STRUCTURALLY DEFICIENT	18.1%	16.5%	15.5%	15.4%	15.2%	15.0%
FUNCTIONALLY OBSOLETE	16.1%	15.5%	15.2%	14.2%	13.5%	12.6%

Source: "Conditions and Performance Report," 2006.

such system can be developed at a cost remotely within the ability of any such metropolitan area to pay. Indeed, no such system has been seriously recommended in any urban area in North America or Western Europe.

CURRENT CONDITION OF THE TRANSPORTATION INFRASTRUCTURE

But contrary to this conventional wisdom, federal data—as presented biannually in FHWA's Conditions and Performance Report—tell a much different story of the nation's infrastructure quality, and is a story of a decade and a half of steady improvement. Table 3 provides biannual data on highway pavement of acceptable quality, and of good quality, and reveals that both measures have been improving steadily over the past decade.

The state of America's bridges tells a similar story, despite the incorrect conclusions taken from the devastating Minnesota bridge collapse in 2007 that did not result from a maintenance problem—the bridge was undergoing significant renovations at the time of collapse—but from a design flaw that was unable to carry the load that engineers believed it could when it was opened in 1967. As Table 4 demonstrates, the share of the nation's bridges that are either "structurally deficient" or "functionally obsolete" have steadily declined over the past decade or more.

TABLE 5 SHARE OF PROBLEM BRIDGES IN MARYLAND AND U.S. (1996 – 2006)

YEAR	1996		2006			
	MD.	US	MD. RANK	US RANK		
STRUCTURALLY DEFICIENT	9.8%	17.5%	12	8.0%	12.4%	10
FUNCTIONALLY OBSOLETE	21.3%	13.9%	42	19.1%	13.4%	40
TOTAL	31.1%	31.3%	31	27.1%	25.7%	31

Source: "Conditions and Performance Report," 1996, 2006.

TABLE 6 SHARE OF PROBLEM BRIDGES IN MARYLAND AND U.S. (1995 – 2010)

YEAR	1995		2010			
	MD.	US	MD. RANK	US RANK		
STRUCTURALLY DEFICIENT	9.6%	17.8%	11	7.0%	11.5%	12
FUNCTIONALLY OBSOLETE	21.4%	13.8%	44	18.4%	12.7%	40
TOTAL	31.0%	31.7%	30	25.4%	24.2%	32

Source: "Highway Statistics," FHWA, 1995, 2010.

Obviously, such measures of nationwide infrastructure quality reflect broad averages of state-by-state conditions and tend to obscure what could be significant differences in road and bridge quality that may exist between one state and the others. While FHWA's Conditions and Performance Report provides limited information on state-by-state trends, such data can be gleaned and calculated from other federal sources, notably FHWA's annual Highway Statistics. According to the 2010 issue of this report, Maryland road and bridge quality closely track the national trends, much better in some areas than in others. Tables 5 and 6 provide details on the same time frame as tables above, as well as more recent data on bridges from a separate federal report

As tables 5 and 6 indicate overall, Maryland's infrastructure quality is about average for the nation, and the rate of improvement over time has tracked that of the nation as a whole. There are, however, important differences among the subsets. In the case of "structurally deficient" bridges—where safety issues are paramount, Maryland performs well above the national average. In the case of "functionally obsolete," which is more a measure of deficiencies related to convenience, current standards, and ability to accommodate

TABLE 7 U.S. INJURIES AND FATALITIES PER 100 MILLION VMT, (1997 – 2006)

QUALITY	1997	2000	2002	2004	2006
FATALITIES	1.64	1.53	1.51	1.44	1.41
INJURIES	121	116	102	94	85

Source: "Conditions and Performance Report," 2006.

current needs, Maryland is slightly below average but in every case the difference is less than one percentage point.

Obviously, bridge safety—as measured by structurally deficient—is always the paramount issue, and in this case Maryland has consistently performed above average, reflecting a sustained pattern of sensible use of highway funds. In this regard, the Maryland DOT is to be commended for this above-average performance despite the absence of a gas tax increase since 1993, significant spending diversions to transit, and transportation money diverted to non-transportation purposes.

Another important measure of surface transportation quality is safety, and the federal government, through the FHWA, provides extensive data on U.S. safety trends, as measured by fatalities and injuries between 1997 and 2006 in Table 7.

As is the case with some of the above measures of highway performance, Maryland has outshone the nation as a whole, as Table 8 reveals.

OPERATIONAL DEFICIENCIES AND INVESTMENT MISALLOCATION SPOIL THE RECORD

Where both the nation and Maryland have underserved their citizens, whose user fees and taxes largely fund the transportation systems, is in reducing road congestion. Indeed, traffic congestion has been deteriorating since these measures were developed in 1982, and the cost to consumers and the regional economy can be quite high in terms of commute times, lost wages/leisure time, pollution, and added fuel costs.

Although important measures of surface transportation infrastructure and operations quality have improved markedly over time—both nationally and in Maryland—both federal and state programs have suffered setbacks in their efforts to relieve congestion, particularly in urban areas.

The authoritative source for historical traffic congestion data is the Texas Transportation Institute, which has developed a measure (the Travel

TABLE 8 MARYLAND INJURIES AND FATALITIES PER 100 MILLION VMT (1997 & 2009)

QUALITY	1997	2009
FATALITIES	1.3	1.07

Source: "Highway Statistics," FHWA, 1997, 2009.

Time Index) to quantify the average additional time that traffic congestion adds to travel in peak hours. The most recent report rates traffic congestion in 101 urban areas¹³ around the nation.

From 1982 to 2010, in the Baltimore urban area the average travel time delay in peak hours rose nearly four times, while its ranking rose from the 41st most congested to the 23rd most congested. The Washington metropolitan area experienced a tripling of its average travel time delay, while its ranking worsened from the 8th most congested in 1982 to the 2nd most congested in 2010, trailing only Los Angeles.

This deterioration of traffic congestion occurred at the same time as the two metropolitan areas were making the largest investment in automobile alternatives (nearly all transit) in the nation. In Maryland, much of the deterioration in traffic congestion can be traced to the diversion of funding that could have been used to ease traffic to alternative modes (mostly transit) that had virtually no potential to reduce traffic congestion.

ALTERNATIVE REVENUE SOURCES

Although fuel tax revenues remain the most important source of funds for federal and state surface transportation programs, increasingly states are looking to alternative, non-tax sources of transportation revenues in appreciation of the regressive nature of the fuel tax, economic stress due to the lingering recession, and public resistance to tax increases at a time of stagnant income and high unemployment. Over the past decade, many states have implemented innovative programs to raise funds through non-tax sources. Virginia has been at the forefront of these efforts and has compiled an impressive track record in utilizing non-tax revenues for transportation. Given that Maryland and Virginia share a common source of prosperity (the federal government in Washington, D.C.), similar demographics, and similar climate and geography, the lessons learned in one place may be applicable in another. Described in detail below are two of the major finance and funding innova-

tions that Virginia and a few other states are using to bolster highway and transit investment.

PUBLIC-PRIVATE PARTNERSHIPS

Virginia was one of the first states to formally allow private investors to build a toll road in the state when in 1988 it enacted legislation to allow construction of the privately-owned and financed Dulles Greenway, a 14-mile toll road connecting the existing state toll road from Dulles Airport to Leesburg, Virginia. Although the project has not been an especially successful investment for many of its private investors, the 1995 project has provided a heavily-used highway in a growing and a congested part of the state at no cost to the state's taxpayers.

Given the public benefits of the project, the Virginia legislature enacted the Public Private Partnership Act in 1995 to further encourage private sector investment in Virginia roads and highways. Since then, several major projects have been approved, and are either nearing completion or getting under way. Described below are three of the most notable projects, which have enabled the state to leverage about \$1 billion in taxpayer funds into an investment of more than \$5 billion in three capacity-enhancing road projects in congested transportation corridors within the state. Below is a brief description of each of the three main PPP projects.

I-495 Beltway Express Lanes In the Virginia suburbs of Washington, D.C., a \$2 billion project is adding 14 miles of four high-occupancy toll (HOT) lanes in the median of the Capital Beltway from the Springfield Interchange of I-95, I-395, and I-495 to the Dulles Toll Road exit in Fairfax County. Single-occupant cars will be charged variable-rate tolls to pay for the improvements, while carpools and express buses will travel for free.

This P3 project is a partnership between the Virginia Department of Transportation and a private company formed by Transurban (Australia) and Fluor (U.S.). It expects to complete the project in 2013. The project is financed by a \$409 million grant from the state of Virginia; a \$589 million Transportation Infrastructure Finance and Innovation Act (TIFIA) loan from the U.S. Department of Transportation (USDOT); \$589 million in private activity bonds (PABs); and a \$350 million equity investment by the joint venture partners. Net revenues after expenses for operations, maintenance, and reserves will be applied first to the

PABs and then to the TIFIA loan. Any residual revenue will accrue as profit to the private joint venture partners.¹⁴

The benefits to Virginia are obvious. For an investment of \$409 million, Virginia gets \$2 billion worth of new road capacity in one of the nation's most congested regions. Area motorists will have quicker commutes. Thousands of new construction and engineering jobs will have been created between 2008 and 2013, and more than \$280 million of aging infrastructure, including more than 50 bridges and overpasses, will be replaced in the process.

\$2.1 Billion Tunnel in Hampton Roads Area Virginia DOT and a joint venture of Skanska and Macquarie reached agreement last month on a 58-year concession under which they will finance, build, operate, and maintain a new Midtown tunnel parallel to the existing 50-year-old Midtown Tunnel, as well as upgrade two older tunnels and approach roads in Norfolk, Virginia. Skanska and Macquarie will provide \$1.3 billion in debt and equity, Virginia is putting in \$0.4 billion, and the federal government will provide a \$0.4 billion TIFIA loan. The four-year construction project will begin this year, following the financial closing.

Extension of I-95 HOV Lanes to Fredericksburg, and Conversion to HOT Lanes The project will create approximately 29 miles of HOT/HOV lanes on I-95 from Stafford County to just north of where I-95 intersects with I-395 and I-495. The project chiefly includes: two new reversible HOV/HOT lanes from Stafford County to where current HOV lanes begin in Prince William County; and widening the existing HOV lanes from two lanes to three lanes from Prince William County to a few miles north of the intersection with I-495 in Fairfax County. Estimated cost is \$1 billion and the private sector (another Fluor/Transurban partnership) is expected to contribute the majority of the funding and financing, with support from a state contribution. The project could get underway as early as this year.

A FINANCIAL AND PERFORMANCE AUDIT

In his successful quest for the governorship of Virginia, Attorney General Bob McDonnell announced that transportation improvements would

be one of his highest priorities, and that he would address this initiative without increasing the state's fuel tax, which now stands at 17.5 cents per gallon, six cents less than Maryland's.

Relying on the work of several think tanks that had argued that state DOTs were in need of a comprehensive performance and financial audit,¹⁵ Governor McDonnell and his new Secretary of Transportation announced that they would conduct a series of financial and performance audits of VDOT to determine the program's operational efficiency, and the volume of funds it has available to it. In April 2010 the governor announced that he was commissioning four separate audits of VDOT activities: two by private firms, one by the state, and the fourth by a federal transportation research entity. Those audits were completed by late summer of that year, and the governor announced they had identified \$1.45 billion in funds and savings, and subsequently committed to award an additional \$900 million in road projects before the end of the year.

Based upon such audit efforts in Virginia and Washington State, a potential audit plan for the state of Maryland might be as follows:

Step 1. Begin the reform process by acknowledging that the state's political leadership has failed to adequately address the problems and that the state institutions assigned to solve the problem could be more effective. They should also acknowledge that the whole system might need to be rebuilt from the ground up to better serve the citizens, not the leading legislators, the privileged interest groups that have diverted state transportation funds to other purposes, or unproductive transportation projects implemented largely for political purposes.

Step 2. State government should conduct a two-part comprehensive, *independent* financial audit of their transportation operations, including the state's Department of Transportation (DOT), and that of its many state and federally funded affiliates, including all of the taxpayer-funded transportation boards, authorities and commissions, and the metropolitan planning organizations mandated and funded under federal law. Such an audit should have two broad components: a comprehensive financial cost analysis of their operations, to determine if they are cost-competitive with prevailing best practices, and whether proper cost/

benefit analysis is applied to establishing project priorities and modal choices; and to identify underutilized, misappropriated, forgotten, and lost financial resources—state and federal—that poor management and accounting practices may overlooked and/or misplaced.

Step 3. The final component of the audit should be a comprehensive performance audit/assessment—similar to the one recently conducted in Washington State in 2007¹⁶—to determine whether the state's many transportation operations, its DOT, and its many state-funded appendages and associated entities are in fact properly focused on meaningful transportation improvements that provide the citizens with the greatest return on taxes paid in terms of enhanced mobility. As the record will often reveal, state legislatures and governors have seldom provided their DOTs with a clear and concise mission, and the Washington State audit proposed that congestion relief should be the top priority of any state DOT.

CONCLUSION

Increasing the gas tax and other motorist-related fees should be the last-resort policy option that the Maryland legislature should consider. Absent any meaningful reforms to the system, or the application of innovative policies proven in other states, an increase in taxes will simply waste more money on existing spending options that have failed to address worsening congestion. The burden of the increase in the fuel tax will also fall disproportionately more on moderate to lower-income households.

Chief among the failed policies is an overreliance on costly transit projects that serve only a fraction of state travelers and have provided no relief for congestion. New projects under consideration in Maryland—notably the Red and Purple Lines—will continue that legacy.

Maryland has also failed to implement a workable public-private partnership program that has generated billions of dollars in new transportation benefits and investments.

Finally, Maryland has also not taken advantage of a comprehensive financial and performance audit of the state's many government transportation entities. A series of such audits in Virginia have uncovered more than a billion dollars of missing, misused, and underutilized funds that have since been applied to \$900 million of additional projects.

APPENDIX A

Table 1 is based on information reported in Table 1 in the Transportation Research Board paper described in footnote 2. Columns 1 and 2 of Table 1 are derived from Table 1 of the TRB report, and are, in turn, derived from data reported in an earlier Consumer Expenditure Survey produced by the U.S. Bureau of Labor Statistics. The survey provides detailed information on driving patterns and auto ownership by income, location, and various demographic traits for a sample of households drawn from the U.S. population, and was compiled and presented by the author of the TRB report.

We used that information to compile the information presented in column 3, and column 3 was used to estimate the average annual current fuel tax obligation in Maryland for motorists in each of the categories, column 4, and the tax obligation if the gas tax was increased by 15 cents per gallon, column 5. In turn, these tax obligations were converted into a tax burden (columns 6 and 7) by relating the tax to the income of the households in each category. The income used in each burden calculation was the implied median income (column 8) in each slot, meaning that the 20K to 40K group was estimated to earn \$30,000 for purposes of the tax burden calculation.

Finally, while the base data are drawn from a national sample, not just from Maryland, the authors assume that the relationships between driving mileage, income, and fuel efficiency are sufficiently similar to allow for meaningful, relative projections between national and state experience.

APPENDIX B

The data presented in Tables 3 through 8 are drawn from a variety of sources published by the U.S. Department of Transportation, notably the annual report "Highway Statistics," and the biannual "Conditions and Performance Report." Due to diminished financial resources and changing congressional directives, the timeliness and comprehensiveness of these statistical reports have

become erratic, spotty, and delayed. In the case of the Conditions and Performance Report, the last published report includes data only through 2006, which is reflected in some of the tables. It is understood that the 2008 Report has been completed, but is still under internal review and the expected publication date is unknown.

In contrast, "Highway Statistics"—which contains some of the data included in "Conditions and Performance"—is "current" through 2010, but only a fraction of the data typically included in a "Highway Statistics" report are included in the 2009 and 2010 reports, which are as of this writing only partial in the extreme. As a consequence, current data are available for a few items, but not for many others.

Another problem with the data produced in both reports is that what is collected, compiled, and reported sometimes changes from year to year, preventing a consistent time series over an extended period of time.

As a consequence of these various irregularities in data availability, the beginning and end dates, and sometimes data in between, appear to be inconsistently presented in Tables 3 through 8. Despite these deficiencies and irregularities, we believe that the data available demonstrate that Maryland has made consistent progress in improving the quality of its transportation infrastructure, and in critical areas it exceeds by a large measure the national average.

WENDELL COX is principal of *Demographia*, an international consulting public policy firm, located in the St. Louis (MO-IL) metropolitan area. He is also a visiting professor at the *Conservatoire National des Arts et Metiers* in Paris (a national university) and a visiting fellow at the *Maryland Public Policy Institute*.

RONALD D. UTT, Ph.D. is the former Herbert and Joyce Morgan Senior Research Fellow for the Thomas A. Roe Institute for Economic Policy Studies at The Heritage Foundation, and an adjunct fellow at the *Maryland Public Policy Institute*.

1. Calculated from American Community Survey, 2006-2008 data.
2. Brian A. Weatherford, "Distributional Implications of Replacing the Federal Fuel Tax with Per Mile User Charges," Transportation Research Record: *Journal of the Transportation Research Board*, No. 2221, Transportation Research Board of the National Academies, Washington, D.C., 2011, pp. 19–26.
3. Nicholas Sohr, "\$1.1B Deficit, Gas Tax, Gambling to Dominate General Assembly," *Daily Record*, January 5, 2012.
4. Ibid.
5. Herb McMillan, "Myths Fuel Push to Raise Maryland's Gas Tax," *The Baltimore Sun*, December 29, 2011.
6. Wendell Cox, "Transportation Policy In Maryland: Focus on Economic Performance," *The Maryland Journal*, pp. 21-34
7. If fares were included, the imbalance favoring transit would be greater.
8. This 2009 estimate could be high, because passenger mile data for WMATA in Maryland are not available. To be conservative, this estimate assumes that Maryland WMATA riders have average trip lengths equal to that of the WMATA system and does not discount the mileage for portions of trips that are in D.C. or Virginia (because there is no sufficiently reliable method for such estimation).
9. Document available at http://mlis.state.md.us/2011rs/budget_docs/all/Operating/J00A0105_-_WMATA_Capital_Budget.pdf.
10. Donald C. Fry, "Myths, Reality and Transportation Revenue," *The Daily Record*, January 19, 2012, at <http://thedailyrecord.com/2012/01/19/donald-c-fry-myths-reality-and-transportation-revenue/>.
11. Editorial, "Why Metro is getting more costly," *The Washington Post*, November 11, 2011, at http://www.washingtonpost.com/opinions/checking-metros-fares/2012/01/11/glQAvDxLzP_story.html.
12. "American Community Survey," U.S. Census, 2010.
13. Urban areas are the "built-up" portions of metropolitan areas and include both the central city and the surrounding suburbs.
14. William Reinhardt and Ronald Utt, "Can Public-Private Partnerships Fill the Transportation Funding Gap?" Backgrounder #2639, The Heritage Foundation, January 13, 2012.
15. Ronald D. Utt, "How States Can Improve Their Transportation System and Relieve Traffic Congestion," Backgrounder # 2165, The Heritage Foundation, July 28, 2008
16. Michael Ennis, "Reforming State Transportation Policy: Washington State's Efforts to Implement Performance-Based Policies," Backgrounder # 2189, The Heritage Foundation, September 29, 2008.

ABOUT THE MARYLAND PUBLIC POLICY INSTITUTE

Founded in 2001, the Maryland Public Policy Institute is a nonpartisan public policy research and education organization that focuses on state policy issues. Our goal is to provide accurate and timely research analysis of Maryland policy issues and market these findings to key primary audiences.

The mission of the Maryland Public Policy Institute is to formulate and promote public policies at all levels of government based on principles of free enterprise, limited government, and civil society.

In order to maintain objectivity and independence, the Institute accepts no government funding and does not perform contract research. The Maryland Public Policy Institute is recognized as a 501 (C) (3) research and education organization under the Internal Revenue Code.

The Maryland Public Policy Institute

One Research Court | Suite 450 | Rockville, Maryland 20850 | mdpolicy.org