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## ***Vermont Legislative Research Service***



### **Transportation Funding and Gas-Tax Revenue**

Increasing use of public transportation and fuel-efficient vehicles has led to a decline in gas-tax revenue for many states. This gas-tax revenue is for many states the principle source of funding for transportation projects; thus the continual decline in receipts from the tax has many states looking for alternative methods to fill the financial gap and keep transportation funding on an even keel. This report will focus on the vehicle mileage tax, public-private partnerships, and consolidation as the principle mechanisms for either increasing revenue or decreasing spending. This report will analyze both American and European initiatives.

#### **Vehicle Mileage Tax**

The Vehicle Mileage Tax (VMT) is a proposed tax based on miles driven, not gallons of gas used. A Global Positioning System (GPS) mechanism installed in the vehicles would track the distance traveled. For its proponents, the logic behind such a tax is clear: they contend that in addition to the declining revenue from the gas tax, the gas tax does not provide adequate incentive to dissuade driving.<sup>1</sup> Furthermore, they say the tax is misdirected because most of the costs associated with driving, including road deterioration, noise, pollution, accidents, and congestion are directly tied to when, where, what, and how far one drives, not how much gas one uses. Opponents of the tax cite concerns over privacy, implementation and administration, and penalization of commuters, especially lower-income and rural commuters.<sup>2</sup>

In Oregon, proposals for the VMT have been endorsed by the governor and many legislators.<sup>3</sup> From 2006 to 2007, the Road User Fee Task Force administered a pilot program in Portland to test the viability of implementing a VMT in Oregon. Their final report determined that the VMT

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<sup>1</sup> Congressional Budget Office, "Alternative Approaches To Funding Highways," March 2011, accessed April 14, 2011, <http://www.cbo.gov/doc.cfm?index=12101&zzz=41624>.

<sup>2</sup> Congressional Budget Office, "Alternative Approaches To Funding Highways."

<sup>3</sup> Department of Transportation, Federal Highway Administration, "Transportation and Climate Change Letter," February 2009, accessed April 10, 2011, <http://www.fhwa.dot.gov/hep/climatechange/newsletter/ccnews0209.htm>.

was a workable option for Oregon.<sup>4</sup> It found that privacy would be protected because information about where drivers travel would not be collected, except insofar as it would be used for “pricing zones,” i.e. differentiating between travel in congested areas, rural roads, out of state, etc. Furthermore, the task force found tampering would be minimal, implementation while the gas tax was in place would be feasible, and collection and administration of the tax would be functional.<sup>5</sup> Because of the high cost of retrofitting vehicles with a monitoring device, owners of older vehicles would continue to pay the gas tax, while those of newer, outfitted vehicles would pay the VMT.<sup>6</sup>

A similar study conducted from 2005 to 2007 by the Puget Sound Regional Council in the state of Washington found that the VMT did affect driver choices and had the potential to reduce congestion.<sup>7</sup> An emissions-reduction law enacted in 2008 by Washington set goals for reducing annual per capita vehicle miles traveled within the state by 18% by 2020, 35% by 2035, and 50% by 2050.<sup>8</sup> This goal, in conjunction with the already large number of fuel-efficient vehicles has necessitated a look at other revenue sources.<sup>9</sup> To this end, a study issued in January 2010 by the Joint Legislative Committee of the state legislature recommended that an array of funding options be considered to off-set the loss of gas tax revenue. These included instituting the VMT, expanding tollbooths, higher licensing fees, and tying the gas tax to the consumer price index.<sup>10</sup>

The University of Iowa Public Policy Center conducted an extensive study on the VMT in 12 areas around the country.<sup>11</sup> Not all of the findings have been released but they are expected to be announced sometime within 2011. The released findings show that originally participants had concerns over privacy; however, these concerns dissipated over the course of the study, as participants began to understand that the only data collected was miles driven, or in one particular phase of the study miles driven within a given tax jurisdiction. The VMT could not be

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<sup>4</sup> Oregon Department of Transportation, “Oregon’s Mileage Fee Concept and Road User Pilot Program – Final Report.”

<sup>5</sup> Oregon Department of Transportation, “VMT-Based Fees: A Gas Tax Alternative,” June 24, 2008, accessed April 10, 2011, <http://www.nga.org/Files/pdf/0806TRANSPORTATIONWHITTY.PDF>.

<sup>6</sup> Oregon Department of Transportation, “VMT-Based Fees: A Gas Tax Alternative.”

<sup>7</sup> Puget Sound Regional Council, “Traffic Choices Study – Summary Report,” April 2008, accessed April 19, 2011, <http://www.psrc.org/assets/37/summaryreport.pdf>.

<sup>8</sup> Washington State Legislature, “Regarding greenhouse gases emissions and providing for green collar jobs,” Bill Information, HB 2815 – 2007-2008, accessed April 19, 2011, <http://apps.leg.wa.gov/billinfor/summary.aspx?bill=2815&year=2007>.

<sup>9</sup> Erik Robinson, “Road funding source runs low on gas,” *The Columbian*, February 4, 2010, accessed April 8, 2011, <http://www.columbian.com/news/2010/feb/04/road-funding-source-runs-low-on-gas-fuel/>.

<sup>10</sup> Washington State Legislature, Joint Transportation Committee, “Implementing Alternative Transportation Funding Methods,” January 5, 2010, accessed April 15, 2011, [http://www.leg.wa.gov/JTC/Documents/Studies/ImplementingAltFunding\\_FinalReportJan2010.pdf](http://www.leg.wa.gov/JTC/Documents/Studies/ImplementingAltFunding_FinalReportJan2010.pdf).

<sup>11</sup> University of Iowa, Public Policy Center, “Mileage-based Road User Charge Study FAQs,” accessed April 28, 2011, <http://www.roaduserstudy.org/faq.aspx>.

used as a tracking device.<sup>12</sup> Additionally, as the study progressed many participants were eager to have more specificity in their tax statements, such as their daily miles traveled in order to confirm that charges were correct. The study found that at the beginning only 20% of participants supported the concept of the VMT but by the end of the study more than 80% of the participants approved. The researchers determined that nationwide implementation would probably take 5-10 years because of the costs associated with installing the equipment post-manufacture, and they determined that a requirement for new cars to include the technology would cut down significantly on both cost and potential for tampering with the monitor.<sup>13</sup>

In 2009, the Transportation Commissioners of California, Washington, and Oregon wrote to the federal government to convey their support for the VMT and asked that it be considered for implementation on a national scale.<sup>14</sup> Additionally, the Congressional Budget Office identified the VMT as a “practical option” for raising additional transportation funds.<sup>15</sup> However, the Obama administration has stated that the VMT will not be a part of its transportation policy.<sup>16</sup>

Germany and Holland implemented programs similar to the VMT. As Europe’s most congested country, Holland has struggled with reducing automobile commuting.<sup>17</sup> In November 2009, the Dutch cabinet approved a measure that would place a tax on drivers based on how far they travel. In addition to distance, the Dutch model would consider the fuel efficiency of the vehicle and the time of travel (eg peak congestion hours versus non congestion hours). The tax, proposed to begin at a level of 3 euro cents (currently approximately 4.3 US cents) per kilometer (approximately .6 miles) in 2012, is scheduled to rise through 2018 to a level of 6.7 cents (approximately 9.5 US cents) per kilometer.<sup>18</sup> To offset the increased revenue from this, the Dutch proposal would repeal the 25% tax on auto sales, as well as the road tax which every Dutch citizen must pay to operate a vehicle. Such a policy has given rise to an intensified debate within Germany on its transportation tax system.<sup>19</sup> In Germany, tolls are assessed on heavy

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<sup>12</sup> David DeWitte, “UI Study: Drivers would accept new kind of highway tax,” *The Gazette*, March 17, 2011, accessed April 28, 2011, <http://thegazette.com/2011/03/17/ui-study-drivers-would-accept-new-kind-of-highway-tax/>.

<sup>13</sup> David DeWitte, “UI Study: Drivers would accept new kind of highway tax.”

<sup>14</sup> Gail Achterman, John Chalker, and Dan O’Neal, “The Honorable Maria Cantwell,” California, Oregon, and Washington State Transportation, January 16, 2009, accessed April 19, 2011, <http://www.tollroadsnews.com/sites/default/files/WestOnVMT.pdf>.

<sup>15</sup> Pete Kasperowicz, “CBO: Taxing mileage a ‘practical option’ for revenue enhancement,” *The Hill*, March 24, 2011, accessed April 12, 2011, <http://thehill.com/blogs/floor-action/senate/151765-cbo-says-taxing-drivers-based-on-miles-driven-a-real-option-for-raising-revenues>.

<sup>16</sup> Highway Trust Fund, “Transportation agency: Obama will not pursue mileage tax,” *CNN*, February 20, 2009, accessed April 13, 2011, [http://articles.cnn.com/2009-02-20/politics/driving.tax\\_1\\_gas-tax-highway-trust-fund-roads-and-bridges?s=PM:POLITICS](http://articles.cnn.com/2009-02-20/politics/driving.tax_1_gas-tax-highway-trust-fund-roads-and-bridges?s=PM:POLITICS).

<sup>17</sup> Leo Cendrowicz, “Holland’s Plan to Tax Every Kilometer Driven,” *TIME*, December 23, 2009, accessed April 19, 2011, <http://www.time.com/time/health/article/0,8599,1949156,00.html>.

<sup>18</sup> DutchNews.nl, “Cabinet finalises kilometer tax plan,” DutchNews.nl, November 16, 2009, accessed April 19, 2011, [http://www.dutchnews.nl/news/archives/2009/11/cabinet\\_finalises\\_road\\_pricing.php](http://www.dutchnews.nl/news/archives/2009/11/cabinet_finalises_road_pricing.php).

<sup>19</sup> Deutsche Welle, “Dutch road tax inflames debate in neighboring Germany,” November 16, 2009, accessed April 19, 2011, <http://www.dw-world.de/dw/article/0,,4896686,00.html>.

trucks using the federal highway system. They are measured using GPS technology, and are calculated by truck weight, distance traveled, and emissions produced.<sup>20</sup>

### **Public-Private Partnership**

Transportation experts cite public-private partnerships (PPPs) as a way to address transportation funding shortfalls. Public-private partnerships are contracts that enable the private sector to assume a traditionally public role in infrastructure projects; while holding the public sector ultimately responsible for the project and service to the public. Typically a PPP involves a government agency that contracts with a company to reconstruct, build, control, maintain, or finance a transportation facility.<sup>21</sup> PPPs are not suited for long-term transportation projects; however, they reduce the upfront public costs as projects are completed at a faster rate. Other benefits of PPPs include improved efficiency in construction and maintenance, access to private capital, higher customer satisfaction, and enabling public agencies to focus on their strengths, such as long-term service planning and environmental clearance.<sup>22</sup> PPPs do not create new money, rather they leverage private financial support to develop infrastructure. Thus, tolls and other sources of public revenue are needed in order to pay back private investments.<sup>23</sup>

PPPs have become popular among state legislatures, as 29 states and Puerto Rico have endorsed them for transportation projects. This development increased in 2010 as 21 states and the District of Columbia considered 52 legislative measures concerning transportation partnerships. Of those proposed, seven states adopted 11 measures, including an inclusive public-private enabling statute in Maine.<sup>24</sup> States have created enabling legislation for state or local agencies to enter into PPPs agreements in order to fund highway and transit infrastructure projects. There has been considerable federal support for the use of PPPs. Many senior members from the United States Department of Transportation have expressly advocated for states to enact enabling legislation and enter into PPPs. In 2003, the Federal Highway Act Administrator, Mary Peter, stated,

We are for public private partnerships. We support them. We want to make them easier, much easier to do. Despite notable successes public private partnerships are still viewed by many in transportation as unique and fraught with legal, financial, and administrative hurdles. Abundant experience in the use of PPPs in other areas, and the growing experience in transportation illustrate that these hurdles can be overcome. We can lower costs and speed project

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<sup>20</sup> National Surface Transportation Infrastructure Financing Committee, "The Path Forward: Funding and Financing Our Surface Transportation System," February 2008, accessed April 17, 2011, <http://financecommission.dot.gov/Documents/Interim%20Report%20-%20The%20Path%20Forward.pdf>.

<sup>21</sup> National Conference of State Legislatures, "Public-Private Partnerships for Transportation: A Toolkit for Legislators," December 9, 2010, accessed May 1, 2011, <http://www.ncsl.org/default.aspx?TabId=20321>.

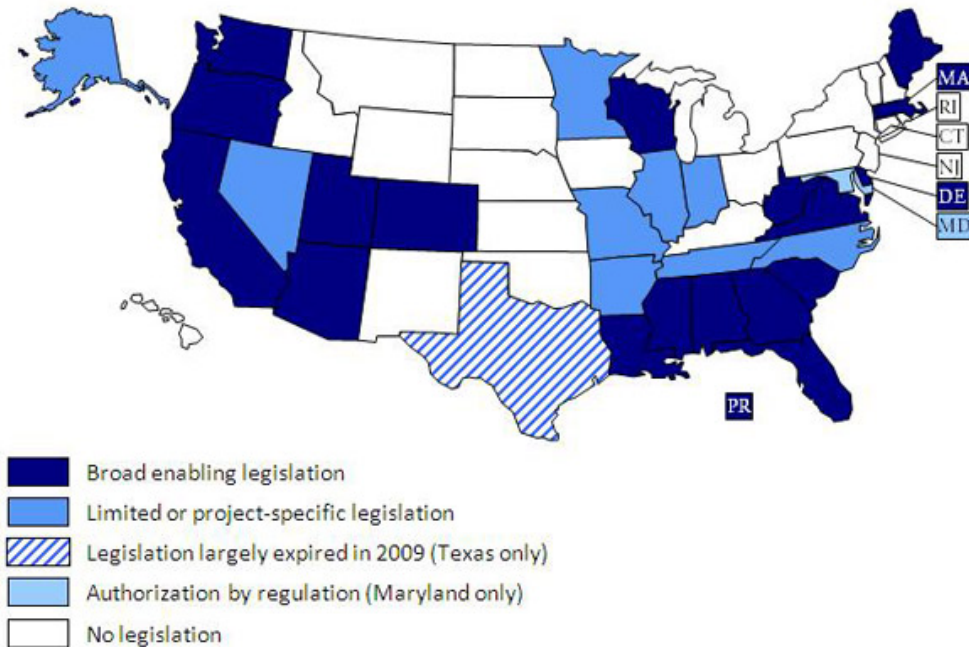
<sup>22</sup> U.S. Department of Transportation and Federal Highway Administration, "User Guidebook on Implementing Public-Private Partnerships for Transportation Infrastructure Projects in the United States," July 7, 2007, accessed May 1, 2011, [http://www.fhwa.dot.gov/ipd/pdfs/ppp\\_user\\_guidebook\\_final\\_7-7-07.pdf](http://www.fhwa.dot.gov/ipd/pdfs/ppp_user_guidebook_final_7-7-07.pdf).

<sup>23</sup> James Reed and Jaime Hall, "Running Out of Gas," March 2011, accessed May 1, 2011, <http://www.ncsl.org/default.aspx?tabid=22241>.

<sup>24</sup> James Reed and Jaime Hall, "Running Out of Gas."

completion. In a time of funding shortages at all levels of government, it is particularly important that we look to opportunities for the private sector to participate in funding transportation infrastructure improvements.<sup>25</sup>

Figure 1 demonstrates the breakdown of PPPs among the different states.



**Figure 1: Public-Private Partnership Legislation<sup>26</sup>**

## Maine

Maine’s Department of Transportation has utilized PPPs in order to fund infrastructure developments throughout the state. One example of a public-private partnership has been the *Island Explorer* bus service in Acadia National Park (ANP). ANP receives more than three million visitors a year, primarily between the months of June and October. The park roads are congested and parking spaces are insufficient for the level of use, which has resulted in unsafe parking along roadsides.<sup>27</sup> Additionally, the neighboring town of Bar Harbor suffers from seasonal congestion. Thus, the public-private partnership of the *Island Explorer* bus service was

<sup>25</sup> National Conference of State Legislatures, “User Guidebook on Implementing Public-Private Partnerships for Transportation Infrastructure Projects in the United States.”

<sup>26</sup> National Conference of State Legislatures, “Public-Private Partnerships for Transportation: A Toolkit for Legislators,” December 9, 2010, accessed May 1, 2011, <http://www.ncsl.org/default.aspx?TabId=20321>.

<sup>27</sup> Maine Department of Transportation, “Chapter 4: Investment Initiatives,” July 21, 2010, accessed May 1, 2011, <http://www.maine.gov/mdot/connectingmaine/documents/pdf/Chapter4.pdf>.

created in 1999 to mitigate these problems. The partnership was originally an agreement between the Mount Desert Island League of Towns, the four island communities, Acadia National Park, and the Maine Department of Transportation. This partnership has expanded to include over twenty federal, state, local agencies, and private companies.<sup>28</sup> The Island Explorer is a seasonal, fare-free, public transportation system that provides services to Acadia National Park, the communities on Mount Desert Island, and Schoodic peninsula. In its first operating season, it carried 140,000 passengers. By 2009, ridership exceeded 360,000. This project would not be able to operate without funding from private businesses, thus highlighting the benefits of public-private partnerships. Other PPPs in Maine include:

- Highway Ellsworth, Route 1 and Route 3,
- Industrial Rail Access Program (IRAP),
- Small Harbor Improvement Program (SHIP),
- 511 Travel Information, and
- *Shoreline Explore* and *Mountaineer Explorer* bus services.

The Maine Department of Transportation notes how these types of partnerships have not been used to their full potential and how they would like to continue to develop them in order to support infrastructure developments.<sup>29</sup>

## Europe

Public-private partnerships have played a prominent role in the development and finance of transportation infrastructure throughout Europe. France and Spain were the first two countries that employed PPPs to fund transportation projects, particularly tolled highways. In 1960, Spain began to invite concessionaries to build the *autopista* network and in 1970 France began private *autoroute* concessions. In the 1980s, the United Kingdom became the leader of PPPs for transportation projects. These forms of agreements were bolstered by the establishment of the European Union. The European Commission has initiated laws that regulate and standardize PPP procurement and practices, and created tools such as the European Investment Bank to regularly make loans to support the development of PPP initiatives within Europe.<sup>30</sup>

One of the most notable examples of PPPs is the London Underground. In May of 2003, the Department of Transportation entered into three 30 year PPPs for the maintenance and renewal of London Underground trains, stations, tracking, and signaling. These agreements allowed for an estimated 15.7 billion euro investment over thirty years from the private

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<sup>28</sup> Maine Department of Transportation, "Chapter 4: Investment Initiatives."

<sup>29</sup> Maine Department of Transportation, "Summary of the Capital Work Plan for FY 2012-2013," April 4, 2011, accessed May, 1, 2011, <http://www.maine.gov/mdot/planningdocs/bcwp2012-2013/summary.htm>.

<sup>30</sup> Benjamin Perez and James March, First International Conference on Funding Transportation Infrastructure, "Public-Private Partnerships and the Development of Transport Infrastructure: Trends on Both Sides of the Atlantic," August 3, 2006, accessed May, 1, 2011, [http://financecommission.dot.gov/Documents/Background%20Documents/perez\\_banff\\_ppp\\_final.pdf](http://financecommission.dot.gov/Documents/Background%20Documents/perez_banff_ppp_final.pdf).

sector.<sup>31</sup> This split responsibility between the private and public sector in a new way. London Underground retains responsibility for operation and safety, while the three private sector infrastructure companies maintain and renew the infrastructure over the thirty years.<sup>32</sup>

## Consolidation: An Effort to “Right-Size” Transportation Systems

### Massachusetts

In 2007, the Massachusetts Transportation Finance Commission produced a report entitled *Transportation Finance in Massachusetts: An Unsustainable System*. The mission of the Commission was to examine the long-term financial situation of the state’s transportation system. Ultimately, the “evaluation found a transportation funding gap in Massachusetts of \$15 to \$19 billion to bring [the Commonwealth’s] existing assets to a state of good repair. These estimates include operating as well as capital needs. These numbers do not include ANY expansions or enhancements.”<sup>33</sup> In February 2009, Massachusetts’ Governor Deval Patrick announced his administration’s plan to restructure the state’s transportation system.<sup>34</sup>

Governor Patrick’s *Transportation and Economic Security Plan* sought to reach its goals by reforming in several areas, including the state’s gas tax. The plan called for “increasing the state fuel tax to pay down debt and avoid toll and fare increases, while exploring innovative solutions to start phasing out the fuel tax, such as using a pilot GPS-based technology to collect fees electronically.”<sup>35</sup> The fuel tax increase of 19 cents is broken down as follows:

- 4 cents to roll back the proposed toll increases on the Turnpike
- 6 cents to preserve current Massachusetts Bay Transportation Authority services and prevent a fare increase
- 1 cent for Innovative Gas and Toll Solutions
- 1.5 cents for Regional Transit Authorities
- 1.5 cents for targeted regional road projects
- 3 cents for rail projects outside of Boston
- 2 cents to address the costly practice of paying for personnel with bond funds

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<sup>31</sup> House of Commons, Committee of Public Accounts, “London Underground Public Private Partnerships,” March 9, 2005, accessed May, 1, 2011,

<http://www.publications.parliament.uk/pa/cm200405/cmselect/cmpublicacc/446/446.pdf>.

<sup>32</sup> House of Commons, Committee of Public Accounts, “London Underground Public Private Partnerships.”

<sup>33</sup> Massachusetts Transportation Finance Commission, “Transportation Finance in Massachusetts: An Unsustainable System,” accessed May 1, 2011, [http://www.eot.state.ma.us/downloads/tfc/TFC\\_Findings.pdf](http://www.eot.state.ma.us/downloads/tfc/TFC_Findings.pdf)

<sup>34</sup> Massachusetts Transportation Finance Commission, “Transportation Finance in Massachusetts: An Unsustainable System.”

<sup>35</sup> Massachusetts Transportation Finance Commission, “Transportation Finance in Massachusetts: An Unsustainable System.”

Governor Patrick had this to say about the gas tax increase:

Raising the gas tax is a last resort, and without it, our economy will suffer. Our long-term job growth and economic security, along with the safety of our roads and bridges, depends upon both major reforms and new revenue now.<sup>36</sup>

## Oregon

In 2011, Oregon's Director of Transportation Matt Garrett announced his plan to improve the efficiency and financial sustainability of the department. Garrett's plan calls for a 5% reduction in staff over the next 5 years.<sup>37</sup> As opposed to lay-offs, Garrett plans to use attrition to move the department to a 5% staff reduction by 2014. Vacancies will be managed by division administrators, and only those that have a good business case and fit into the strategy will be filled."<sup>38</sup> The department's plan comes in response to a decreasing revenue stream caused by the running out of recovery money and the ever-weakening stream of gas tax funds. Garrett stated that in 2001 the department "was spending about \$300 million annually on new projects, using state gas-tax money and federal transportation grants."<sup>39</sup> By 2009, the spending had reached \$800 million due to increases in gas taxes, licensing fees, bonding to increase spending, and recovery money.<sup>40</sup> Projections show that the department will be back at the \$300 million dollar spending level soon.<sup>41</sup>

## North Carolina

In 2002, the North Carolina Turnpike Authority was established and was authorized to exercise its powers independently of the state's Department of Transportation. However, amendments were made in state law to conserve the Turnpike Authority's "spending and improve its efficiency."<sup>42</sup> The Turnpike Authority is now "subject to and under the direct supervision of the Secretary of Transportation."<sup>43</sup> "The bill's fiscal note anticipated that the transfer would lower the authority's budget by \$2.3 million per year."<sup>44</sup>

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<sup>36</sup> Massachusetts Transportation Finance Commission, "Transportation Finance in Massachusetts: An Unsustainable System."

<sup>37</sup> AASHTO Journal, "Oregon DOT Director Imposes Hiring Freeze, Seeks 5% Workforce Reduction," accessed May 1, 2011, <http://www.aashtojournal.org/Pages/042911oregon.aspx>.

<sup>38</sup> AASHTO Journal, "Oregon DOT Director Imposes Hiring Freeze, Seeks 5% Workforce Reduction."

<sup>39</sup> AASHTO Journal, "Oregon DOT Director Imposes Hiring Freeze, Seeks 5% Workforce Reduction."

<sup>40</sup> AASHTO Journal, "Oregon DOT Director Imposes Hiring Freeze, Seeks 5% Workforce Reduction."

<sup>41</sup> AASHTO Journal, "Oregon DOT Director Imposes Hiring Freeze, Seeks 5% Workforce Reduction."

<sup>42</sup> Drucker, Richard and David Owens, "2009 North Carolina Planning and Development-Related Legislation," University of North Carolina, accessed April 29, 2011, <http://www.sog.unc.edu/pubs/electronicversions/pdfs/pzlb17.pdf>.

<sup>43</sup> Drucker, Richard and David Owens, "2009 North Carolina Planning and Development-Related Legislation."

<sup>44</sup> James Reed and Jaime Hall, "Running Out of Gas," National Conference of State Legislatures, March 2011, accessed May 1, 2011, <http://www.ncsl.org/default.aspx?tabid=22241>.



## Current Federal Developments

On March 30, 2011 the U.S. House of Representatives Subcommittee on Highway and Transit of the Committee on Transportation and Infrastructure heard testimony from John Njord, the Executive Director of the Utah Department of Transportation, concerning the future of the nation's "surface transportation programs."<sup>45</sup> Executive Director Njord's report focused on several areas of improvement and reform for the Federal Department of Transportation. One recommendation involved the consolidation of "federal funding silos."<sup>46</sup> Njord contends that states are having trouble appropriately funding projects in need due to the "complexities and restrictions associated with the various federal funding categories and numerous set-asides. With funds divided into so many separate silos, each with their own eligibility criteria, the highest ranked needs can't always be funded since projects must match available funding sources."<sup>47</sup>

## Conclusion

The increased use of fuel efficient cars and public transportation has led to the decline of revenues from gas taxes. Revenues generated from gas taxes were used to support transportation infrastructure projects among different states. Thus, this decline has caused budget shortfalls for transportation departments. Transportation experts have proposed different solutions to mitigate these problems; such plans include the use of vehicle mileage taxes, public-private partnerships, and consolidation. Each solution has advantages and drawbacks. The vehicle mileage tax plan, taxes based on miles driven; however, opponents note how this could lead to privacy, implementation, and administrative problems. Public-private partnerships have increased the rate at which transportation projects are completed but are not ideal for long-term service projects. Consolidation allows transportation departments to operate more efficiently, however, may result in job loss.

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Prepared by Kelly Walsh, Christopher Teel, and Adam Roof in response to a request from Representative Timothy Corcoran, under the supervision of graduate student Kate Fournier and Professor Anthony Gierzynski on May 11, 2011.

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Disclaimer: This report has been compiled by undergraduate students at the University of Vermont under the supervision of Professor Anthony Gierzynski. The material contained in the report does not reflect the official policy of the University of Vermont.

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<sup>45</sup> Njord, John P.E., "Improving and Reforming the Nation's Surface Transportation Programs," accessed April 29, 2011. <http://republicans.transportation.house.gov/Media/file/TestimonyHighways/2011-03-30%20Njord.pdf>.

<sup>46</sup> Njord, John P.E., "Improving and Reforming the Nation's Surface Transportation Programs."

<sup>47</sup> Njord, John P.E., "Improving and Reforming the Nation's Surface Transportation Programs."