Alternative Transportation Financing Strategies

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The Caltrans Division of Research and Innovation (DRI) receives and evaluates numerous research problem statements for funding every year. DRI conducts Preliminary Investigations on these problem statements to better scope and prioritize the proposed research in light of existing credible work on the topics nationally and internationally. Online and print sources for Preliminary Investigations include the National Cooperative Highway Research Program (NCHRP) and other Transportation Research Board (TRB) programs, the American Association of State Highway and Transportation Officials (AASHTO), the research and practices of other transportation agencies, and related academic and industry research. The views and conclusions in cited works, while generally peer reviewed or published by authoritative sources, may not be accepted without qualification by all experts in the field.

Executive Summary

Background

Doubt surrounds the long-term viability of today's gas excise tax as a transportation funding mechanism, and Caltrans is seeking more information about alternative transportation financing options. In this Preliminary Investigation, we sought to gather information on the central issues, trends and agency approaches regarding alternative funding strategies. Among the strategies, our focus was on mileage-based user fees (MBUF), but we address other mechanisms in this Preliminary Investigation as well.

Summary of Findings

This Preliminary Investigation presents selected resources that address the issues surrounding the **U.S. Gas Tax and Highway Trust Fund**. Several publications and web sites address **Alternative Financing Strategies** at the national level. In addition to citations that address these strategies in overview, others center on specific strategies: MBUFs, public-private partnerships, tolling and road fees, and financing. A few citations specifically address **Public Perception and Acceptance** of alternative strategies. This Preliminary Investigation concludes with information about **State DOTs' Experiences and Prospects** regarding alternative financing, summarizing recent projects and proposals from several states, with news updates from late 2012.

U.S. Gas Tax and Highway Trust Fund

Many citations included throughout this Preliminary Investigation address near- and long-term concerns about current fuel taxes and the projected solvency of the nation's Highway Trust Fund. In addition, the following four resources present key issues and relevant facts on this topic:

- The 2011 *Transportation Research Record* paper "End of the Highway Trust Fund?" examines ramifications of continuing current funding mechanisms as well as possible alternatives.
- A 2009 report for Congress outlines the economics of gas excise taxes and examines the impacts of raising gas taxes.
- A 2007 AASHTO report "documents needs and revenues available under current law, identifies short-term, mid-term, and long-term options for surface transportation funding, and recommends specific strategies to meet investment needs."

- American Petroleum Institute fact sheets provide current state-by-state fuel excise tax data.

Alternative Financing Strategies

- *Overview*
  A number of recent resources describe the broad range of alternative financing strategies and highlight their benefits. These resources are generally national in scope but address actions and strategies that may be applicable at the state level.
  - Web sites for the Federal Highway Administration's (FHWA's) Innovative Program Delivery, AASHTO's Subcommittee on Transportation Finance Policy and TRB's Committee on Revenue and Finance all address the range of alternative financing strategies. The FHWA site provides a number of links to additional resources.
  - A 2012 State Smart Transportation Initiative report and companion webinar outline the different funding models. Alternative financing options for states are similarly addressed in a 2012 report from Smart Growth America, a 2011 report from the U.S. Congressional Budget Office and a 2009 report from the National Governors Association.
  - A U.S. Government Accountability Office report to Congress that addresses MBUF and includes a detailed survey of all 50 states and Washington, D.C.;
- *Mileage-Based User Fees*
  Among the alternative financing strategies, we focused our greatest effort on MBUF and provided several national resources. The term is used interchangeably with vehicle miles traveled (VMT) fees.
  - Two groups dedicated to advancing this funding strategy include TRB's Joint Subcommittee on VMT Revenues and of the Mileage-Based User Fee Alliance.
  - A conference on MBUF will be convened by the International Bridge, Tunnel and Turnpike Association in April 2013. Caltrans may also be interested in proceedings from earlier conferences: a 2012 summit held by the International Bridge, Tunnel and Turnpike Association and a 2010 TRB conference on financing surface transportation.
  - Several recent papers address an array of considerations related to MBUF: a report from the Council of State Governments; two reports from the RAND Corporation; and three *Transportation Research Record* papers.
- *Public-Private Partnerships*
  - FHWA's Innovative Program Delivery web site features a page dedicated to public-private partnerships (P3), including resources on state legislation. The National Conference of State Legislatures also has a P3 toolkit on its web site.
  - A 2012 U.S. Congressional Budget Office report presents information on using public-private partnerships to carry out highway projects, and a *Transportation Research Record* paper outlines the possible benefits of privatization of an urban transportation network.
  - The 2010 TRB conference on financing surface transportation featured sessions on P3.
- *Tolling and Road Pricing*
  While tolling and road pricing are most commonly cited as tools to affect congestion and mobility, the revenue-generating mechanisms may have applications for broader financing goals.
  - A 2012 NCHRP paper assesses highway tolling and pricing options, and two *Transportation Research Record* papers address the politics of congestion pricing and user burden and equity in tolling.
  - International guidance was available on this topic as well, summarized in a 2011 update presentation on road pricing activities in Germany and Europe, and a 2010 international scan on congestion and road pricing in Europe and Singapore.
- *Debt and Credit Mechanisms*
  Extensive resources from Caltrans' Office of Innovative Finance web site suggest that there is considerable knowledge in the agency surrounding the relevant legislation and mechanisms. We included two national references on cash-flow mechanisms for completeness.

    - FHWA's Innovative Program Delivery web site provides a collection of resources on financing legislation and programs.
    - The 2010 TRB conference on financing surface transportation noted above also featured sessions on emerging trends for raising capital.

Public Perception and Acceptance

The public's willingness to accept various funding mechanisms is mentioned in a number of items presented in this Preliminary Investigation. Acceptance is discussed at some length in the Council of State Governments' paper "Future of Mileage-Based User Fees" in **Mileage-Based User Fees** and public concerns about privacy related to MBUF are driving the new Oregon pilot study described in **State DOTs Experiences and Prospects**.

Beyond these, public acceptance is a main theme of two additional resources:

- The 2010 TRB conference on Financing Surface Transportation noted above included a session titled "Public and Political Acceptance Issues Posed by Alternative Financing Methods."
- A 2008 *NCHRP Synthesis* summarized and analyzed public opinion on tolling and road pricing.

State DOTs' Experiences and Prospects

- We cited web site and reports related to selected alternative funding efforts conducted at the state level. These include:
    - California—Caltrans' Office of Innovative Finance web resources; recent findings of the California Transportation Commissions Needs Assessment Work Group.
    - Colorado—Research in progress to examine mileage fees and other possible funding options.
    - Hawaii—State legislation for a VMT pilot program, yet to be passed.
    - Massachusetts—State legislation similar to Hawaii's, also yet to be passed.
    - Minnesota—The state's Alternative Transportation Finance web page; recommendations on alternative financing options from Minnesota's Transportation Finance Advisory Committee; research in progress to test a MBUF program; findings from Minnesota's 2007-2009 Mileage-Based User Fee Public Opinion Study; a 2006 report on High-Occupancy Toll Lane Innovations in Minnesota.
    - Nevada—Research in progress on a VMT fee study in Nevada.
    - New York—New York City's DriveSmart initiative, which might be adapted in the future to accommodate mileage fees.
    - Oregon—Highlights of a new study of a mileage-based fee pilot program in Oregon that does not require GPS data; two reports analyzing Oregon's 2006-2007 road user fee pilot program.
    - Texas—a 2011 exploratory study of vehicle mileage fees in Texas; a recent article on fee hikes as a likely revenue source; the web site of Transportation Advocates of Texas.
    - Washington—An in-progress assessment of how a state mileage fee system might be implemented; a 2011 gubernatorial policy brief for identifying transportation revenue; a 2008 report on a pilot study of a road use fee system in the Puget Sound area.

Latest News

We included two state-by-state summaries compiled in 2012 by the Council of State Governments highlighting a wide range of current activities and plans related to alternative highway financing.

U.S. Gas Tax and Highway Trust Fund

"Revenue, Finance and Economics," *Transportation Research Record*, Issue No. 2221, 2011.
http://www.worldcat.org/title/revenue-finance-and-economics/oclc/757553439 (summary)
http://trb.metapress.com/content/lw58437542tl/ (list of articles)
From the summary: [This publication] includes 12 papers that explore funding options for federal surface transportation, mileage-based charges, replacing the federal fuel tax with per-mile user charges, the vehicle mileage fee at federal and state levels, cost of collecting vehicle miles traveled fees, urban network privatization, the politics of freeway congestion pricing, the long-term impact of the FasTrak program, reactions to value pricing, a congestion pricing case study, measuring toll burdens, and agglomeration benefits and transportation projects.

Related Resource:
The following paper from this volume addresses the status and future of the U.S. gas tax and Highway Trust Fund.

> **"End of the Highway Trust Fund?,"** Joshua Schank, Nikki Rudnick-Thorpe, *Transportation Research Record*, Issue No. 2221, 2011: 1-9.
> http://trb.metapress.com/content/lvk8l7vw8752l421/?p=ced8b8b9087d4834826aaf1a0ed1fdd8&pi=0
> *From the abstract:* More than at any other time, the status of the Highway Trust Fund is in doubt. Modern federal surface transportation policy began in 1956, and its survival is threatened by a lack of political will to increase the main source of revenue for the program: the federal excise tax on gasoline. … This paper explores the following three policy options for long-term federal transportation funding by presenting the advantages and disadvantages of each one: (a) continued current funding, (b) improved user fees, and (c) dedicated general revenue. These options offer general guidance for funding policy rather than detailed proposals; each option has possible variations. However, each option sets a specific direction for future federal transportation policy, and each provides policy trade-offs. The purpose of this paper is to describe the trade-offs regarding strategies for transitioning to a sustainable federal surface transportation program.

The Role of Federal Gasoline Excise Taxes in Public Policy, Robert Pirog, Congressional Research Service, September 2009.
http://fpc.state.gov/documents/organization/130217.pdf
From the introduction: This report examines the effects of the federal excise tax on gasoline and analyzes the positive and negative effects of the tax. The report also evaluates the incentive structure that a higher gasoline tax would likely create, and examines a revised version of the tax, a variable gasoline tax.

Economic effects of gas taxes discussed in the report include demand-supply relationships, gas price volatility and revenue effects.

Report on Long-Term Financing Needs for Surface Transportation, AASHTO Standing Committee on Finance and Administration, September 2007.
http://scofa.transportation.org/Documents/ReportonLong-TermFinancingNeeds-2007_09_29FINAL.pdf
From the introduction: This report documents needs and revenues available under current law, identifies short-term, mid-term, and long-term options for surface transportation funding, and recommends specific strategies to meet investment needs. The report is comprised of four chapters:

- Chapter 1: Introduction—Provides the context for proposing surface transportation strategies and includes discussions on existing funding sources and trends, documents the immediate federal funding crisis and proposed fixes, and articulates the AASHTO principles regarding future highway and transit financial strategies.

- Chapter 2: Short-Term Outlook—Documents the estimated highway and transit needs, revenues, and the associated gap between 2007 and 2021, and proposes strategies for meeting needs during this time frame.
- Chapter 3: Long-Term Outlook—Documents estimated highway and transit needs, revenues, and the associated gap between 2022 and 2030, and proposes funding strategies that focus on phasing in alternatives to motor fuel taxes as the primary source of surface transportation funding.
- Chapter 4: Recommendations—Identifies AASHTO's recommendations for addressing immediate, mid-term, and long-term surface transportation funding needs.

The discussion of the short- and long-term strategies include the impacts of different changes to fuel taxing structures as well as the impacts of alternative funding mechanisms. In particular, Caltrans may be interested in Table 2-4, Potential Contribution of Short-term Funding Mechanisms to Address State and Local Highway and Transit Needs (page 15 of the report), which assesses the revenue generation potential of several funding mechanisms.

Related Resource:
Much of the information in this report appears in a slightly different format in another AASHTO report published in 2007:

> **Revenue Sources to Fund Transportation Needs**, American Association of State Highway and Transportation Officials, September 2007.
> http://www.transportation1.org/tif4report/TIF4-1.pdf

American Petroleum Institute
Two fact sheets on the American Petroleum Institute's web site provide up-to-date state-by-state statistics on fuel taxes:

- **Gasoline and Diesel Taxes**, January 2013.
  http://www.api.org/oil-and-natural-gas-overview/industry-economics/~/media/Files/Statistics/gasoline-diesel-summary.ashx

- **Notes to State Motor Fuel Excise and Other Taxes**, January 2013.
  http://www.api.org/oil-and-natural-gas-overview/industry-economics/~/media/Files/Statistics/State_Motor_Fuel_Excise_Tax_Update.ashx

Alternative Financing Strategies

Overview

FHWA Innovative Program Delivery: Revenue, undated.
http://www.fhwa.dot.gov/ipd/revenue
This web site provides details on road pricing revenue and non-road pricing revenue. Major innovative revenue options are categorized into two areas:

- **Road Pricing**, which "refers to any imposition of a fee for the use of facility" and can include the following:
  - Tolling involves the collection of a fixed fee from motorists for highway used as a tool to generate revenue.
  - Pricing entails the use of tolls that vary by level of vehicle demand and is used as a tool to generate revenue and manage congestion.
- **Non-Road Pricing Revenue**, whose sources include:
  - Local option taxes.
  - Value capture.
  - Fares.
  - Other non-pricing revenue.

AASHTO Subcommittee on Transportation Finance Policy, undated.
http://sotfp.transportation.org/Pages/default.aspx
This subcommittee of the AASHTO Standing Committee on Finance and Administration addresses the "identification and implementation of funding and financing solutions to meet America's transportation infrastructure investment needs." The web site includes a resources page with external links; selected references are cited in detail in this Preliminary Investigation.

TRB Committee on Revenue and Finance (ABE10), undated.
https://sites.google.com/site/trbcommitteeabe10/
This committee's scope is the "financial planning and financing necessary to meet transportation needs of all modes, including sources of revenue, allocation of costs among users and nonusers, pricing policies, needs studies, economic and social effects of taxes and subsidy programs, intergovernmental financial arrangements and responsibilities for transportation, and accounting and fiscal management of transportation funds."

Highway Trust Fund: Pilot Program Could Help Determine the Viability of Mileage Fees for Certain Vehicles, U.S. Government Accountability Office, December 2012.
http://www.gao.gov/assets/660/650863.pdf
From the report: **[The U.S. Government Accountability Office] examined (1) the benefits and challenges of mileage fee in**itiatives in the United States and other selected nations, (2) mileage fee rates necessary to replace and supplement current Highway Trust Fund revenues and the effect these fees would have on users' costs, and (3) state DOTs' views on future revenue demands and mileage fees. GAO reviewed five domestic pilot projects and programs in Germany, New Zealand, and the Netherlands; modeled mileage fees for passenger vehicles and commercial trucks; and surveyed 51 state DOTs**. …** GAO calculated average mileage fee rates for passenger vehicles and commercial trucks needed to meet three federal revenue targets ranging from $34 billion (replace current federal fuel tax revenues) to $78 billion (increase spending to maintain existing system conditions and performance). To meet these targets, drivers of passenger vehicles with average fuel efficiency would pay $108 to $248 per year in mileage fees compared to the $96 these drivers currently pay in federal gasoline tax.

Appendix VI, Results of GAO Survey of State Departments of Transportation about Mileage Fees (page 69 of the report), may be of particular interest to Caltrans. All 50 states and Washington, D.C., responded to detailed survey questions in the following areas:

- Steps taken or planned to evaluate VMT user fees.
- Whether the state legislature, governor or transportation commission has sought an evaluation of VMT user fees.
- How much of a challenge various issues present in development of a state VMT user fee program.
- The extent of state support of or opposition to the federal government taking various actions toward the development of future VMT user fee systems.
- State support of or opposition to federally led field tests to evaluate VMT user fees for passenger vehicles, commercial trucks or electric vehicles.
- Importance of identifying an alternative funding mechanism at the state or the federal level to government to meet surface transportation revenue needs in the next 10 years.
- The level of priority for different funding mechanisms to meet future surface transportation revenue needs.
- Likeliness of the introduction of a state VMT user fee program in the next 10 years for passenger vehicles, commercial trucks or electric vehicles.

Innovative, Sustainable Funding Options for State DOTs, State Smart Transportation Initiative, October 2012.
http://www.ssti.us/Events/innovative-sustainable-funding-options-for-state-dots/
Note: This resource was provided by Caltrans at the kickoff of this investigation.
From the web page: This webinar discussed a new SSTI report on innovative, sustainable transportation funding models to assist decision-makers in identifying policies and practices to augment the current fuel tax revenue system. The report provides a broad account of these funding methods, where they have been implemented or proposed, and identifies state laws, policies, and practices that permit state DOTs and local governments to pursue a more sustainable funding model. The report, completed with the participation of North Carolina DOT, as well as Arizona, Illinois, Tennessee, Vermont, and Washington DOTs, suggests ways multiple revenue sources might be packaged to support and maintain transportation systems. In addition to SSTI staff, Paul Morris, Deputy Secretary for Transit for NCDOT, and Joe Segale, Policy and Planning Intermodal Development Manager at VTrans, presented on options that states can use.

SSTI Survey of State and Local Transportation Revenue Sources, State Smart Transportation Initiative, draft report, October 2012.
http://www.ssti.us/wp/wp-content/uploads/2012/10/SSTI_Carolina-DRAFT.pdf
This is the draft report referenced in the SSTI webinar. (See previous citation.) The structure of this report provides a comprehensive outline of several different types of alternative funding sources. For each option, the report presents a description, revenue potential and modal applicability. Listed below are all subcategories under “User fees,” “Fuel taxes” and “Non-user fees.”

- User fees:
  - Bike license fees and trail passes.
  - Carbon tax.
  - Farebox collection.
  - Fine-based funding.
  - Heavy vehicle fees.
  - Severance fees.
  - VMT fee.
  - Vehicle title, registration and vanity plate fees.
- Fuel taxes:
  - Alternative fuel tax.

    - Indexing the fuel tax.
    - Oil company franchise tax.
    - Tolling and road pricing.
    - Flat rate tolling.
    - Congestion pricing.
    - Variable tolling.
    - Priced road networks.
- Non-user fees
    - Mobility tax.
    - Local income taxes.
    - Property tax.
    - Local sales tax.
    - State general purpose revenue.

The Innovative DOT: A Handbook of Policy and Practice, Smart Growth America, State Smart Transportation Initiative, September 2012.
http://www.smartgrowthamerica.org/documents/the-innovative-dot.pdf
Note: This resource was provided by Caltrans at the kickoff of this investigation.
This handbook "collects the innovative approaches that state transportation leaders are already using to make systems more efficient and effective in today's challenging economy." It presents eight focus areas for consideration by "the innovative DOT." The first three are most relevant to this Preliminary Investigation:

- Focus Area 1: Revenue Sources.
    - Identify Mechanisms for Funding Non-Roadway Transportation.
    - Implement Value Capture.
    - Establish a Next-Generation User Fee.
- Focus Area 2: Revenue Allocation and Project Selection.
    - Establish Revenue and Funding Flexibility: Mode-Neutral Evaluation and Funding Distribution.
    - Incorporate Asset Management.
    - Develop a Performance- and Outcome-Focused Project Selection Process.
    - Remove Barriers to Off-System Investment.
    - Update Funding Formulas and Implement Competitive Fund Distribution for Smart.
    - Transportation.
- Focus Area 3: Pricing.
    - Use Variable Tolling to Manage Demand.
    - Implement Pay-As-You-Drive Insurance.

Alternative Approaches to Funding Highways, U.S. Congressional Budget Office, March 2011.
http://thehill.com/images/stories/blogs/flooraction/Jan2011/cboreport.pdf
Despite the general reference to "alternative approaches" in the report title, this publication is primarily concerned with the comparison of current fuel taxes with possible new taxes based on the number of miles highway users drive. The three main sections of this report are:

- Charging for the Costs of Highway Use.
- Fuel Taxes: The Current Approach.
- Potential Taxes on Vehicle-Miles Traveled.

The appendix, titled "Selected Approaches to Highway Funding," compares three different methods on the basis of both equity and efficiency.

Innovative State Transportation Funding and Financing: Policy Options for States, National Governors Association, 2009
http://www.nga.org/files/live/sites/NGA/files/pdf/0901TRANSPORTATIONFUNDING.PDF
This report addresses innovating financing in the following six main chapters:

- Challenges Facing Our Surface Transportation System.
- Motor Fuel Taxes.
- Innovative Debt Strategies.
- Tolling and Fees.
- Public Private Partnerships.
- Freight Financing Strategies.

Mileage-Based User Fees

TRB Joint Subcommittee on VMT Revenues (ABE25(5)), undated.
https://sites.google.com/site/trbcommitteeabe10/Welcome/vmt-revenues-joint-subcommittee
This is a joint subcommittee of the TRB Committee on Revenue and Finance (ABE10) and TRB Committee on Congestion Pricing (ABE25). Its draft mission is "to foster research and education and raise critical issues as the nation, and the world, plans its ultimate shift in transportation finance from a 'per-gallon' to 'per-mile' structure. Research will help expand and synthesize knowledge, raise and address important design and transition issues, and improve information exchange; with an aim of developing a future system which meets the needs of transportation finance, congestion management and tackling climate change."

Mileage-Based User Fee Alliance, 2013.
http://mbufa.org/
From the web site: Our coalition's mission is to promote the necessary research and provide education and information as consideration is given to transitioning to a new robust way of ensuring we can as a nation finance our future transportation infrastructure.

Public sector members are Caltrans, Minnesota DOT, Nevada DOT, North Carolina DOT, Oregon DOT, Washington State DOT and New York City DOT. Selected external references listed on the "Reports and Research" web page are cited in detail in this Preliminary Investigation.

Transportation Finance and Mileage-Based User Fee Symposium, International Bridge, Tunnel and Turnpike Association (IBTTA), April 14-16, 2013.
http://www.ibtta.org/Events/EventDetailWithVideo.cfm?ItemNumber=6300
From the web site: This Summit will explore the full range of issues affecting surface transportation policy, finance and funding. Sessions will address the latest studies in mileage based user fees and the diverse range of financing tools available to toll agencies, state DOTs and local governments. [The International Bridge, Tunnel and Turnpike Association] is co-hosting this meeting with AASHTO, I-95 Corridor Coalition, [the Mileage-Based User Fee Alliance] and the Reason Foundation and TRB.

Main Topics:

- MAP-21 implementation: TIFIA.
- Transitioning from a fuel tax to VMT.
- Fuel efficiency standards and the impact on transportation funding.
- Legal, Financial and International P3 update.
- Bonding and revenue generation for managed lane projects.
- What's new in Traffic and Revenue studies.
- Legislative needs/updates.

- Next Generation Payment Applications (e.g. GPS, RFID, Mobile Apps, etc.).
- Public opinion studies.

Future of Mileage-Based User Fees, Council of State Governments, October 2012.
http://knowledgecenter.csg.org/drupal/system/files/mileage_based_user_fees.pdf
This short paper provides a summary of activities to date on MBUF, including policy shifts at the federal level and proof-of-concept trials at the state level. Highlighted state activities include:

- A national study conducted by the University of Iowa. (See "National Evaluation of Mileage-Based Charges for Drivers" on page 12 of this Preliminary Investigation.)
- Pilot programs in Oregon and Minnesota. (See discussions in **State DOTs' Experiences and Prospects**.)

The article also outlines several key topics related to MBUF:

- Equity issues surrounding how fees should be structured (for example, rural versus urban mileage or passenger vehicle versus truck traffic).
- The different technologies involved, including GPS and smartphone tracking, odometer logging and automatic fee collection during fueling.
- Perceived privacy concerns associated with the collection of vehicle mileage, and the role of government or private industry in collecting such data.

"Vehicle Miles Traveled: The Next Funding Frontier?," Adrian Moore, Paul Hanley, Jack Wells, Richard Baker, Dick Mudge, *Financing Surface Transportation in the United States: Forging a Sustainable Future—Now! Summary of the Fourth International Conference*, May 19-21, 2010: 41-43.
http://onlinepubs.trb.org/onlinepubs/conf/CP48.pdf
This TRB conference was the fourth in a series that started in 1998 to address "the latest economic and funding trends and look toward the future of transportation revenue generation and finance."

This breakout session specifically addresses MBUF. Presentation summaries include:

- Lessons Learned from the National VMT Demonstration Project.
- Implementation Costs for a VMT System.
- Transitioning to Mileage-Based User Fees: An Assessment of Institutional Issues.
- Truck VMT Fees: A Practical Way to Generate Revenue, Reduce Traffic Congestion, and Improve Freight Mobility.

Mileage-Based User Fees for Transportation Funding: A Primer for State and Local Decisionmakers, Paul Sorensen, Liisa Ecola, Martin Wachs, RAND Corporation, 2012.
http://www.rand.org/content/dam/rand/pubs/tools/TL100/TL104/RAND_TL104.pdf
Among the topics in this paper are a discussion of the advantages of mileage fees, a summary of technical design choices and key challenges. The report section "Innovation in Action" (page 11 of the paper) discusses the I-95 Corridor Coalition: "This coalition consists of member agencies from 16 states and the District of Columbia that share the I-95 corridor along the eastern seaboard. The coalition sponsored recent research on how a multistate mileage-fee system might work, using Delaware, Maryland, and Pennsylvania as examples. New institutional entities such as billing and payment processing organizations and clearinghouses will likely be needed to ensure that revenues are appropriately calculated and distributed, according to their findings; still, states should be able to cooperate across boundaries and yet retain significant autonomy on how to implement mileage."

Other state pilot programs noted in this paper are summarized in **State DOTs' Experiences and Prospects**.

Mileage-Based User Fee Winners and Losers: An Analysis of the Distributional Implications of Taxing Vehicle Miles Traveled, with Projections, 2010–2030, Brian A. Weatherford, Pardee RAND Graduate School, 2012.
http://www.rand.org/content/dam/rand/pubs/rgs_dissertations/2012/RAND_RGSD295.pdf
From the abstract: This study uses household-level survey data of travel behavior and vehicle ownership from the 2001 and the 2009 National Household Travel Survey (NHTS) to estimate changes in annual household demand for VMT in response to changes in the cost of driving that result from adopting MBUF alternatives. Distributional implications are estimated for an equivalent flat-rate MBUF, an increased fuel tax rate and it's equivalent flat-rate MBUF, and three alternative MBUF rate structures: a 1 cent MBUF added to the current fuel tax, a tiered rate MBUF based on vehicle fuel economy, and a much increased MBUF rate. The distributional implications are then projected over the years 2015-2030 under eight different macroeconomic and policy scenarios. The research finds that a flat-rate MBUF would be no more or less regressive than fuel taxes, now or in the future. An increase in the tax rate, whether an MBUF or a fuel tax, causes transportation revenue collection to become less regressive because low income households have a more elastic response to changes in price than middle and high income households.

For comparison data among all the states, Caltrans may be interested in the following tables in this resource:

- Table 4.1, 2009 State Fuel Tax Rates and Their Real Equivalent Flat-Rate MBUFs (page 45 of the paper).
- Table 4.5, Summary Statistics for States, 2008-09 (page 51 of the paper). This table lists for all states:
    - Average VMT.
    - Average household fuel economy (measured in miles per gallon).
    - Average fuel tax (measured in dollars per household).
    - Relative share of Highway Trust Fund funding.

Summit on Mileage-Based User Fees and Transportation Finance, International Bridge, Tunnel and Turnpike Association, April 29-May 1, 2012.
http://www.ibtta.org/Events/pastpresdetail.cfm?ItemNumber=6083&navItemNumber=883
Presentation and panel sessions from this conference include:

- Mileage-Based User Fee Projects in Minnesota.
- Making the Difference: Mixing and Matching Your Funding and Financing to Make a Transportation Project Work.
- Prospects for Tolling Interstate Highways.
- Practical and Policy Issues Workshop on Mileage-Based User Fees.
- The Important Role of the MBUF Alliance.
- Examining Mileage-Based User Fees in a Multi-State Context.
- What are the Revenue and Financial Implications of All Electronic Toll Collection?
- Is the Technology of the Future Here Today?
- Road User Charging: Values and Benefits.
- The Toll Interoperability Hub: A Foundation for MBUF?
- Update on Activities in the U.S. to Transition to VMT.
- International Applications.
- Current Obstacles and Potential Solutions to Finance Transportation Infrastructure.
- What's Next for the Transportation Policy Agenda.

"National Evaluation of Mileage-Based Charges for Drivers," Paul F. Hanley, Jon G. Kuhl, *Transportation Research Record*, Issue No. 2221, 2011: 10-18.
http://trb.metapress.com/content/llq5560865m71256/
From the abstract: This paper presents initial results and conclusions from the National Evaluation of a Mileage-Based Road User Charge, a 2-year field study conducted by the University of Iowa Public Policy Center. The study evaluates the technical feasibility and user acceptance of mileage-based charging as a potential replacement for the current motor fuel tax. … This study is the first to examine road user charges on a national and multijurisdictional scale. Approximately 2,650 volunteers from 12 areas throughout the country participated in the study. … The onboard computers contained Global Positioning System (GPS) receivers with an associated geographic database to identify the taxing jurisdictions in which the vehicles traveled. … Approximately 92.5% of all driven miles were successfully measured by both the GPS and the onboard diagnostics system (OBD-II). Of the miles driven without GPS, 6.9% could be reliably assigned to jurisdictions by using straightforward interpolation techniques. Approximately 0.6% of total miles driven could not be reliably assigned to a state or local jurisdiction. Participant attitudes regarding the system and the overall concept of mileage-based charging were assessed. At the end of the study, 71% had a highly or somewhat positive view, and 17% held a highly or somewhat negative view. Participants consistently (but to varying degrees) preferred audit ability, which consisted of receiving detailed monthly invoices, over maximum privacy protection.

"Effectiveness and Equity of Vehicle Mileage Fee at Federal and State Levels," Andrea M. Robitaille, Jasmy Methipara, Lei Zhang, *Transportation Research Record*, Issue No. 2221, 2011: 27-38.
http://trb.metapress.com/content/l452u62156387240/
From the abstract: The alternative revenue mechanism must ensure equity, or it will not be accepted as a politically viable option. … This paper analyzes the distributional effects of an increased gasoline tax and vehicle mileage fees by considering both their effectiveness in revenue generation and their equity for different population groups at the federal and state levels. Both horizontal and vertical equity are considered for age groups, income groups, ethnicity groups, and geographic locations. With a better understanding of the effects of alternative transportation financing options, policy meters can design or select the most effective policy and the revenue that is generated can be used most effectively and equitably.

"Cost Estimates for Collecting Fees for Vehicle Miles Traveled," Anthony M. Rufolo, *Transportation Research Record*, Issue No. 2221, 2011: 39-45.
http://trb.metapress.com/content/mwk671240248k560/
From the abstract: Interest in collecting mileage fees for road usage is growing. However, the cost of collecting fuel taxes is relatively low, while the cost of collecting mileage fees appears to be quite high. There is relatively little actual experience with mileage systems, but information related to the cost of systems for heavy vehicles, experimental systems, and a proposed Dutch system provides a starting point for identifying the key cost components. This paper summarizes cost information from a variety of sources and identifies key areas for cost comparison.

Public-Private Partnerships

FHWA Innovative Program Delivery: State P3 Legislation, undated.
http://www.fhwa.dot.gov/ipd/p3/state_legislation/
This web site provides a number of resources related to public-private partnerships, including procurement documents, state legislation and project profiles.

Public-Private Partnerships for Transportation: A Toolkit for Legislators, National Conference of State Legislatures, 2013.
http://www.ncsl.org/issues-research/transport/public-private-partnerships-for-transportation.aspx
The authors state that this toolkit "provides expert guidance, dependable counsel and a compilation of best practices to assist state legislatures as they consider whether and how to pursue PPPs in their states."

Using Public-Private Partnerships to Carry Out Highway Projects, U.S. Congressional Budget Office, January 2012.
http://www.cbo.gov/sites/default/files/cbofiles/attachments/01-09-PublicPrivatePartnerships.pdf
From the summary: [This study] finds that private financing will increase the availability of funds for highway construction only in cases in which states or localities have chosen to restrict their spending by imposing legal constraints or budgetary limits on themselves. … [S]uch partnerships have built highways slightly less expensively and slightly more quickly, compared with the traditional public-sector approach.

"Delivering Transportation Programs Through Public–Private Partnerships?," Susan Sale, Geoffrey Yarema, Bovin Kumar, Kevin Longenbach, Sasha Page, *Financing Surface Transportation in the United States: Forging a Sustainable Future—Now! Summary of the Fourth International Conference*, May 19-21, 2010:25-28.
http://onlinepubs.trb.org/onlinepubs/conf/CP48.pdf
This breakout session specifically addresses P3. Presentation summaries include:

- Transitioning to a Programmatic Selection Approach for P3s.
- Overview of P3s in the Road Sector in India: The Largest P3 Program in the World.
- P3s: Lessons from Australia.
- Evolving Role of Equity in Transportation Finance.

"Urban Network Privatization," Omid M. Rouhani, Debbie Niemeier, *Transportation Research Record*, No. 2221, 2011: 46-56.
http://trb.metapress.com/content/651k580p52217411/
From the abstract: The majority of recent private facilities are rural highways (outside city boundaries), but privatization of other types of roads could be more beneficial to society. … This study examines the effects of privatization strategies on a simple network with two modes of transportation, such as private cars and buses. With refinement of the general costs of travel, the choice of the links to be privatized, and the enabling policies, a more efficient roadway usage can be achieved. The results from this test network show that (a) in some cases a monopoly ownership performs better than an oligopoly one and (b) privatizing arterials (secondary roads) as well as freeways (primary roads) can lead to lower total costs than privatizing only freeways. This study helps to provide the foundation for more large-scale exploration.

Tolling and Road Pricing

Assessing Highway Tolling and Pricing Options and Impacts, Volume 1: Decision-Making Framework, *NCHRP Report 722*, 2012.
http://www.trb.org/Publications/Blurbs/168012.aspx
From the abstract: [This report] provides state departments of transportation (DOTs) and other transportation agencies with a decision-making framework and analytical tools that describe likely impacts on revenue generation and system performance resulting from instituting or modifying user-based fees or tolling on segments of their highway system. Volume 1: Decision-Making Framework includes information on a decision-making framework that may be applied to a variety of scenarios in order to understand the potential impacts of tolling and pricing on the performance of the transportation system, and on the potential to generate revenue to pay for system improvements. Volume 2: Travel Demand Forecasting Tools provides an in-depth examination of the various analytical tools for direct or adapted

use that are available to help develop the forecasts of potential revenue, transportation demand, and congestion and system performance based on tolling or pricing changes.

"Rethinking the Politics of Freeway Congestion Pricing," Robert Poole, Jr., *Transportation Research Record*, No. 2221, 2011: 57-63.
http://trb.metapress.com/content/675t01882q628124
From the abstract: This paper suggests that even if the political difficulties could be overcome, the conventional model of freeway congestion pricing (charging all users the same variable price) may not be optimal: this model could well create more losers than winners. … The author looks more closely at two assumptions implicit in the standard congestion pricing model: uniformly applied (variable) pricing and all general purpose lanes. Revisiting both assumptions leads to a proposal for multitier pricing on differentiated lanes, which the author suggests could be more politically feasible and productive of larger economic benefits. This approach also lends itself to being implemented in an evolutionary manner, in which each step is justified on its own merits, without regard of the possible longer-term end."

"Measuring Toll Burdens," Cameron Gordon, Jonathan Peters, *Transportation Research Record*, No. 2221, 2011: 96-103.
http://trb.metapress.com/content/862k65163714k828/
From the abstract: This paper uses a unique survey data set of toll revenue collection on New York City bridges administered by the Metropolitan Transportation Authority's Bridges and Tunnels (MTA Bridges and Tunnels). This data set, which contains detailed information on road user income and location, was analyzed to assess distributional equity of burden across road users of various toll facilities (both value-priced and fixed-rate tolls) in the New York/New Jersey region. … The authors developed empirical estimates of the social equity conditions on the existing priced facilities. The authors found that burdens are least equitable on facilities where there are few alternative routes and more equitable on those with more alternatives but that, in general, users of MTA Bridges and Tunnels facilities have higher income than the general population surrounding those facilities.

Road Pricing Updates 2010 from Germany and Europe, Andreas Kossak, TRB Congestion Pricing Committee, January 2011.
http://www.trb-pricing.org/index.php?option=com_docman&task=doc_download&gid=66&Itemid=82
This presentation presents a snapshot of road issues throughout Europe, including the stated need for alternative financing and the status of tolling technology implementation by country.

Reducing Congestion and Funding Transportation Using Road Pricing in Europe and Singapore, International Technology Scanning Program, December 2010.
http://international.fhwa.dot.gov/pubs/pl10030/pl10030.pdf
From the abstract: The Federal Highway Administration, American Association of State and Highway Transportation Officials, and National Cooperative Highway Research Program sponsored a scanning study of Europe and Singapore to identify ideas and models for integrating road pricing approaches into U.S. practices. The scan team found that countries with clearly defined and well-understood policy goals were able to achieve targeted outcomes most effectively. The team also learned that a large-scale demonstration project is a good tool to build public acceptance of road pricing. Team recommendations for U.S. implementation include enhanced outreach and communication on road pricing use and research on public perception issues and implementation barriers. The team also recommended development of a road pricing toolkit to provide transportation professionals with a comprehensive decision analysis tool to assess the merits of road pricing options.

Debt and Credit Mechanisms

FHWA Innovative Program Delivery: Project Finance, undated.
http://www.fhwa.dot.gov/ipd/finance
This web site provides links to several federal resources on credit and debt legislation and program. In addition, a dedicated page on the Transportation Infrastructure Finance and Innovation Act is provided at http://www.fhwa.dot.gov/ipd/tifia.

"Financing Projects in Challenging Times—Emerging Trends for Raising Capital," *Financing Surface Transportation in the United States: Forging a Sustainable Future—Now! Summary of the Fourth International Conference*, May 19-21, 2010: 8-11.
http://onlinepubs.trb.org/onlinepubs/conf/CP48.pdf

This workshop included topics of possible interest to Caltrans. Among these are:

- Emerging Trends for Raising Capital: New Forms of Tax-Preferred Debt.
- New State Financing Mechanisms, which describes pass-through or "shallow" tolling as well as reinvestment zones in Texas.
- Federal Credit: TIFIA and Proposed National Infrastructure Innovation and Finance Fund.
- Availability Payment–Based Concessions.

Public Perception and Acceptance

"Public and Political Acceptance Issues Posed by Alternative Financing Methods," Kay McKinley, Brian Taylor, Frank Wilson, Kathy Ruffalo, *Financing Surface Transportation in the United States: Forging a Sustainable Future—Now! Summary of the Fourth International Conference*, May 19-21, 2010: 21-23.
http://onlinepubs.trb.org/onlinepubs/conf/CP48.pdf
In this plenary session of the conference, experts in transportation policy making, public relations and academic research discussed four questions:

- Does the public even perceive that there is a transportation crisis?
- Is there an understanding of how transportation projects are funded today and what the user pays?
- What strategies can be employed to communicate the message about funding options effectively?
- What is the risk of inaction?

Compilation of Public Opinion Data on Tolls and Road Pricing, *NCHRP Synthesis 377*, 2008
http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_syn_377.pdf
From the synthesis: This synthesis study summarizes and analyzes public opinion on tolling and road pricing across the United States and internationally. It compiles existing data from completed public opinion research and presents an interpretive framework for understanding situational context in outcomes from various public opinion polls. … In the majority of cases presented here, measured public opinion tended to support rather than oppose charging for the use of roads. … Our results highlight an apparent disconnect between political perceptions of the public attitude toward tolling and actual public opinions.

The synthesis report presents the following eight key findings:

- The public wants to see the value.
- The public wants to react to tangible and specific examples.
- The public cares about the use of revenues.
- The public learns from experience.
- The public uses knowledge and available information.
- The public believes in equity but wants fairness.
- The public wants simplicity.
- The public favors tolls over taxes.

State DOTs' Experiences and Prospects

California

Office of Innovative Finance—Division of Budgets, Caltrans, 2009.
http://www.dot.ca.gov/hq/innovfinance/
As noted on this web page, Caltrans' Office of Innovative Finance—Division of Budgets "maximizes available resources by exploring and utilizing traditional and innovative financing strategies." The site provides information on relevant California and federal legislation related to such programs as:

- Grant Anticipation Revenue Vehicles (GARVEE) bond program.
- Public-private partnerships.
- State Highway Account loan program.
- Transportation Finance Bank loan program.
- The U.S. Transportation Infrastructure Finance and Innovation Act (TIFIA) program.
- Partnership ventures.

California Transportation Commission Statewide Needs Assessment Workgroup Meeting, October 2012.
http://www.catc.ca.gov/reports/index.htm
Note: This resource was provided by Caltrans at the kickoff of this investigation.
The California Transportation Commission convened this Needs Assessment Workgroup Meeting to foster discussion of transportation financing alternatives. Documentation from the meeting included these files:

- Revenue Options Worksheet.
  http://www.catc.ca.gov/reports/2012NeedsAssess/10232012/Handout_3.pdf
  This table present a number of proposed revenues sources. For each it presents potential net funds (annual and 10-year to address shortfall), key assumptions, implementation considerations, sustainability issues and other relevant information.

- Revenue Principles and Solutions.
  http://www.catc.ca.gov/reports/2012NeedsAssess/10232012/Appendix.pdf
  This document described 25 revenue mechanisms in detail, including yield potential and use/restriction for each.

Colorado

Mileage-Based User Fees for Transportation Funding: A Primer for State and Local Decisionmakers, Paul Sorensen, Liisa Ecola, Martin Wachs, RAND Corporation, 2012.
http://www.rand.org/content/dam/rand/pubs/tools/TL100/TL104/RAND_TL104.pdf
From "Innovation in Action" (page 13): In 2008, a state task force looking at Colorado's transportation infrastructure concluded that the gap between revenues and needs was large and growing, and recommended that the Colorado DOT consider a mileage-fee pilot program. The state is currently conducting a study to examine mileage fees along with several other potential funding options. The mileage-fee concepts include both flat and variable fees, and the study is looking at several possible metering and payment mechanisms.

Hawaii

Vehicle Miles Traveled Pilot Program, Hawaii State Legislature, Senate Bill 819, 2011.
http://www.capitol.hawaii.gov/Archives/measure_indiv_Archives.aspx?billtype=SB&billnumber=819&year=2012
In January 2011 a bill was introduced in the Hawaii Legislature that would institute a vehicle miles traveled pilot program. According to the web site, the bill "[a]uthorizes the department of transportation to establish a vehicle miles traveled pilot program and under that pilot program, evaluate the use of a vehicle miles traveled user fee. Authorizes the department to establish one or more pilot programs to test alternatives to the existing state and county system of motor vehicle fuel taxes. Authorizes the department of transportation to refund motor vehicle fuel taxes under any pilot program."

The full text of the most recent amendment of the bill appears at http://www.capitol.hawaii.gov/session2012/Bills/SB819_SD1_.PDF.

Hawaii DOT's testimony in support of this bill appears at http://www.capitol.hawaii.gov/session2012/Testimony/SB819_TESTIMONY_TIA_01-28-11.pdf.

The most recent update on the Hawaii Legislature web site shows that it was carried over to 2012 Regular Session.

Massachusetts

An Act Relative to Transportation Economic Development and Ridership, General Court of the Commonwealth of Massachusetts, House Bill H.2660, 2011.
http://www.malegislature.gov/Bills/187/House/H02660
This bill was introduced in the Massachusetts Legislature (General Court) in January 2011. Section 4 of the bill, "Vehicle Miles Traveled Pilot Study," provides for "a pilot study analyzing the benefits and challenges of implementing a vehicle miles traveled (VMT) fee for all Massachusetts drivers."

The most recent update on the Massachusetts Legislature web site shows that it accompanied a study order in August 2012.

Minnesota

What is Alternative Transportation Finance?, Minnesota Department of Transportation, 2012.
http://www.dot.state.mn.us/funding/innovative/
This web page provides introductory information about Minnesota DOT's alternative transportation financing. It lists broad goals and describes partnerships in these efforts.

Minnesota Transportation Finance Advisory Committee Summary Report and Recommendations, November 30, 2012.
http://www.dot.state.mn.us/tfac/docs/TFACSummaryReportNov30.pdf

As stated in the report, this committee sought to identify "viable transportation funding and financing options for Minnesota … selecting the best possible options to develop into recommendations to the governor."

The report details several recommendations and discusses the rationales and implications of each.

1. System-wide Revenue Options for Roads.
    - Increase the motor vehicle registration fees to raise revenue by 10 percent through an adjustment in the multiplier, which will generate $1.1 billion in new revenue during the next 20 years for the Highway Users Tax Distribution Fund.
    - Increase per-gallon excise tax rate on motor fuels to generate $15.2 billion in new revenue during the next 20 years for the Highway Users Tax Distribution Fund.

2. Transit-Dedicated Sales Tax Options.
    - Add $0.005 to the existing $0.0025 cent sales tax for transit in the Twin Cities metropolitan area (five counties), which is estimated to generate $200 million annually.
    - Direct $32 million annually to Greater Minnesota Transit to address statutory required service (71 percent of revenue gap for Greater Minnesota Transit over 20 years is $640 million).
    - Capture the remaining leased vehicle sales tax from the state general fund (estimated at $32 million annually) for transportation.

3. Local Government Revenue Options.
    - Expand the option of the wheelage tax for 80 counties in Greater Minnesota, including raising the cap limit for 87 counties.
    - Enable the local option for the formation of Transportation Improvement Districts.
    - Enable local option sales taxes for transportation in 80 counties without the need of a referendum.
    - Expand regional transit capital levy (or transit taxing district) in entire seven-county Twin Cities metropolitan area and use funds for capital and operating needs. Governance issues need to be considered.

4. Project-Level Revenue Options.
    - Expand MnPASS System (which includes the concept of dynamic pricing) and dedicate revenue to multimodal enhancements on managed lanes.
    - Employ Value Capture concepts around transportation improvements.
    - Explore the following areas in more depth:
        - Tolling options targeted for new capacity.
        - Public-private partnerships opportunities for enhancement and financial leveraging of transportation projects.
        - Monetizing assets to generate revenue.
    - Continue state role in bonding for local roads and bridges, transit, ports, passenger rail, freight rail, safe routes to school (General Obligation Bonding).

A table titled "20-Year Funding Needs to Achieve Desired Outcome" (page 13 of the report) lists anticipated funding and needs, broken down by mode and state transportation subsystems.

Minnesota Road Use Test, Minnesota Department of Transportation, 2012.
http://www.dot.state.mn.us/mileagebaseduserfee/studies.html
From the web site: In May 2011, MnDOT began conducting technical research of the mileage-based user fee in a Minnesota Road Use Test. Five hundred people from Hennepin and Wright Counties are currently testing technology that could someday be used to collect a mileage based user fee. The research will provide important feedback from motorists about the effectiveness of using technology in a car or truck to gather mileage information, and results will help public policy leaders understand the challenges and opportunities in such a system. … The research is scheduled to end by December 2012 and results of the research will be made available to the public.

Mileage-Based User Fee Public Opinion Study: Summary Report Phase III, Minnesota Department of Transportation, December 2009.
http://www.dot.state.mn.us/mileagebaseduserfee/pdf/09mbufphase3finalrpt.pdf
This effort surveyed Minnesota drivers about possible MBUF methods. Respondents received informational materials on MBUF prior to the completion of the survey. Key findings of this study are on pages 5-7 of the report:

- Few Minnesota drivers are concerned about current levels of funding for transportation.
- Despite increasing media coverage, the concept of a mileage-based user fee remains relatively new.
- The public needs different levels of information.
- Initial reactions to the MBUF approaches tested were less than favorable. Between two possible approaches for measuring usage, the less technical option (relying on regular odometer checks) was preferred and considered more "fair" than the more technical approach (using a GPS technology for tracking usage).
- Respondents acknowledged that any funding solution will include a mix of options as opposed to a single, ultimate solution.
- A final mileage-based user fee model has yet to be developed, but this research overall suggests clear communication is one of the keys to public acceptance, not only to explain the need for a new solution, but how MBUF will meet those needs, how drivers will be impacted and how their privacy will be protected.

"High-Occupancy Toll Lane Innovations: I-394 MnPASS," Kenneth Buckeye, *TRB 85th Annual Meeting Compendium of Papers CD-ROM*, 2006.
http://trid.trb.org/view/2006/C/776797
From the abstract: The Minnesota Department of Transportation (Mn/DOT) is implementing the state's first optional toll lane project called the I-394 MnPASS in the Minneapolis-St. Paul metropolitan area. This project, which opened in May 2005, converts the high occupancy vehicle (HOV) lanes on I-394 into high occupancy toll (HOT) lanes allowing solo drivers the opportunity to pay an electronic fee to bypass congestion. The lanes remain open to HOV use at no charge including transit riders, car pools and motorcyclists. I-394 MnPASS is the first tolling project which prices use on a facility directly adjacent to general purpose lanes separated only by a double-white stripe buffer. Several additional innovations have been introduced to reduce project development time and costs, to improve operations, and to enhance enforcement. HOT lanes are increasingly being evaluated around the United States as a means to better manage underused HOV lanes. While the HOT lane concept preserves the priority and capacity of these designated facilities for transit and carpools, it also may improve efficiency and enhance mobility in corridors by pricing currently unused capacity. Through the use of dynamic pricing a premium level of service is maintained for all by setting the price at a rate to ensure free flow. Travel in adjacent general purpose lanes may also improve because paying vehicles are no longer in those lanes. Innovations being introduced on the I-394 MnPASS lanes project may assist in the development of other road pricing projects as this concept matures and is refined.

Nevada

Vehicle Miles Traveled Fee Study, research in progress, Nevada Department of Transportation.
http://www.nevadadot.com/Micro-Sites/VMTFeeNV/Study_Objective.aspx
From the web site: The Nevada Department of Transportation is conducting the Vehicle Miles Traveled Fee Study to explore and evaluate a replacement source of revenue for the current fuel taxes to continue to efficiently and effectively operate, maintain and improve the roads and highways in Nevada. … A VMT fee is not in addition to existing fuel taxes. It could simply replace existing fuel taxes, meaning that drivers would not be paying the tax when they purchase the fuel at the pump, instead they would be charged a fee based on the miles traveled.

Phase 1 of this study addressed VMT road user fees and was completed in 2010. Phase 2 field testing was completed in 2011. According to the web site, the Phase 3 pilot program was scheduled for 2012.

New York

Mileage-Based User Fees for Transportation Funding: A Primer for State and Local Decisionmakers, Paul Sorensen, Liisa Ecola, Martin Wachs, RAND Corporation, 2012.
http://www.rand.org/content/dam/rand/pubs/tools/TL100/TL104/RAND_TL104.pdf
From "Innovation in Action" (page 12): With its DriveSmart initiative … New York City recently developed a conceptual approach under which mileage fees might be collected by local jurisdictions. The DriveSmart program, which has yet to be initiated, envisions the emergence of smart metering devices capable of supporting an attractive array of traveler services. … Some services, such as pay-as-you-drive insurance, automated parking payment, and automated toll payment, would create a significant revenue stream, and the firms that provide the metering devices and billing services would keep a share of this revenue. Driver participation would be voluntary, but firms would have an incentive to develop more innovative services to attract more customers. Over time, as the number of participating drivers increases, the system could support mileage fees as well.

Oregon

"Oregon to Study Mileage Tax Without GPS Requirement," David Tanner, *Land Line*, July 25, 2012.
http://www.landlinemag.com/Story.aspx?StoryID=23935
This article discusses a new study in Oregon that will address privacy concerns in the 2006-2007 road user fee pilot program (discussed in the next two citations). Key points are excerpted:

- The state of Oregon is set to take another crack at studying whether a tax on vehicle miles traveled, or VMT, would be a suitable replacement for the fuel tax in the future. One of the challenges the designers face is to develop a system that does not rely on, or mandate, the use of global positioning satellites, or GPS.
- U.S. Rep. Earl Blumenauer, D-OR, hosted a stakeholder forum on Tuesday, July 24, in Washington, DC, to discuss a three-month demonstration program set to launch in October or November in his home state. The program will consist of 50 volunteers being taxed by the mile using a variety of on-board technologies and smartphone applications.
- Under the new model, they are not requiring GPS. … Participants will be able to choose a method for reporting their miles and how they will pay for miles driven.
- Volunteers will be able to link their smartphones with on-board units such as GM's OnStar, Ford's Sync and Toyota's Entune, or an after-market device.
- An appointed group called the Road User Fee Task Force will compile the information from the volunteers and make a report to the Oregon State Legislature in 2013.

The Intersection of Urban Form and Mileage Fees: Findings from the Oregon Road User Fee Pilot Program, Zhan Guo, Asha Weinstein Agrawal, Jennifer Dill, Megan Quirk, Melissa Reese, Mineta Transportation Institute, March 2011.
http://transweb.sjsu.edu/PDFs/research/2909_10-04.pdf
From the abstract: This report analyzes data from the 2006-2007 Oregon Road User Fee Pilot Program to assess if and how urban form variables correlate with travel behavior changes that participants made in response to the mileage fee program. The study tested the impact of two fee structures, a variable charge and a flat rate, on seven types of vehicle miles traveled (VMT), and finds that charging a noticeably higher fee for driving in congested conditions can successfully motivate households to reduce their VMT in those times and places where congestion is most a problem. Households in both traditional (mixed use, dense, transit-accessible) and suburban (single-use, low density) neighborhoods will likely reduce their

peak-hour and overall travel under a charging scheme that charges a high-rate for peak-hour travel, though households in the traditional neighborhoods will do so more. It also finds that a mileage fee program that charges a high rate during the peak hour is likely to strengthen the underlying influence of urban form on travel behavior. In other words, land use probably will matter more to transportation planning if the nation shifts to a new paradigm of mileage-based financing and pricing system, especially one that charges higher rates during peak hours. This finding suggests that switching from fuel taxes to mileage taxes would strengthen the option to use land-use planning as a policy tool to shift some travel from solo driving trips to more sustainable modes. For policymakers designing a mileage fee, this finding about the link between land-use patterns and travel behavior in response to a mileage fee implies that program designers will need to carefully consider both current and future land-use patterns when estimating the likely revenues collected from mileage fees and also the impact the fees could have on congestion levels. Finally, the research also reveals that decisions about when and how mileage fees are paid could significantly affect a household's response to a mileage fee program. In the Portland pilot program, where participants paid the fees out of a so-called "endowment account" established for them by the Oregon DOT rather than with their own money, household VMT actually increased when participants switched from paying the gas tax to paying the mileage fee. This result is the opposite of expectations. One possible explanation is that paying the mileage fees once a month, instead of paying the gas tax at each visit to the pump, may have encouraged households to drive more by reducing the gas price at the pump.

Oregon's Mileage Fee Concept and Road User Fee Pilot Program, Oregon DOT, November 2007.
http://www.oregon.gov/odot/hwy/rufpp/docs/rufpp_finalreport.pdf
This is the publication discussed in the abstract of the previous citation. It presents the full details of the 2006-2007 mileage-fee program designed to test the technological and administrative feasibility of the concept. The program included 285 volunteer vehicles, 299 motorists and two service stations in Portland. Key findings from the report:

- The concept is viable.
- Paying at the pump works.
- The mileage fee can be phased in.
- Integration with current systems can be achieved.
- Congestion and other pricing options are viable.
- Privacy is protected.
- The system would place minimal burden on business.
- Potential for evasion is minimal.
- Cost of implementation and administration is low.

Texas

Exploratory Study: Vehicle Mileage Fees in Texas, Richard Baker, Ginger Goodin, Texas Transportation Institute, January 2011.
http://ntl.bts.gov/lib/35000/35900/35902/0-6660-1.pdf
From the abstract: This project evaluates Vehicle Mileage (VM) fees as a possible funding mechanism for meeting the State of Texas' long-term transportation needs. Researchers conducted listening sessions with the general public and stakeholders to gather input on the concept. Researchers also prepared a decision matrix that can aid policy makers in evaluating the various trade-offs in policy that will be encountered in vehicle mileage fee system development. This study identified both challenges and opportunities for implementation of VM fees:

- Most study participants viewed the implementation of mileage fees as unworkable; privacy, cost of administration, and enforcement emerged as the most commonly cited concerns.
- The rationale for transitioning to mileage fees has not been adequately established with the general public.

- A new funding mechanism will inherently raise fairness concerns among rural and low-income drivers.
- Despite concerns, research shows that the vehicle mileage fees are a logical, sustainable, long-term option to supplement or replace the fuel tax.
- If pursued, simple implementation solutions will engender the greatest public and stakeholder support.
- Field demonstrations that illustrate the full spectrum of implementation aspects, including payment, administration, and enforcement, can show how the concept might work in Texas.
- Effective policy design can address any major public acceptance issues.

Finally, researchers recommend a demonstration approach that focuses on electric vehicles, tests all aspects of payment, administration and enforcement, and offers a low-technology deployment (using odometer readings) that would provide drivers with the option to adopt a high-technology alternative.

"Fee Hike a Leading Contender to Raise Money for Roads," Aman Batheja, *The Texas Tribune*, October 16, 2012.
http://www.texastribune.org/texas-transportation/transportation/vehicle-fee-hike-among-top-plans-roads-funding/
This article discusses the various interests in Texas and their viewpoints on highway funding in the state. Key points are excerpted:

- Texas lawmakers are mulling ways to raise more money for roads during next year's legislative session and two proposals are drawing the strongest interest.
- The Texas Association of Business has thrown its support behind a $50 hike in the annual fee Texas drivers pay to register vehicles, with the money earmarked for new transportation projects. Meanwhile, some key lawmakers favor dedicating to roads the sales tax from vehicle purchases that Texans already pay.
- Federal and state gas taxes remain the primary revenue source for road construction and maintenance, but they are widely viewed as inadequate for the state's needs. … The Texas Legislature, though, is unlikely to approve raising the gas tax for the foreseeable future, lawmakers and political observers say. Past efforts to raise fees or taxes have failed.
- Last year, state Sen. Tommy Williams, R-The Woodlands, proposed raising the state's vehicle registration fee by about $50. Unlike the gas tax, registration fees are entirely dedicated to transportation and do not fall as cars become more fuel efficient. Such a fee hike would generate $1.2 billion a year, which could then be leveraged to raise several more billion by selling bonds, according to the Texas Transportation Institute.
- The Texas Association of Business recently endorsed doubling the state portion of the vehicle registration fee to bankroll new transportation projects.
- Rather than raising a current fee, state Sen. Robert Nichols, R-Jacksonville, who was appointed chairman of the Senate Transportation Committee, wants to take a tax that many Texans already pay and dedicate the revenue to roads. He is calling for a constitutional amendment to dedicate the sales tax on new and used vehicle purchases to expanding and maintaining the state highway system and to paying off transportation-related debt. The money currently goes into the state's catch-all general revenue fund.

Transportation Advocates of Texas, 2013.
http://transportationadvocatesoftexas.org/
Transportation Advocates of Texas "is a non-profit group made up of local governments, mobility coalitions, economic development organizations, regional alliances, state associations and employers dedicated to helping find solutions to the mobility challenges facing Texas."

The web page "Highway Funding in Decline" (http://transportationadvocatesoftexas.org/News Updates/FUNDING CODN.html) outlines the transportation funding issues and outlook in the state.

Washington State

Mileage-Based User Fees for Transportation Funding: A Primer for State and Local Decisionmakers, Paul Sorensen, Liisa Ecola, Martin Wachs, RAND Corporation, 2012.
http://www.rand.org/content/dam/rand/pubs/tools/TL100/TL104/RAND_TL104.pdf
From "Innovation in Action" (page 13): In 2012, the Washington State Legislature authorized the Transportation Commission to look at how mileage fees might be implemented. Key objectives for the study include establishing a policy framework, assessing institutional readiness, and examining the fairness and equity implications of mileage fees. The initial work will produce interim recommendations in January 2013, with a final report by the summer of 2013. These may include recommendations for a pilot that could be carried out in 2013–15, possibly in conjunction with other Western states.

Proposed Next Steps for Identifying Transportation Revenue, Office of Washington State Governor Chris Gregoire, Policy Brief, May 2011.
http://www.governor.wa.gov/priorities/transportation/transportation_revenue.pdf
This policy brief discusses the risk of transportation system deterioration; the risks associated with unfinished projects and unmet needs; and as a next step, Washington governor's formation of a "Transportation Advisory Group tasked with developing a 10-year investment and funding strategy for the state's transportation system."

Traffic Choices Study Summary Report, Puget Sound Regional Council, April 2008.
http://www.psrc.org/assets/37/summaryreport.pdf
From the report: In 2002, the Puget Sound Regional Council (PSRC) conducted a pilot project to see how travelers change their travel behavior (number, mode, route, and time of vehicle trips) in response to variable charges for road use (variable or congestion-based tolling). The project, called the Traffic Choices Study, placed Global Positioning System (GPS) tolling meters in the vehicles of about 275 volunteer households. The project observed driving patterns before and after hypothetical tolls were charged for the use of all the major freeways and arterials in the Seattle metropolitan area. … Primary conclusions from the study include:

- Observed response of drivers to tolls suggests there is a dramatic opportunity to significantly reduce traffic congestion and raise revenues for investment.
- Not all aspects of a road network tolling system have been fully demonstrated yet. But the core technology for satellite-based (and whole road network) toll systems is mature and reliable.
- A large-scale U.S. deployment of a GPS-based road tolling program will depend on proven systems, a viable business model, and public acceptance of underlying concepts.

Latest News

Council of State Governments Knowledge Center, 2013.
http://knowledgecenter.csg.org/kc/

Two blog posts on the Council of State Governments web site provide highlights of news items from states considering action on transportation funding. These posts are highly relevant to this Preliminary Investigation, with one also very recent (posted in mid-December 2012). Both are reproduced in their entirety below. Web links to newspaper articles can be found in the original blog posts.

"20 States to Watch in 2013: Transportation Funding," Sean Slone, Council of State Governments Knowledge Center, December 18, 2012.
http://knowledgecenter.csg.org/drupal/content/20-states-watch-2013-transportation-funding

- **Connecticut:** *The Hartford Courant* reported last week that Gov. Dannel Malloy and state Transportation Commissioner James Redeker were both among the speakers at a recent transportation forum. "Fewer (federal) dollars will be coming to our state," the Governor noted. "What do we do about falling gas tax revenues?" In his remarks, Redeker referenced a backlog of more than $3 billion in needed bridge, highway and transit repairs. "There's a funding dilemma coming," he said. Former state transportation commissioner Emil Frankel, now a visiting scholar at the Bipartisan Policy Center (and past speaker at CSG Transportation Policy Academies) said the state must look to develop new revenue sources including tolling and other direct user fees. Raising the state gas tax or passing a supplemental gas tax should also be considered, panelists said.

- **Indiana:** In 2006, the state of Indiana received $3.8 billion when it leased management of the Indiana Toll Road to a private concessionaire for 75 years. That helped fund dozens of other transportation projects around the state as part of Indiana's Major Moves road plan (a new study concludes the deal, while good for short-term gain, was a long-term bad deal for taxpayers. Though others contend the study is flawed). But much of that money the state received in the deal has now been obligated and the state is seeking new answers for how to meet its transportation needs going forward. State transportation officials say Indiana now faces a $200 million annual shortfall in funds needed to maintain highways and bridges, *The (Fort Wayne) Journal Gazette* reported recently. That money is needed to save $2 billion in more extensive repairs over a 20-year period. Among the transportation revenue ideas under consideration: raising the state's 18 cent-a-gallon gas tax, indexing the tax to inflation, increasing license plate fees, and creating a new taxing system based on how much drivers use the roads. Lawmakers next year could also consider a plan to let voters decide in a referendum whether to authorize local governments to enact an income tax increase to pay the local share of a 10-year, $1.3 billion transit plan for Marion and Hamilton counties, about half of which would be federally funded, *The Indianapolis Star* reported last month.

- **Iowa:** Gov. Terry Branstad told attendees at a town hall this summer that he sees legislative support for raising the state's gas tax in 2013, according to *The Sioux City Journal.* The governor said he believes increasing the fee by between 8 and 10 cents a gallon over three years could receive public support if coupled with decreases in property and income taxes. But according to more recent reports, state legislative leaders are skeptical about how a gas tax increase might fare. Specifically, they expressed concerns over how revenues might be divided among urban and rural needs. A citizen advisory commission in Iowa issued a series of recommendations last year for dealing with a transportation funding shortfall in the state. You can read more in my Capitol Research brief on "Transportation Funding Commissions" from April.

- **Maine:** When the Maine section of the American Society of Civil Engineers issued a Report Card for Maine's Infrastructure recently, it gave an overall grade of C-minus. Maine roads rated a D. The low rankings, which reflected few changes from a 2008 report, prompted some Democratic leaders to call for making infrastructure improvements a priority in the next legislative session, the Maine Public Broadcasting Network reported this month. New Democratic Senate President Justin Alfond told the network the state cannot afford to ignore needed repairs and upgrades to infrastructure. But Gov. Paul LePage has said he won't use new voter and legislature-approved bonding authority to borrow money for infrastructure projects until state spending is reduced to his satisfaction.

- **Maryland:** *The Baltimore Sun* and *The Washington Post* reported last week that business leaders and county officials want to see Gov. Martin O'Malley and legislators get behind an effort to increase the gas tax or find another way to raise hundreds of millions needed for transportation projects in the state. O'Malley is said to still be formulating his 2013 legislative program. Senate President Thomas V. Mike Miller has said he's willing to make a push for new transportation revenues but he wants to see direct involvement from the governor in rounding up votes in the General Assembly. Meanwhile, at least one Tea Party-affiliated group is already mobilizing in opposition to any gas tax increase, *The (Annapolis) Capital Gazette* reported last week. Some are concerned that O'Malley is entering the legislative session without a general to lead the charge on transportation, *The Baltimore Sun* reported Saturday. Nearly five months after Beverly Swaim-Staley stepped down as Maryland's Secretary of Transportation (and eight months after she announced her retirement from the post), the governor has yet to name a replacement. Maryland's 23.5 cent gas tax was last raised in 1992. Maryland was one of several states that turned to a specially appointed task force last year to make recommendations about transportation funding. The state was one of four profiled in my April 2012 Capitol Research brief on "Transportation Funding Commissions." Also, State Sen. James Rosapepe and Del. Brian Feldman are expected to push for a constitutional amendment that would allow the governor and lawmakers to piece together specific plans to fund transportation projects and seek approval from voters in a ballot referendum, much as Georgia did with limited success this summer, *The (Gaithersburg) Gazette* reported earlier this year.

- **Massachusetts:** Gov. Deval Patrick plans to put "a long-term financial plan on transportation" before the state legislature in 2013, *The Lowell Sun* reported this month. The state's highway system faces a $240 million operating shortfall for the next fiscal year. At the same time, the Massachusetts Bay Transportation Authority (MBTA) which operates Boston's public transportation system is facing a $130 million deficit. Patrick previously sought a 19 cent-a-gallon gas tax increase in 2009 to help avert toll increases, pay off debt from the Big Dig and reinvest in roads and bridges but it received stiff opposition from the legislature.

- **Minnesota:** Last month the Minnesota Transportation Finance Advisory Committee, a panel established by Gov. Mark Dayton in January, issued its final recommendations for the next 20 years to fund and finance the state's highways, roads, bridges, public transportation and air, rail and port facilities. Among the revenue options the panel put forward: increasing motor vehicle registration fees, increasing the per-gallon excise tax rate on motor fuels, increasing the transit-dedicated sales tax in the Twin Cities area, enabling local option sales taxes for transportation, employing value capture concepts around transportation improvements, exploring tolling options targeted for new capacity, exploring public-private partnership opportunities, monetizing existing transportation assets to generate revenue and continuing the state role in general obligation bonding for transportation projects. It appears that Dayton has already ruled out one of those options, McClatchy Newspapers reported last week. "I don't support a gas tax increase at this time, because I think there's not public support for it," Dayton said. "I don't see it as providing nearly the amount of money necessary to make significant and really identifiable progress."

Dayton didn't rule out increasing taxes of some sort for highways. He said it will be up to his newly appointed transportation commissioner, Charlie Zelle (who served on the governor's task force), to sell a transportation funding plan by going around the state over the next couple of years and engaging local chambers of commerce and other influential stakeholders.

- **New Hampshire:** State lawmakers could consider legislation in 2013 that would allow the commissioner of the state department of transportation to sell naming rights for state overpasses and bridges in order to increase transportation revenues. Ohio and Virginia have launched similar efforts, the AASHTO Journal reported this month. *The New Hampshire Union Leader* also reported on the possibility.

- **New Jersey:** Some transit advocates in the Garden State are asking Gov. Chris Christie to get behind a gas tax increase to help pay for repairs to a transportation network damaged by Hurricane Sandy, *The Philadelphia Inquirer* reported. New Jersey's gas tax is 14.5 cents a gallon and hasn't been raised since 1988.

- **North Carolina:** The Associated Press recently looked at where incoming Gov. Pat McCrory (the longtime Charlotte Mayor) stands on transportation issues: "Don't punish cities that must spend lots of money improving interstates, he says. Develop decades-long construction plans. Keep politics out of funding road projects and work with the private sector. And don't be afraid to try something risky, like the Republican did in 1998 by lobbying for a referendum by voters that raised the local sales tax to help build Charlotte's first light rail line." Transportation advocates in the state are reportedly encouraged that the governor-elect, who championed transportation's ability to improve the economy as Mayor of Charlotte, could endorse more sustainable transportation revenue sources and win support from legislators. But, as a *Business Journal* article pointed out earlier this fall, North Carolina's gas tax is already among the highest in the nation and while the state has turned to tolling to help finance some projects, they have faced challenges with a couple of toll road projects.

- **Ohio:** Gov. John Kasich has decided against an Indiana Toll Road-style lease or privatization of the Ohio Turnpike to raise money for highway and bridge projects in the Buckeye State. Instead, Kasich is proposing that the Turnpike be renamed the "Ohio Turnpike and Infrastructure Commission" and given expanded authority to borrow $1.5 billion backed by future tolls. Federal and local matching money could generate an additional $1.5 billion, Kasich said last week. There is more about the governor's plan on the Ohio Department of Transportation website. Kasich's plan, components of which will require legislative approval, would adopt the first of three options for the Turnpike outlined in a study produced for the state by KPMG Corporate Finance. The study, which was in the works for a year, described the alternatives as "status quo with increased bonding capacity" (the one selected by the governor), a "public option" that would have seen the Ohio Turnpike Commission remain independent but align more closely with the state DOT, and the "public-private option" which would have seen the Turnpike leased to a private entity for a maximum 50-year term.

- **Oregon:** A group of 40 volunteers is currently participating in the Oregon Department of Transportation's latest test of a road usage charge system based on miles driven. The state previously studied collecting revenues via such a mechanism in 2007. The latest pilot project focuses on "choice, transparency, ease of use and protection of personal privacy," according to the project website: "Pilot participants choose from 5 different plans involving a range of technologies and methods for reporting and paying. They can choose the way in which miles are logged (Smartphones, geographic positioning system (GPS) devices, or simple reporting devices) or can opt out of in-vehicle technology altogether. Pilot participants can also choose to pay a flat annual charge in lieu of a per-miles-traveled basis. Payment options include check or credit/debit card." ODOT is working with a private company called Sanef to process payments and provide mileage reporting devices for the test. Volunteers taking part in the test, some of whom are state and local government officials, are blogging about their experiences with the system. The pilot will continue into next month and ODOT will put together a report for the state legislature on its findings. ODOT Office of Innovative Partnerships Manager Jim Whitty expects the legislature to consider a bill applying mileage fees to high fuel efficiency vehicles next spring.

- **Pennsylvania:** Gov. Tom Corbett is expected to unveil his long-awaited transportation funding plan in mid-January. *The Pittsburgh Post-Gazette* reported earlier this month that the governor is considering all of the recommendations of an advisory commission that issued a report in August 2011 (also profiled in my Capitol Research brief earlier this year). The governor's plan could include an increase in one component of Pennsylvania's gas tax, the oil company franchise tax, *The Philadelphia Inquirer* reported this month. Some lawmakers are hoping to address public transit separately from other transportation infrastructure. State Senate Transportation Committee Chairman John Rafferty is also said to be putting together this own package of bills to raise the revenues needed to complete $2.5 billion in needed road and bridge repairs in the state, *The (LeHigh Valley) Morning Call* reported last month. In an interview with *The (Harrisburg) Patriot News* earlier this month, Pennsylvania Transportation Secretary Barry Schoch discussed why it has taken the governor so long to address transportation funding: "We know that we need to increase spending, but we need to cut the recurring costs of government. So having worked for 28 years in this industry, I told (the governor) I think there is stuff we can do to be a better business partner for the business community and things we can do to reduce the recurring costs of providing these services. The Transportation Funding Advisory Commission report had three components: a modernization one, a funding/financing side and a legislative component. While the governor and I have been criticized for not moving quickly enough on the funding side, one of the first things we needed to do was get our house in order. That's why we did the modernization component first. We also worked with the Legislature to pass the P3 legislation [Public-Private Partnerships] and red-light camera legislation. So we've made progress." The modernization effort includes a new website, Modern PennDOT, which describes nearly 50 initiatives completed or underway. *The Pittsburgh Post-Gazette* had more about how PennDOT is using the website to make the case to the public about the agency's efforts to stretch transportation dollars.

- **South Carolina:** The Transportation Infrastructure Task Force this month issued its final report after a year-long effort. The report said the state needs to raise $29.3 billion in new revenue over the next 20 years to pay for highway repairs, bridge replacement and mass transit or risk irreparable harm to the state's economy. It outlines the economic and political forces affecting current transportation revenues in the state and suggests a series of potential revenue enhancements. Though it offers no recommendation of one revenue source over another, it lists among the options: a gas tax increase (the rate in South Carolina is 16.75 cents per gallon, the fourth lowest in the nation), indexing and removing the sales tax exemption on gasoline, and increasing driver's license fees, automobile and truck registration fees. Among the other options listed: tolling, public-private partnerships, increasing the sales tax on vehicle purchases, alternative fuel vehicle user fees and vehicle miles traveled fees. But some legislators question whether transportation funding will be addressed during the 2013 legislative session. Senate President Pro Tem John Courson said recently that Medicaid expansion will be the big issue for lawmakers next year, the Associated Press reported.

- **Vermont:** A seven-member special committee on transportation funding is expected to tell Vermont lawmakers next month that the state faces a funding shortfall for road and bridge construction and repair of about $250 million a year over the next several years, the Associated Press reported last week. In a draft of their final report, the committee lists 15 different revenue options for addressing the shortfall, including: raising the state gas tax, levying a property tax on vehicles based on their value, and enacting a vehicle miles traveled tax based on annual odometer readings. But, as an article in the Vermont Digger points out, the revenue measures would raise only about $135.44 million of the $250 million annual shortfall.

- **Virginia:** Gov. Bob McDonnell is working on a transportation funding plan for consideration by the General Assembly next year. Indexing the state gas tax to inflation is reportedly on the table as part of the plan, according to recent news accounts. But, in a letter to legislators last week, anti-tax crusader Grover Norquist called such a move a "job-killing tax increase" and said lawmakers who supported the indexing would be in violation of Norquist's "Taxpayer Protection Pledge." Virginia's gas tax of 17.5 cents per gallon has remained the same since 1986 and is lower than that of neighboring states. McDonnell said recently that while other taxes, such as the sales tax and income taxes, fluctuate with economic activity, the gas tax has not. The governor has promised a transportation funding plan that would generate at least $500 million a year in additional funding by 2018. McDonnell this week proposed a series of state budget amendments that included a proposal to redirect $48 million in general funds to transportation, *The Washington Post* reported. Meanwhile, State Sen. John Watkins is proposing a 5 percent tax on the wholesale price of gas, which he wants to offset by reductions in the state income tax. Watkins said the plan would generate $750 million more annually for transportation, a quarter of a billion more than McDonnell's plan, WAMU Radio reported. House Speaker Bill Howell said last week that he's not sure there's enough time in the General Assembly's winter session to address the transportation funding issue and that he'd prefer a shift of general fund revenues to transportation over any kind of tax increase, *The (Fredericksburg) Free Lance-Star* reported.

- **Washington:** Gov. Chris Gregoire, who did not seek re-election this year and is preparing to leave office, is still required by law to deliver a proposed budget by December 20 and she has promised it will include an increased investment in transportation to rival a 2005 deal that included a 9.5-cent gas tax increase and other revenues. That deal generated $7 billion to fund about 200 transportation projects over the course of 16 years. The state still faces needs in funding basic infrastructure maintenance and is trying to come up with ways to pay for major projects such as the Columbia River Crossing in Vancouver. Gregoire has said another gas tax increase could be in the mix. "The only things that give you a decent amount of money are things like the gas tax," she told reporters last week. Gov.-elect Jay Inslee has not said whether he'll support Gregoire's proposal. Larry Ehl at Transportation Issues Daily reported recently on "The Transportation Crisis Facing Washington's Next Governor." Washington State was one of several that turned to a specially appointed task force last year to make recommendations about transportation funding. The state was one of four profiled in my April 2012 Capitol Research brief on "Transportation Funding Commissions."

- **West Virginia:** The West Virginia Blue Ribbon Commission on Highways, established earlier this year by Gov. Earl Ray Tomblin, is slated to issue its report to the governor in 2013. The commission, which includes state officials, members of statewide constituency groups, city and county officials, members of the legislature, and members of the general public, is looking at new ways the state could pay for transportation projects and establish a long-term funding plan. The revenue plan could include diverting state general revenue funds to the state road fund or increasing gas taxes or other fees, *The Charleston Daily Mail* reported last week. The governor has pushed back the deadline for the commission to issue its report from February 1 to May 1 to allow them more time to formulate a comprehensive plan. The commission will also hold public hearings next year. The commission is divided into three committees. The infrastructure committee, which is expected to complete its work next month, is focusing on the highway system's maintenance and construction needs. The revenue committee will come up with a way to fund the system. A third committee is charged with selling the plan to lawmakers and the general public.

- **Wisconsin:** The Badger State will become the latest to go the commission route when the Transportation Finance and Policy Commission makes its revenue recommendations to Gov. Scott Walker in January. *The Janesville Gazette* reported recently that among the ideas under consideration is a five-cent gas tax increase, raising the $75 annual vehicle registration fee, eliminating the sales tax exemption for trade-in vehicles, creating regional transportation authorities with new taxing powers, and (eventually) collecting a new miles driven fee. Walker reportedly doesn't favor a gas tax increase or the addition of toll lanes to meet the state's funding shortfall. *The Milwaukee Journal-Sentinel* reported recently on how transportation advocates could use a late winter or spring public relations blitz to make the case to the public for additional transportation revenues. Among the arguments they plan to highlight: Wisconsin drivers pay less in a year to use Wisconsin's highway system than they pay for cable television or internet service. Also, Wisconsin's gas tax is now a smaller percentage of the retail price of gas than it was in 1929.

- **Wyoming:** Bills to increase the state gas tax by 10 cents a gallon and motor vehicle registration fees by $10 will be considered in the 2013 legislative session, the Associated Press reported this month. Both measures were endorsed by the Legislature's Joint Revenue Committee. But while Gov. Matt Mead has expressed support for the fuel tax increase, he does not support the registration fee increase. A fuel tax hike does have support from a diverse collection of interest groups including the Wyoming Business Alliance, Wyoming Taxpayers Association, Wyoming Association of Municipalities, and the Wyoming Trucking Association. An editorial this week in the *Laramie Boomerang* said a gas tax increase for Wyoming seems inevitable. Wyoming's 14 cents-per-gallon fuel tax hasn't been increased since 1993 and is considerably lower than that of surrounding states.

"States Consider Transportation Funding Alternatives," Sean Slone, Council of State Governments Knowledge Center, February 3, 2012.
http://knowledgecenter.csg.org/drupal/content/states-consider-transportation-funding-alternatives

- **Iowa:** The leaders of the Governor's Transportation 2020 Citizen Advisory Commission urged lawmakers this week to take action in this legislative session to commit more resources to road building*, the Sioux City Journal* reported. But Republican leaders in the legislature say they don't see support for raising the state gas tax this year, according to *The Des Moines Register.* Meanwhile, Iowa Department of Transportation Director Paul Trombino has presented Gov. Terry Branstad a list of $50 million in proposed savings and efficiencies the department could implement to provide more dollars to upgrade the state's highways and bridges*, The (Cedar Rapids) Gazette* reports.

- **Maryland:** Gov. Martin O'Malley has proposed a 6 percent sales tax on gas to pay for infrastructure projects, *The Washington Post* reported*.* Now a group of 22 state senators are trying to make the tax more salable with a proposed constitutional amendment that would prevent future raids on the Maryland Transportation Trust Fund to balance the state's general fund budget. *The Maryland Reporter* has that story.

- **Massachusetts:** Boston Mayor Tom Menino recently endorsed an increase in the state gas tax to prevent cuts in commuter-rail service, *The Sentinel and Enterprise* reports*.* Gov. Deval Patrick, who sought a 19-cent increase in the gas tax during his first term (the legislature rejected it), has said he no longer sees the gas tax as a long-term solution to the state's transportation problems. And *The (Springfield) Republican* reported that a place-specific tax to fund transportation projects was among the ideas raised at an oversight hearing last month.

- **Michigan:** A 17-bill package introduced by House Republicans would shift the state gas tax from the pump to the wholesale price of fuel and increase it nine cents a gallon. Vehicle registration fees would go up as well as part of a proposal to raise more than $1 billion to fix roads and bridges. The bills closely follow a plan laid out last October by Gov. Rick Snyder. *The Detroit News* has more.

- **Missouri:** State Department of Transportation Director Kevin Keith recently talked about how the Show-Me-State might move forward with plans to rebuild Interstate 70 using tolls*, the Kansas City Star* reported.

- **New York:** Gov. Andrew Cuomo says a new Tappan Zee Bridge in New York City could make use of the state's newly acquired authority to use the process known as design-build, Bloomberg reports.

- **Pennsylvania:** Democratic lawmakers are still calling on Gov. Tom Corbett to act on the recommendations of his Transportation Funding Advisory Commission in advance of the governor's second budget address next week. He's expected to address the issue in his Feb. 7 budget proposal. *Central Penn Business Journal* has more.

- **Texas:** Transportation Commission Chairman Ted Houghton this week suggested higher annual motor vehicle registration fees in coming years could raise new revenue for roads, the (Fort Worth) *Star-Telegram* reports.

- **Virginia:** A House of Delegates subcommittee this week voted down a series of legislative proposals for higher taxes to pump new revenue into Virginia's transportation system, *The Virginian-Pilot* reports. Meanwhile, Gov. Bob McDonnell has announced additional components of his 2012 agenda for transportation. And the Commonwealth recently closed its first major transportation-funding deal with the newly created Virginia Transportation Infrastructure Bank: a $412 million bridge project in Chesapeake.

- **Washington:** It looks like Gov. Chris Gregoire's proposed $1.50 fee on every barrel of oil produced in the state to help pay for road projects doesn't have the momentum to pass the legislature, the Associated Press reports. *The Daily Herald* last week reported on the "bumpy reception" the governor's plan received in initial public hearings.