I-95 Corridor Coalition

Final Research Report: Administrative and Legal Issues Associated with a Multi-State VMT-Based Charge System

This Report Documents a Research Study Aimed at Informing the Discussion Surrounding a VMT-Based Mileage Charge System

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This report was produced by the I-95 Corridor Coalition. The I-95 Corridor Coalition is a partnership of state departments of transportation, regional and local transportation agencies, toll authorities, and related organizations, including law enforcement, port, transit and rail organizations, from Maine to Florida, with affiliate members in Canada. Additional information on the Coalition, including other project reports, can be found on the Coalition's web site at http://www.i95coalition.org.

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Executive Summary

Project Background and Intent

The I-95 Corridor Coalition's initial Vehicle Miles Traveled (VMT) project focused on the institutional and administrative requirements of a multi-state VMT-based system, as well as legal and regulatory issues that must be addressed in order to adopt such a system. The Coalition's intent by initiating this research project was to raise the level of understanding of the challenges that the adoption of a multi-state VMT-based road-user charging system would pose to state and federal government agencies involved in the collection and distribution of funds. It also intended to raise key issues that require further review and analysis.

Most previous work on VMT-based systems has focused on technology options, public acceptance and communications, and on small-scale single-location demonstrations of concepts. This project is the first VMT-charge related effort to focus specifically on business models, institutional and administrative arrangements, and legal issues – state and federal -- – critical to real-world application on a regional or national scale. The Coalition's multi-agency structure provides a unique basis and important perspective for informed consideration of these key issues.

The primary objectives of this project were to identify VMT system functionalities (to the extent needed for this analysis), assess existing and potential institutional and administrative requirements, explore the potential use of existing state agency, toll agency, and multi-state or multi-agency revenue collection systems, prepare very preliminary estimates for administration and enforcement costs, and identify legal issues. This report documents the study activity and identifies key issues that require further review and analysis.

Approach

In May 2009, the I-95 Coalition convened a workshop of experts to discuss how the Coalition could best contribute to the national dialogue regarding VMT-based charge systems. Following the recommendations of the National Surface Transportation Policy and Revenue Study Commission and the work of other organizations including the Federal Highway Administration, the Oregon Department of Transportation, and the Transportation Research Board, the workshop resulted in a set of recommendations regarding the issues that a multi-state program for a VMT-based system should examine. Among these was a recommendation to "address issues related to the institutions and procedures needed for fee collection and audit enforcement…"

In carrying out this study, the project team took advantage of other recent studies of VMT-based system options and issues. Many of these studies are cited in chapter 2 of the report. In order to assess current state and toll authority operating concepts and requirements and to determine state and federal issues, numerous interviews were conducted with state officials (representing DOT program and legal staff, departments of motor vehicles and revenue

collecting agencies), toll authority officials, relevant association and clearinghouse representatives, and private vendors. In preparing preliminary cost estimates, extensive use was made of the bids submitted by vendors hoping to operate an all-vehicle VMT-based system in the Netherlands, and other cost estimates. The work of the project team was coordinated and reviewed through an I-95 Corridor Coalition Member Advisory Committee (MAC) composed of representatives from Coalition member organizations.

VMT-Based System Functionality

The essential administrative, institutional and legal requirements for an implementable VMT charge system will in part be driven by the range of functions to be provided by the system in its intended role of either augmenting or replacing motor vehicle fuel taxes. This role relies on several key functions being performed successfully, including:

- Calculating vehicle miles driven;
- Communicating mileage information to a processing point;
- Applying a per mile rate by vehicle type;
- Invoicing and collecting payments and providing for related communications with users;
- Retaining auditable records; and
- Providing security and enforcement.

It is recognized that there are other VMT-based system functions that might be of interest to some states or localities. These functions would primarily use financial incentives to achieve a range of policy goals such as reducing congestion, road wear, and harmful emissions by varying the per-mile charge based on certain vehicle, travel or system performance characteristics. These functions might require calculation of VMT driven by time of day and/or by general location (e.g., by jurisdiction or by cordon area) or by specific location (i.e., on a specific facility) – and would require more sophisticated vehicle technologies.

For the purposes of this project, three broad functionality options were chosen to form a framework for the analysis of the administrative, institutional and legal requirements. These options closely correspond to those considered in other studies and cover the full range of system functionality. They range from "simple" -- deployment of a system designed to accommodate only the mandatory system function of recording and reporting miles driven, to "moderate" -- deployment of a system that achieves some of the optional functionality associated with general location variability, e.g., travel by time of day or by jurisdiction or small geographic area (cordon-based congestion charges) -- to "complex" -- deployment of a system designed to accommodate the full range of optional system functions necessary to alter driver behavior and create user financial incentives by varying the per-mile charge by time-of-day, by facility, and by other factors. While there are a range of technologies to accomplish these options, the study used those representing the consensus among several existing national analyses, including a pay at the pump option (simple), second generation on-board diagnostics port (OBD II)/cellular transmission approach (moderate) and GPS-based system (advanced). The Coalition's MAC directed the project team to use the most advanced option (a GPS-based system) to consider administrative and legal issues.

Identification and Analysis of Administrative Requirements

Given the assumptions regarding the objectives of a VMT-based charge system and the characteristics of the most promising technologies, specific administrative functions and institutional arrangements necessary to collect VMT-based charges were identified for each of the three generic functionality options. Administrative requirements identified included processes for:

- **Enrolling User Participants –** Existing state and federal motor fuel taxes have no administrative requirement related to user enrollment. However, the vehicle-use basis of VMT charges introduces such an administrative function under each of the technology options. Enrolling user participants is essential to system interactions with the participants, including fee calculations, fee collections, and maintaining user interfaces and communications. This report advises that enrollment should be integrated with state registration fees collection processes.

- **Accumulating Mileages and Charges Due, by State and by Agency** - Accurate mileage information is needed for each vehicle or at least for each vehicle owner by jurisdiction or by agency. Data collection and assurance of data quality will be a challenging aspect of administering VMT-based charges. The report recognizes models such as the International Registration Plan (IRP) and the Interagency Group (IAG) and current processes that could be expanded and adapted to a VMT-based collection system.

- **Calculating and Billing Charges to Users –** The mode and frequency of collecting VMT charges will impact the cost and complexity of the system. If collection as part of registration or the re-registration of a vehicle is acceptable, then state collections every one or two years would focus on assessing the miles traveled by the vehicle being registered or re-registered. More frequent or more complex billing will require greater effort. Agencies will also have to deal with the 17 percent of users who may not have bank accounts or credit cards. This report recognizes that toll authorities have extensive experience in this administrative function.

- **Maintaining User Interface and Communication –** Public understanding and system transparency will be essential for acceptance and appropriate service. System administration must include provisions for rapid response to customers and clear communication regarding where, when and how charges will be incurred. The study recognizes that customer service facilities and programs similar to current DMV call centers and toll authority customer contact centers will need to be deployed in any VMT-based system.

- **Auditing, Security, and Enforcement –** The credibility of the system depends on consistent and reliable system operations and verifiable user compliance among agencies. Monitoring is required to determine whether the in-vehicle systems are functional while a vehicle is in use. Administrative procedures will be necessary for enforcing the collection of charges that are due on vehicles with non-functioning

systems. Auditing is an important function to assure that the reporting and payment of VMT-based charges are legitimate. This report further addresses the current issues and models in place to deal with registration evasion and maintain collection confidence.

- **Calculating and Reconciling State and Agency Mileages** - VMT-based charges must be accurately assessed by vehicle and appropriately allocated to the state (or facility or sub-state jurisdiction) in which the mileage accrues. The IAG provides an existing arrangement that allows reconciliation of toll collections among participating agencies and integrated billing for the account-holding users of the participating facilities. IRP and IFTA reconcile charges among heavy vehicle accounts. The report identifies some instructive lessons from these two organizations in a VMT-based charge system.

- **Distributing Revenues Among the States and Other Agencies –** System efficiency and equity depend on appropriate distribution of the VMT charge revenues. The data and administrative requirements will differ substantially based on whether the requirement for estimating charges is geographically coarse, such as estimating charges due to each state, or geographically fine, such as estimating charges due to the owners of particular roads (e.g. toll facilities). The report identifies existing IAG, IRP and IFTA procedures that handle revenue allocations smoothly and efficiently.

- **Preserving Data for Planning Analysis:** A wealth of vehicle and travel data would be generated and collected under a VMT-based system, ranging from vehicle utilization to actual vehicle flow data, depending on the technology used and how data are collected. Consideration needs to be given up-front to preserving such data, at an appropriately aggregated level to protect user identity, for planning and system modeling purposes.

- **Identifying Specific State and Multi-State Administrative Units and Their Respective Responsibilities –** There are a range of possible approaches to efficient allocation of functions among existing (or newly created) entities. Approaches may differ by state. Efficient systems designs must distribute all functions among units and define an overall management structure for the integration of all functions. This report finds that these units will need to have the functionally required administrative capabilities and systems, including the data collection technologies and the information management systems.

- **Identifying Governance Procedures and State and Other Agency Membership Rules and Requirements** - Several key policy and governance roles must be fulfilled at both the intra and interstate level – both for resolving issues between states and for defining multi-state agreements. Many of these administrative and institutional requirements are already in place for state administration of motor vehicle registrations, motor fuel taxes, and with toll authorities. This report identifies the key parameters and opportunities for transferability of processes and process adaptation

Applicability of Current Operational Environments

A key challenge associated with this potential new approach to roadway charges is management of the transition from the existing systems of fuel and related motor vehicle taxes and fees to a new VMT-based charge system. Interviews conducted with state Department of Motor Vehicle officials, (DMVs), the American Association of Motor Vehicle Administrators (AAMVA), IAG, IRP and toll authorities' representatives, as well as interactions with the MAC, revealed a number of issues and concerns that must be addressed for a successful transition to VMT charges. Key concerns include potential costs, institutional and systems capacity, data confidentiality and information privacy. In the case of the DMVs, officials noted that VMT charge administration would constitute another diversion from their core business. Other key findings identified in interviews and reviews surrounding the administrative requirements for VMT and the existing capabilities included:

1. D*ata and administrative requirements* will differ substantially based on whether the requirement for estimating charges is geographically coarse, such as estimating charges due to each state, or geographically fine, such as estimating the charges due to the owners of particular roads (e.g. toll facilities). The situation becomes much more complex and data intensive for administration of charges that would be collected by facility (or travel lane) and by time of day.

2. *Interaction, involvement, and coordination among state motor vehicle agencies are essential* for many of the administrative activities surrounding VMT. But most importantly, there must be coordination regarding registration files and vehicle ownership. Basing enrollments on the current files for state vehicle registrations is the only straightforward method of enrolling all of the users. Any other arrangement would be a duplicative effort resulting in added cost. While the DMVs are the best-positioned current entity for administering a VMT-charge, they lack the capacity to execute a VMT-based system without external (private or quasi-private) assistance and/or extensive additional resources (such as personnel and systems redesigns) to build capacity. States' current registration processes are highly automated and work very well, but the addition of a VMT-based charge to the registration process adds a substantial burden. Any connection must be fully automated and any VMT-based system would need to accommodate current state trends to move as many transactions as possible to the Internet and to accommodate this service channel option.

3. *The scale of the data management challenge must be recognized*. The functions of accessing and accumulating mileages by state are already performed for the owners and operators of heavy vehicles operating in multiple states under the procedures for the International Registration Plan (IRP) and the International Fuel Tax Agreement (IFTA). However, accumulating mileages and charges by state and by agency for other vehicles under the moderate or the complex option will require the performance of new and similar administrative functions for a very large number of additional vehicles for which mileage records are not now kept. The IRP offers instructive applications for this administrative process, and should be further reviewed. However, in its current state, the IRP Clearinghouse could not function for netting VMT charges. The Clearinghouse

application and the IRP governance structure are good model components for a VMT-based system.

4. *Billing and collecting payments will require re-engineering, and customer contact avenues (such as call centers) will also need to be fortified.* This function can be based on the existing registration processes using models from current administrative or back office structures such as state registration processes or other methods such as those currently used by the IAG for the payment and collection of tolls. In addition, current registration processes are handled by entities other than the DMV in some states (such as county offices) and thus, any VMT charge program in those states will need to interface with that structure.

5. *Customer interface will be one of the most important and costly system components,* especially if charges are determined based on a number of variables including time of day or facility. Although any VMT-based administrative system has to be easy and electronic, credit card fees are a concern and payment frequency is a critical parameter. The addition of VMT charges to credit card transactions could increase state administration costs of collection. Information system issues are a major concern as many state DMV systems are not advanced enough, or modern enough, to handle either the volume or complexity of a VMT-based charge program.

6. *New enforcement processes will be required to ensure that VMT charges are paid and collected.* Issues of registration fee evasion may be aggravated with the addition of VMT charges. Processing violations in electronic tolling represents a sizeable administrative cost at the back office, and other related costs for collection agencies and legal services to pursue egregious toll violators will need to be considered in the enforcement of VMT charge collection. The arrangements currently in place with the IAG to pursue toll evaders offers a model for consideration, but also requires the extensive exchange of state-to-state data and electronic interactions between state DMV registration databases.

7. *Calculating and reconciling state and facility mileage, (as well as distributing accurate revenues to states) will be key new functions* to assure that VMT-based charges are accurately collected and allocated to the states or facilities where the mileage accrues. The IAG provides an arrangement that allows reconciliation of toll collections among participating agencies and integrated billing for account-holding users of participating facilities. The IRP Clearinghouse also provides a model for state-to-state reconciliation and netting exchange.

8. *Existing toll system operators and their contractors understand most of the functions necessary for VMT system administrative and institutional arrangements.* These system operators – such as those involved with E-ZPass -- have much more experience integrating the combined functions than most DMVs and better understand the complexities of system technologies. The ideal institutional arrangement for VMT system administration may be a quasi-government entity, such as a toll authority, using a private vendor familiar with these types of operations on a large scale. A critical component of the consideration of such an arrangement would be the ability for the DMV to share vehicle registration data.

9. *The functions required at the federal level will have limited precedents, and will be "easier" to administer at the state level* from a purely administrative standpoint because the states have registration files and the examples of toll agency cooperation. The federal government has no current interface with vehicle owners and will face severe user enrollment, user communication, data and enforcement challenges without the development or adaptation of a federal bureaucracy (or a private sector contract) to handle collection, and/or a state partnership for the collection of federal fees.

Preliminary Cost Estimates

Costs associated with administering a VMT-based charge system will be a major concern. The current motor fuel taxation system is very simple and does not directly distinguish miles, location of travel, or vehicle type, and is therefore very inexpensive to administer. A VMT charge system – with its increased range of functions -- is necessarily more expensive and must be justified by its greater range of policy functions as well as the emerging shortcomings of the existing motor fuel taxation scheme. While cost is definitely not the only important factor in comparing potential VMT-based charges to motor fuel taxes, it will certainly receive attention in deliberations over future revenue sources at the state and federal level. A key challenge is to weigh the increased costs against the importance of the additional functions in a cost-benefit context.

Current Administrative Costs for Motor Fuel Taxes and Vehicle Registration Fees

Nationally, an average of 0.82 percent of motor fuel tax receipts have been used for administrative or collection expenses over the past decade, based on information compiled from FHWA's annual reports of Highway Statistics. The figure is comparable for I-95 Coalition states, estimated at an average of 0.86 percent. Nationally and for the Coalition member states, 11.0 percent and 12.8 percent of the motor vehicle registration receipts are used for collection expenses, respectively, at an average cost of almost $13 per vehicle nationally, and almost $12 per vehicle for Coalition states.

Preliminary Estimates of the Administrative Costs of VMT Charge Systems

The common drivers of cost which will impact on the total administrative costs of a VMT charge system include (1) number of vehicles or user accounts; (2) vehicle miles of travel to be tracked and allocated by state or facility; (3) number of participating agencies; and (4) required level of detail in terms of time of day, facility, or geography. There is no existing VMT charge system at the network level anywhere in the world from which to develop reliable cost estimates. In addition, most cost data from the various existing revenue systems –ranging from fuel taxes to registration fees to tolls -- is fairly aggregated and, therefore, difficult to use in creating a "unit cost model" specifically for a VMT charge system. The cost variation by scale of program introduces an additional complexity because the costs will not be linearly dependent on the number of units.

Therefore any approach to estimating VMT charge system costs must be based on considerable professional judgment and explicitly acknowledges a substantial amount of uncertainty. As

demonstration trials proceed in the United States or other countries, more evidence on the costs of VMT-based charges will become available.

The all-vehicle VMT charge system proposed two years ago in the Netherlands represents the best current approximation of the costs of implementing such charges, based on the implementation costs bid for the project by private service providers. The cost analysis for this project is based on the Netherlands costs as compiled for the NCHRP 19-08 task reports. The Netherlands proposed to replace a range of current highway fees with the VMT charges, to be applied to all vehicles. However, the Netherlands is not yet proceeding on a VMT-based system, primarily because of a change in government leadership, so true costs remain uncertain. (Other countries do have VMT charges which apply only to heavy trucks, but both the administrative costs and the amounts collected per vehicle are very high in relation to any charges that have ever been proposed for light vehicles).

Because each Netherlands vendor allocated their bid costs differently, the aggregated yearly costs of operating or administering their systems provide the best indicator of what the vendors expected with regard to costs. The total yearly administrative costs for each Netherlands vendor ranged from $51 per vehicle to $115 per vehicle among the three vendors who bid on the project. Using a cost of $51 per vehicle per year in administrative costs provides a starting point for estimates that might have relevance in the U.S.

Some cost savings may be available in the US by building on existing administrative systems. Because our assumptions regarding the range of enrollment costs (by using existing state registration files) is from $3 to $15 per vehicle, and the lowest total Dutch bid for enrollment included about $14 per vehicle (using new VMT user enrollment functions), there might be an opportunity to save up to $11 per vehicle in enrollment costs when compared to the Netherlands bids. Thus the range of preliminary estimates of administrative costs for systems assumed to have the full functionality specified in the Dutch bid process is from $40 per vehicle per year upwards.

At lower functionality, such as for assessing straight VMT charges by state, without regard to time of day or facility, this report estimates that savings of $10 per vehicle per year may be possible in comparison to the Dutch bids, or a total estimated administrative cost of $30 per year per vehicle upwards.

It is not anticipated that heavy vehicle users would incur any added costs under a VMT-based system, or that states would incur added administrative costs attributable to heavy vehicle users, since for all practical purposes these users already have records maintained for the IRP of their VMT in various states. However, the IRP and IFTA records of the various firms are a mixture of paper records and electronic files in different formats. Thus, substantial efforts to reconcile and standardize these reporting systems will be needed in order to automate the administration of heavy vehicle VMT charges as part of overall VMT charges. Such reconciliation and standardization may have substantial benefits to carriers and states under IRP and IFTA even if there are no VMT charges. Heavy vehicle users constitute 7 percent of VMT and just over 1 percent of total vehicles, so the lack of net new costs or nominal costs for VMT associated with these vehicles does not impact substantially on total cost estimates.

VMT Charge System Costs in Context

User financing has been the foundation for federal and state highway programs in the United States for over a half century. All states and the federal government currently collect taxes on the use of motor fuel, and the vast majority of proceeds from those taxes are used to support highway or other surface transportation construction, operations, and maintenance. But the number of vehicles powered by alternative fuels, hybrid vehicles, and electric vehicles, as well as the average fuel economy for automobiles and other light-duty vehicles are projected to increase substantially in coming years. Given that reality, the current state and federal surface transportation funding structure that relies primarily on taxes imposed on petroleum-derived motor fuels is not sustainable in the long term.

The types of VMT charges that might be implemented in the U.S. range from constant charges for vehicles of a certain configuration per mile of travel on all roads, to charges that may vary by facility used or by time of day. Charges which vary by facility and time of day may be able to reshape travel patterns, with some potential benefits that will not occur with constant charges per mile of travel or with continued use of per gallon motor fuel taxes.

The average annual total U.S. federal fuel tax paid (at 18.4 cents per gallon) by a motorist today who drives a light duty vehicle 10,000 to 12,000 miles per year at 20 miles per gallon (the current national average) is around $100 per year. With the addition of an average state fuel tax just above 20 cents per gallon, the light duty vehicle owner pays about $200 per year in total motor fuel taxes. Heavy trucks which travel more extensively at fewer miles per gallon generally pay substantially more. For the heaviest combination trucks, which on average travel 70,000 miles per year at 7 miles per gallon (and pay federal tax of 24.4 cents per gallon), motor fuel tax payments can be over $4,000 per year.

In the U.S., current annual expenditures for highways are about $120 billion to $130 billion. This level of expenditure is supported not only by fuel taxes, but also by vehicle fees, property and sales taxes, tolls and general funds. If all these sources were replaced by VMT charges spread across 240 million registered vehicles, $500 per vehicle per year in VMT charge revenues would be required. This compares to this report's lowest preliminary administrative cost estimate of $30 to $40 per vehicle per year, resulting in a ratio of administrative costs to collections of about 6 percent to 8 percent - somewhat lower than the current costs of collecting registration fees, but considerably higher than the fuel tax collection costs of less than one percent. The Netherlands had set a goal of 6 percent of annual fees to be spent on administration, but it should be noted that the total highway fees per vehicle in the Netherlands are much higher than in the U.S.

Institutional Arrangements

This report concludes that the most promising institutional arrangements for administering a VMT-based charge system will balance continued strong state or toll facility involvement and control with management efficiency. States wish to maintain their administrative responsibilities for revenues within their borders, but they would have a range of choices as to how much assistance for VMT fee administration they would contract out to third parties,

including private contractors or non-profit organizations with the appropriate back office capabilities. In such a state-centered approach, a state agency or agencies will be responsible for the administrative and legal functions necessary to monitor and administer VMT-based charges, including reconciliation and coordination with other states. Other administrative functions might either be performed in house or contracted out. Given the scale of the data handling, systems requirements, and administrative complexity, it is likely that contracting approaches would be used. This implies an institutional arrangement within which states maintain full policy, legal and administrative control, but have options to use private contractors or multi-state cooperative entities to handle some or all of the administrative functions related to monitoring and collecting VMT-based charges. Existing cooperative mechanisms such as AAMVA, IAG and the IRP, or models based on those arrangements, could be the most logical places to perform the revenue reconciliation and revenue clearinghouse functions, similar to the functions now performed for apportioned heavy vehicle registration fees and E-ZPass toll revenues. However, neither IRP nor IAG currently have the administrative capacity to handle a multi-state VMT charge.

The National Motor Vehicle Title and Information System (NMVTIS), a current infrastructure for the sharing of title information among the states, should be further analyzed and considered as a model or as the potential infrastructure for owner and registration data sharing for any VMT charge structure. More use could be made of NMVITS to assure that states effectively share information on where vehicles are registered or re-registered, ownership changes and title changes. Since NMVTIS does not currently include ownership or personal information, AAMVA and motor vehicle administrators have noted that the addition of this information to NMVTIS will be a major concern. Further study is essential to develop an approach that builds on this or other models.

Legal and Regulatory Issues

State Legal Issues in Implementing a VMT-Based Charge System

Key state legal issues were identified and reviewed through a survey of legal counsel representing transportation agencies within the I-95 Corridor. Respondents were asked a series of questions related to a hypothetical VMT charge system applied to all motorists and facilities within participating states. The limited existing legal precedents – supplemented by professional opinions -- were used as the basis for the identification of the likely key issues including: the impact of characterizing VMT charges as taxes, fees, or tolls; current legal limitations on use of motor vehicle-related revenues; roles and authority in rate setting; transition from fuel taxes to VMT charges; legal authorities for multi-state collection and redistribution, delegation of program administration, enforcement and penalties; and data sharing and privacy.

The following observations summarize state legal issues related to implementation of a VMT-based system:

- A statewide VMT-based system of charges would not be likely to face insurmountable state constitutional or other legal issues.

- Specific authorizing legislation will need to be carefully drafted to address issues related to use of VMT-based revenues, rate setting, characterization of VMT-based charges, enforcement provisions and adjudication processes and mechanisms – and would be desirable even for a pilot program.

- There are available powers and precedents associated with a multi-state system, although a formal interstate compact related to VMT charges could facilitate implementation.

- Existing state privacy laws related to the sharing of data for enforcement purposes and the protection of personal information from use for non-governmental purposes appear to be adequate, especially in combination with federal privacy laws applicable to motor vehicle users. In a few cases, additional strengthening or clarification was recommended.

Federal Legal Issues in Implementing a VMT-Based Charge System

The following observations summarize federal legal issues related to implementation of a new VMT-based system:

- It is unlikely that constitutional restraints exist for states seeking to implement a system of VMT-based charges. Reasonable VMT-based charges are sufficiently similar to taxes and tolls collected under current law to have been tested repeatedly before the United States Supreme Court.

- The collection of VMT-based charges is significantly more complex than current taxes on motor fuel, and involves transactions with millions of taxpayers each year, rather than with the several thousand fuel wholesalers who currently pay fuel taxes.

- It may be efficient to collect state and federal VMT-based charges simultaneously via a single system. FHWA already relies on states to assist with efforts to implement and enforce various highway programs, and – with state assent -- could use grant conditions and other incentive programs to encourage state cooperation in collection and enforcement.

- Current law protects personal information from release for non-governmental purposes. Federal laws are already supplemented by state laws in this regard.

Next Steps

This report provides a strong foundation for identification and discussion of the key administrative, institutional and legal issues and implications for state DOTs and toll agencies and authorities surrounding the consideration of VMT charges. The I-95 Corridor Coalition member organizations provide a unique setting for further consideration of these issues. Areas that might be further investigated in the near future should include:

- a more refined analysis of already identified administrative requirements;
- identification of current state and toll authority functions that could or would need modification to accommodate a VMT charge program;
- more refined cost estimates based on input from industry and analysis of similar functions performed by or for states;
- assessment of current interagency arrangements, including the IAG and arrangements between state DOTs and their sister state revenue agencies;
- the development of an administrative functions concept of operations for a multi-state VMT-based charge system;
- assessment of the NMVTIS model as the basis of a system to exchange vehicle ownership/registration information and VMT data among the states; and
- interface and other issues associated with federal government use of state systems to collect potential federal VMT charges.

1.0 Why VMT Charges?

User financing has been the foundation for federal and state highway programs in the United States for over a half century. All states and the federal government currently collect taxes on the use of motor fuel, and the vast majority of proceeds from those taxes are used to support highway or other surface transportation construction, operations, and maintenance. But the number of vehicles powered by alternative fuels, hybrid vehicles, and electric vehicles, as well as the average fuel economy for automobiles and other light-duty vehicles are projected to increase substantially in coming years. Given that reality, the current state and federal surface transportation funding structure that relies primarily on taxes imposed on petroleum-derived motor fuels is not sustainable in the long term.

There is no clear consensus on future state and federal motor fuel tax revenues if the current structure were to be maintained. Due to the cents-per-gallon structure of current taxes, revenue generation is a direct function of fuel consumption. Fuel consumption is driven by two factors – miles traveled and vehicle fuel efficiency.

The most recent forecasts by the U.S. Department of Energy's Energy Information Agency to 2035 predict that the total light duty vehicle fuel usage will grow at only 0.5 percent per year to 2035, while the fuel usage for heavy trucks will grow at 1.2 percent per year, and total highway fuel usage will grow by 0.6 percent per year. At current tax rates, total nominal revenues will continue to grow at 0.6 percent per year, although this rate will probably be much slower than inflation, and thus the revenue stream will have ever diminishing purchasing power.

The anticipated growth of VMT, based on the same DOE forecasts, is 1.7 percent per year, and thus keying the revenue growth to VMT growth rather than to fuel usage growth would yield about 1.1 percent more growth per year (at constant rates for fuel use or for VMT charges.) Of course, if inflation is higher than 1.7 percent per year, purchasing power will still be lost, but not at as high a rate as with fuel usage.

Increasingly, a consensus is emerging that state and federal surface transportation funding systems should be based on a more direct form of "user pay" charges in the form of a charge for each mile driven, commonly referred to as a vehicle miles traveled or VMT-based fee system. The revenue stream from VMT charges would be somewhat more sustainable, since it would not be influenced by increasing vehicle fuel efficiency or by the use of alternative fuels.

The types of VMT charges under consideration in the U.S. range from constant charges for vehicles of a certain configuration per mile of travel on all roads, to charges that may vary by facility used or by time of day. The guidance to this project provided by the state agency advisors was to consider VMT charge capabilities that included the full capabilities to render charges based on facility, time of day, and other variables. Charges which vary by facility and time of day may be able to reshape travel patterns, with some potential benefits and which will not occur with constant charges per mile of travel.

Examination of the travel-related benefits of VMT-based charges was not a part of this project. There are potential traveler benefits from shaping demand and from reducing congestion which could be associated with the charges applied to vehicle miles of travel. Other research, including research for the U.S. DOT under IntelliDrive, may identify and quantify such additional benefits from applying various types of charges or from utilizing the associated technologies for other purposes, such as enhancing safety. These other benefits should be considered in deciding if and how states, the federal government, or others will collect future revenues from vehicle users. This study aims to make a contribution by addressing the administrative, institutional and legal aspects of potential VMT-based charges.

2.0 Background and Relationship to Other Research and to Coalition VMT Trends

2.1 Study Background

In December 2009, the I-95 Corridor Coalition initiated a project entitled "Multi-State VMT-Based Fee Institutional and Legal Analysis." This was in response to direction received from its Executive Board in the spring of 2009 to embark upon a program to help address the current surface transportation program funding crisis by exploring alternatives to motor fuel taxes as the primary funding mechanism. In May 2009, the Coalition convened a workshop involving a group of experts to discuss how the Coalition could best contribute to the national effort on the topic. Based upon the results of this workshop, and the considerable research already undertaken on other aspects of this issue, at the Coalition's June 2 combined Steering Committee/Executive Board meeting, a decision was made to launch a project focused on the institutional and administrative requirements of a multi-state VMT-based charging system, and to explore legal and regulatory issues that may hinder the adoption of such a system.

This project is one of the first, if not the first of its kind in the arena of VMT-charge research to focus specifically on these administrative and legal aspects of the business models and systems to be used for VMT charging. Most previous work on this subject focused on technology options, on public acceptance and communications, or on small-scale single-location demonstration projects. The Coalition's principal objective was to raise the level of understanding of the challenges that the adoption of a multi-state VMT-based road-user charging system would pose to state and federal government agencies involved in the collection and distribution of funds. It also intended to raise key issues that require further review and analysis.

Project Objectives

The objectives of the project were to:

- Build consensus among Coalition members on a comprehensive set of functions to be included in a multi-state VMT-based charging system;
- Identify the institutional and administrative requirements of a multi-state VMT-based charging system;
- Identify recommended mechanisms for governing and administering multi-state VMT-based charge collections;
- Explore existing multi-state revenue collection systems for lessons that can applied to the VMT-charge situation;
- Prepare preliminary estimates of the costs of administration and enforcement under different options;

- Identify and assess legal/regulatory issues that may constitute barriers or opportunities with regard to state and multi-state implementation of VMT-based charge collection programs;
- Identify legal and administrative issues associated with charging structures that include variable charges and pricing for externalities such as congestion, environmental and vehicle type/class differences; and
- Prepare an integrated final report containing a set of recommendations regarding next steps to take to address institutional/administrative and legal/regulatory issues and findings.

Project Scope

In the conduct of this project, a number of decisions as to underlying assumptions were made.

- The project intended to assess VMT-based charges applied on all roads (state and local jurisdictions) and to all vehicles types on a multi-state basis.

- The project considered issues associated with the collection of VMT-based charges by both states and the federal government.

- Mechanisms for the equitable sharing of revenues among multiple states and local jurisdictions were explored.

- Both mandatory and optional system functions were considered in the analysis. Optional functions are those that the system might have the capability to perform, such as congestion pricing, but implementation by any jurisdiction would be optional.

- The institutional, administrative and legal aspects of a preferred implementation option were assessed. This implementation option, building off of existing state vehicle data bases, could accommodate a full range of functionality, including optional functions such as charges that vary by time of day and by facility, and applications of other fees such as potential greenhouse gas emission based charges.

- No assumption was made regarding the level of revenue that a multi-state application of VMT-based charges would produce relative to the current level of revenues being collected by a state, toll agency, or the federal government. Revenues produced by a VMT-based charge may be considered as a replacement for gas tax revenues and other existing highway user fees and revenues or as a supplement to them. Toll agencies are assumed to continue to collect current fees.

- No assumption was made regarding the technology that would be used to implement a VMT-based charge system, although it is understood that certain technologies cannot be used to achieve some advanced functions (i.e., some technologies may be insensitive to varying VMT charges by time of day or facility).

VMT Charge Issues Not Addressed Here

In addition, decisions were made regarding issues **not** addressed under the scope of the project. These include:

- The public acceptability of imposition of a VMT-based charge;
- Privacy issues associated with use of certain enabling technologies (although privacy considerations were accounted for in assessing administrative and institutional options);
- The desirability of variable charges to help meet social objectives such as income level or age;
- The performance of different implementation technologies relative to issues such as accuracy and reliability; and
- The transition path from the current gas tax based revenue collection system to a system that includes collection of VMT-based charges.

There are many useful current and recent studies and pilots that have addressed these and other aspects of VMT-based charges especially the technologies that might be used to identify vehicles and their miles driven. Many of these studies are cited below and can be accessed on the Coalition's website. In the compilation of this report, the Coalition made every effort to utilize and benefit from these other studies while not duplicating them. This project, with its focus on institutional and administrative requirements and legal and regulatory issues, was intended to make a unique contribution supportive of these other efforts.

2.2 Relationship to Other Efforts Addressing VMT Charges

Other organizations have and are continuing to address VMT-based charge options and issues. A summary list of some of these efforts follows. Links to the reports referenced below can be found on the I-95 Corridor Coalition's website at: http://www.i95coalition.org.

- For a 12-month period starting in April of 2006, the Oregon Department of Transportation conducted a pilot demonstration of a mileage-based road user fee system as part of FHWA's Value Pricing Pilot Program.

- The University of Iowa is conducting a 4-year study to assess the appropriateness of the technology and to evaluate user acceptance of a VMT charging system. Six first-year sites were included in the project: Austin, TX; Baltimore, MD; Boise, ID; Eastern Iowa; Research Triangle, NC; and San Diego, CA. Field-testing at the first-year sites was completed in September, 2009. Testing at six additional second-year sites was scheduled to end in the summer of 2010: Albuquerque, NM; Billings, MT; Chicago, IL; Miami, FL; Portland, ME; and Wichita, KS. The final report is expected in late 2010 or early 2011.

- As part of Special Report 299, the Executive Committee of the Transportation Research Board commissioned a paper entitled *Discerning the Pathway to Implementation of a National Mileage-Based Charging System* (dated October 2009). The paper presents

concepts for research and development programs to test the technical and political feasibility of road use metering and mileage charging. It also deals with issues related to the conduct of trials or pilot projects.

- As part of Project 20-24(69), the National Cooperative Highway Research Program (NCHRP) produced a report entitled *Implementable Strategies for Shifting to Direct Usage-Based Charges for Transportation Funding*. The goal of the project was to identify a range of options that might support the near-term implementation of a national system of VMT fees and evaluate their relative strengths and weaknesses. A second phase of this project is starting.

- The NCHRP is currently conducting Project 19-08 entitled *Costs of Alternative Revenue-Generation Systems*. The objective of this project, being conducted by Battelle, is to analyze and compare the administrative, collection and compliance costs of alternative revenue systems including VMT fees. A final report is anticipated in November 2010.

- The Intelligent Transportation Institute at the University of Minnesota prepared a report entitled *Technology Enabling Near-Term Nationwide Implementation of Distance Based Road User Fees*. The report describes a technology solution that could be implemented in the near term.

- The Research and Innovative Technology Administration (RITA) in the US Department of Transportation produced a paper entitled *Mileage-Based User Fee Technology Study*. The paper identifies the major functions and available technology options and a framework for categorizing them, and presents a high-level qualitative assessment.

- The Texas Transportation Institute (TTI) is conducting an exploratory study on the viability of pursuing vehicle mileage fees as a statewide source of transportation revenue. The study includes formation of focus groups to assess perceptions and attitudes and stakeholder interviews.

- A number of international efforts were reviewed as part of an international scanning trip sponsored by the USDOT, the NCHRP and AASHTO that fostered information sharing about variable road pricing activities outside the US. Exchanges were held with those involved in such activities in Stockholm, London, Singapore, Germany, the Netherlands and the Czech Republic. The final report of the participants can be found on the Coalition's website referenced above.

2.3 VMT Trends in the I-95 Corridor Coalition Region

The information on vehicle miles of travel presented below is based upon analysis of data compiled by the FHWA from data reported by the states. In 2008, Coalition member states reported over 1,050 billion vehicle miles traveled (VMT), accounting for over one-third of the nation's total VMT. Figure 2.1 shows the relationship between Coalition member states VMT and national VMT. It indicates that the Coalition region's share of VMT has remained relatively

consistent over the last decade. In terms of growth, however, VMT in some Coalition member states has been growing at a faster rate than nation wide VMT (see Figure 2.2). And, VMT has been growing at a faster rate in Florida than other Coalition member states. Figure 2.3 shows VMT by state.

Nationally, about two-thirds of VMT is in urban areas. This share is higher for Coalition member states, at over 72 percent in 2008. Figure 2.4 shows the share of urban and rural VMT for 2008 in Coalition member states. In two states (Vermont and Maine), urban VMT is under 50 percent of the total VMT (26 and 28 percent respectively). Urban VMT in six Coalition member states is over 80 percent of total VMT (District of Columbia, Rhode Island, Connecticut, Massachusetts, New Jersey, and Florida). The urban versus rural breakout of VMT is a product of U.S. Bureau of the Census definitions and classifications of those types of areas, with the VMT within those areas estimated by the states.

Figure 2.1: VMT – National and I-95 Corridor Coalition States (in millions)

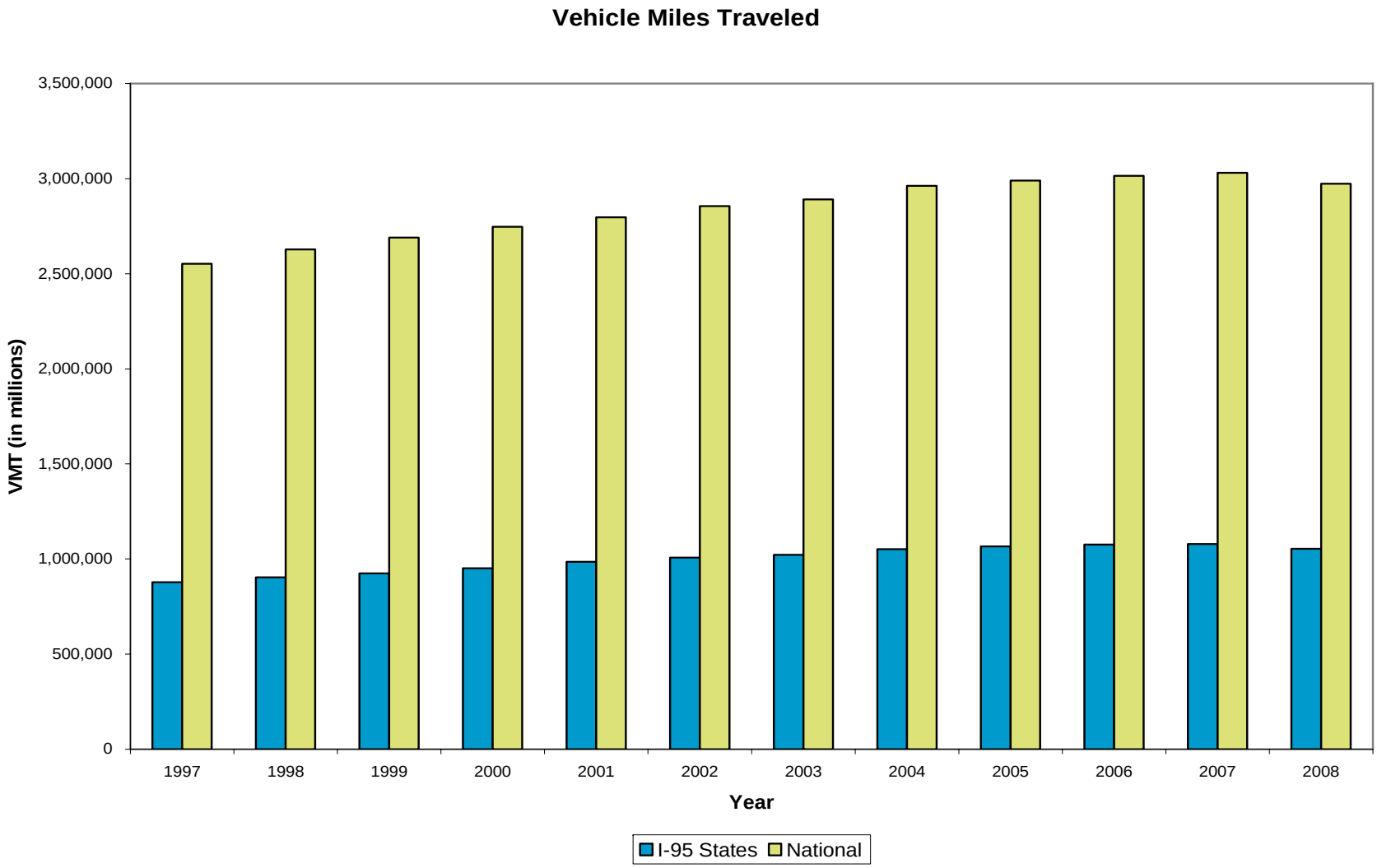


Figure 1.2: VMT Growth Over the Last Decade

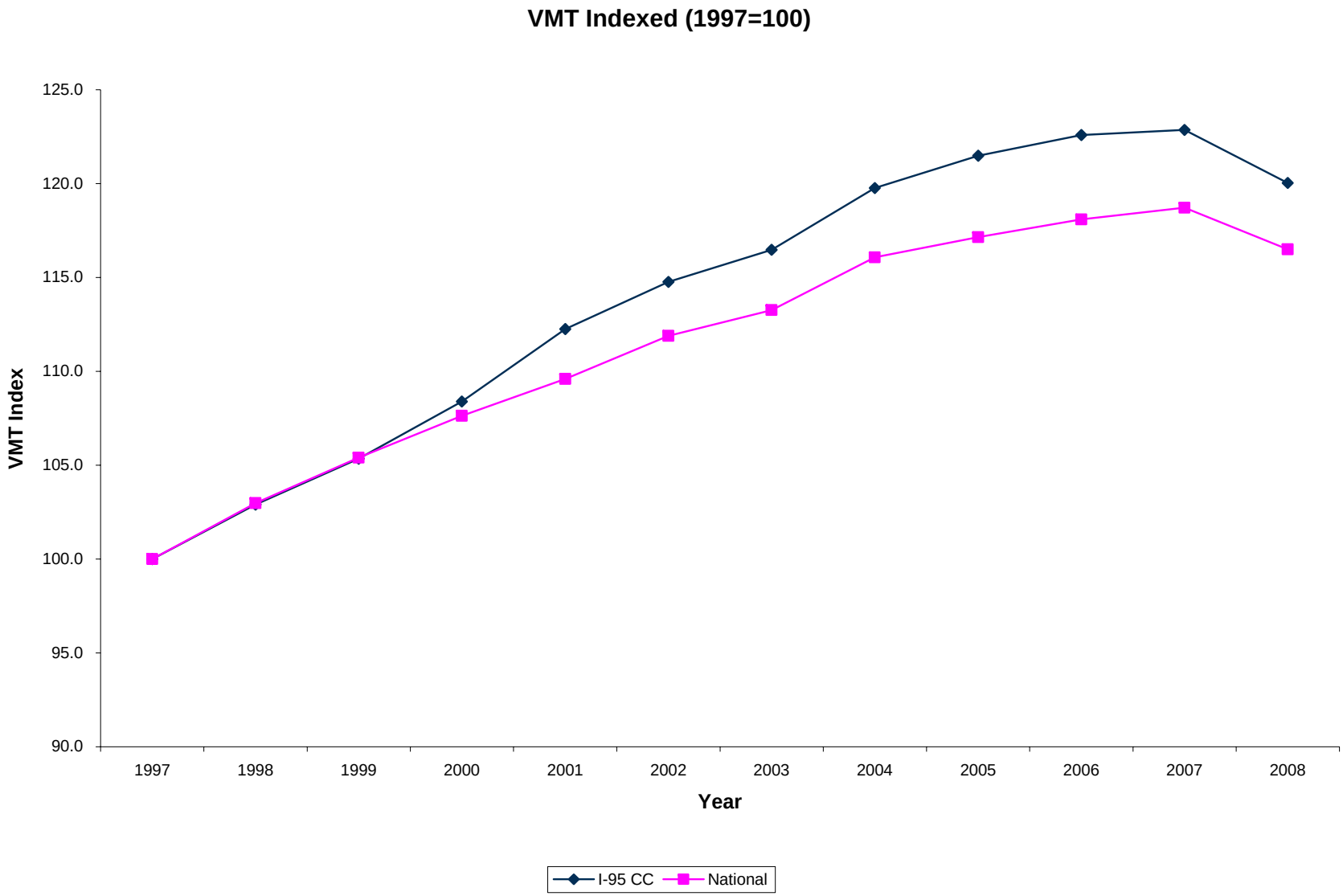


Figure 2.3: VMT by State within the I-95 Corridor Coalition (in millions)

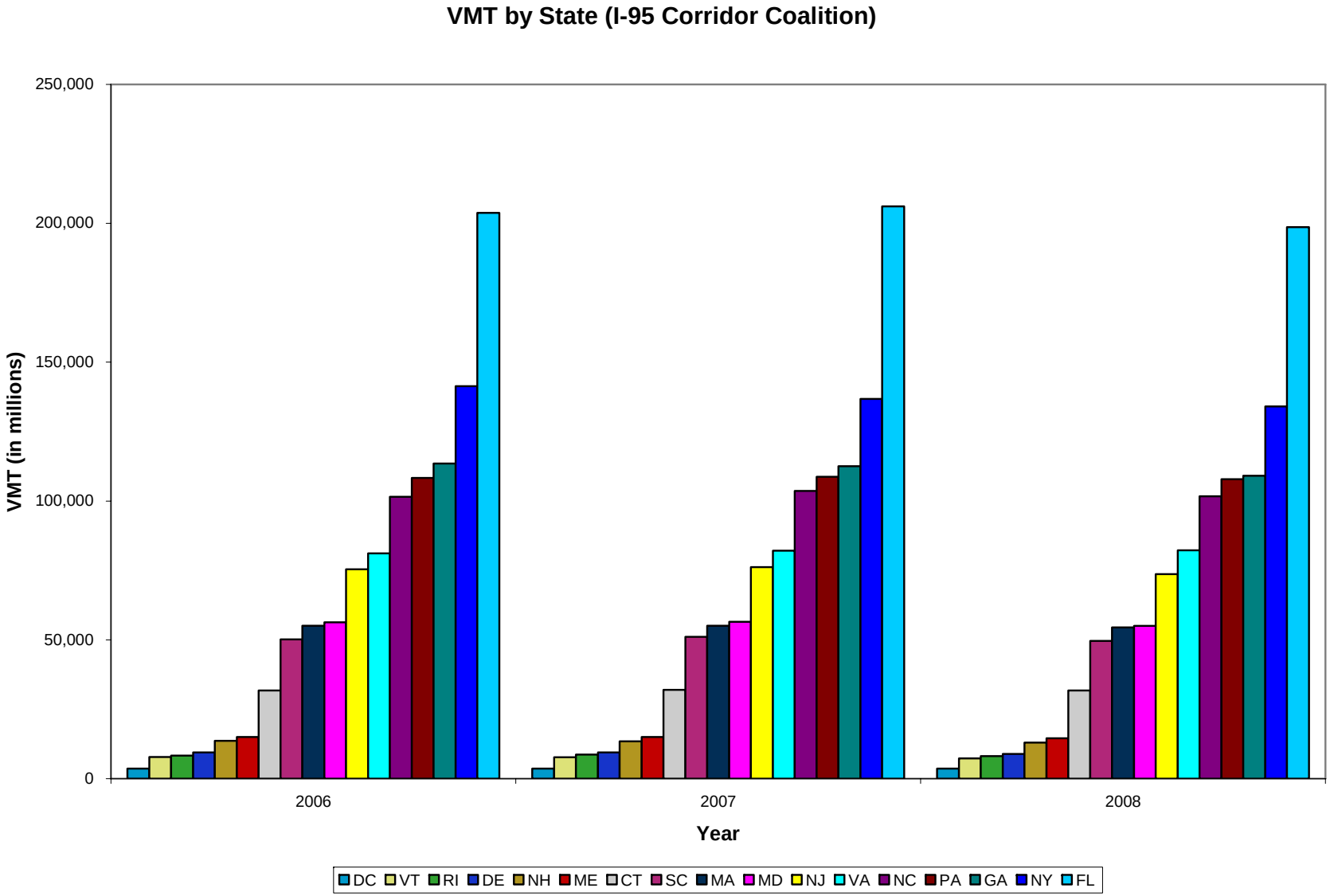
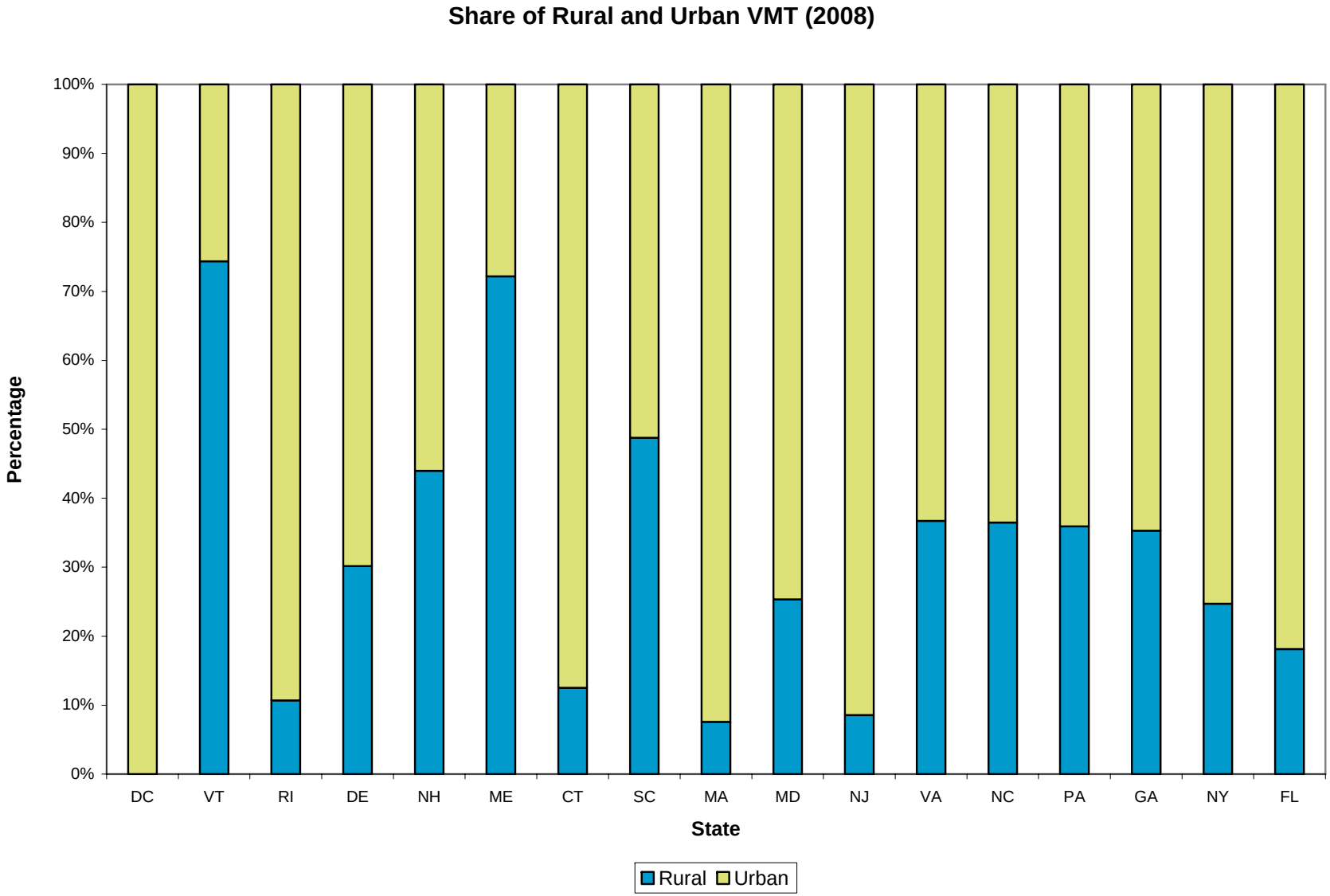


Figure 2.4: Share of Rural and Urban VMT in 2008 for I-95 Corridor Coalition Member States



3.0 Overview of VMT-Based Charge System Functionality Options

3.1 Relationship of Policy Options to Functionalities

There are a variety of policy motivations that might be considered in implementing VMT-based charges that, depending on their complexity, will require increasingly sophisticated technologies to achieve. Since this project did not intend to set out or debate the merits of the motivations driving a movement to VMT-based charges, it uses as a foundation various options presented in the NCHRP 20-24(69) report entitled *Implementable Strategies for Shifting to Direct Usage-Based Charges for Transportation Funding*. This work is described briefly in Chapter 2 of this report.

The NCHRP 20-24(69) report identified two policy motivations for implementing VMT-based charging concepts:

- To develop an eventual replacement for motor vehicle fuel taxes that would provide more stable and sustainable revenue over time; and
- To create a set of financial incentives to support a broad range of policy goals such as reducing congestion, road wear, and harmful emissions by varying the per-mile charge according to certain vehicle or travel or system performance characteristics.

The former can be accomplished using a variety of relatively simple approaches, but the latter requires use of additional functionalities and more sophisticated technologies that track, for example, time, and a vehicle's general location or specific location (i.e., facility identification).

This project is designed to inform (but not to make) a key decision: whether a multi-state VMT-based system should deal only with the former motivation, thus easing the path towards multi-state adoption; or whether a multi-state VMT-based system should be designed from the outset to achieve a variety of policy goals related to the latter motivation. Representatives of Coalition member states generally express the view that while not every state or locality may wish to utilize all features, a VMT-based charge system, incorporating broad functionality, ultimately is preferable. Based on that determination, this project explores the administrative and legal complexities that would be added by the functionalities and technologies needed to achieve those goals.

It is not necessarily the case that more aggressive policy goals could not be achieved if the design of a VMT-fee based system is limited to only those features necessary to simply replace motor-fuel taxes. Rather, these goals could be achieved, as they are now, through systems independent of a multi-state VMT-based fee system. In theory, establishing the back office and communications infrastructure of an integrated multi-state charge collection system would reduce individual organization implementation and operations and maintenance costs.

3.2 Mandatory and Optional System Functions

Mandatory system functions are those associated with the augmentation or replacement of motor vehicle fuel taxes in order to provide more stable and sustainable revenue over time. To achieve only this policy motivation, the following system functions are required:

- Calculate vehicle miles driven;
- Communicate the mileage information to a processing point;
- Apply a per mile rate for the vehicle type;
- Invoice and collect payment and provide for related communications with users;
- Retain auditable records; and
- Provide security and enforcement.

Some variability could easily be accommodated within such a system. For example, individual states could charge different rates (analogous to different motor vehicle fuel tax rates in different states), or different rates could be applied on the basis of vehicle size and weight or vehicle miles per gallon (MPG) rating. However, a system designed to achieve only this purpose could not achieve policy goals associated with time of day charges or location-specific charges.

Optional system functions are those associated with creating a set of financial incentives to support a broader range of policy goals such as reducing congestion, road wear, and harmful emissions by varying the per-mile charge based on certain vehicle, travel or system performance characteristics or combination of these characteristics. In order to achieve this policy motivation, the following additional optional system functions may be required:

- Calculate the miles driven by time-of-day and/or by general location (e.g., by jurisdiction or by cordon area) or by specific location (i.e., on a specific facility); and
- Apply a per mile rate that may vary according to time-of-day and/or location parameters or other factors (e.g., congestion level at the time and place of travel).

Accommodation of these system functions will require more sophisticated vehicle technologies (and possibly roadside technologies) and more complex back office processing software.

3.3 Plausible System Implementation Options

The NCHRP 20-24(69) report previously referenced examined a wide range of implementation options. A complete list and analysis of these options is provided in Chapters 6, 7 and 8 of that report. It also identified a smaller set of the most promising options judged to have the greatest potential for near-term implementation. Criteria used in making this judgment included road network coverage, the implementation cost/system functionality tradeoff, enforceability, the level of governmental support required and the compliance burden on users.

For purposes of this project, three of the options analyzed were chosen to form a framework for the analysis of the administrative, institutional and legal requirements, as well as issues, options

and potential solutions associated with increasing levels of system functionality. These three options closely correspond to options considered in other studies and cover the full range of system functionality. These range from deployment of a system designed to accommodate only the mandatory system functions necessary to augment or replace motor vehicle fuel taxes, to deployment of a system designed to also accommodate the full range of optional system functions necessary to alter driver behavior and create user financial incentives by varying the per-mile charge by time-of-day, by facility, and by other factors.

The three system implementation options are described throughout the report as:

- **Simple** – This option is labeled in the NCHRP 20-24(69) report as "mileage metering based on fuel consumption." It is the lowest implementation cost option, and offers the ability to achieve mandatory functionality of charging per mile traveled with some limited fee variability capability (e.g., to reflect vehicle size, weight, number of axles or MPG rating). The essence of this system is to use fuel consumption as a basis for estimating travel distance. Vehicles must be equipped with Automatic Vehicle Identification (AVI) devices. Electronic readers and communications systems installed at service stations would read the vehicle IDs and transmit the ID data to a processing point. Processing software would estimate miles driven based on the amount of fuel purchased and the vehicle's fuel economy rating, and would apply a per mile charge. From the point of view of the user, there will be additional technology required on the vehicle but payment transactions at the motor fueling station might be similar to transactions today. A different payment system will be required for those vehicles that do not utilize motor fueling stations or are only partially powered by gasoline (e.g., hybrids, electric or hydrogen vehicles, etc.). For example, it may be that such vehicles would be required to be equipped with an on-board unit that produces travel distance information and to periodically stop at a fueling station or other location to report their accumulated mileage.

- **Moderate** – This option is labeled in the NCHRP 20-24(69) report as "OBD II/cellular-based metering." It is described in great detail in the University of Minnesota report referenced earlier. This implementation option achieves some of the optional functionality associated with general location variability. For example, this option would make it possible to estimate the costs of travel by time, by jurisdiction or other smaller geographic area (e.g., cordon-based congestion charges). This system requires equipping vehicles with an on-board unit (OBU) connected to the second generation on-board diagnostics port (OBD II) available on vehicles manufactured since 1996. Vehicle speed and time data collected by the OBD II is processed by the OBU to produce travel distance information. The integration of cellular communications technology with the OBU enables the estimation of travel location. The cellular communications technology (or some other technology) could also be used to track time and to transmit the OBU data to a processing point. From the user's point of view, there will be additional technology required on the vehicle and payment transactions could either be at motor fueling stations as occurs today or payments could be made through another system. Vehicles that do not utilize motor fueling stations or are only partially powered by gasoline (e.g., hybrids, electric or hydrogen vehicles, etc.) would be required to periodically stop at a fueling station or other location to report their accumulated mileage or make payments through an alternative payment system.

- **Complex –** This option is labeled in the NCHRP 20-24(69) report as "high-resolution GPS-based mileage metering." This implementation option achieves all of the optional functionality associated with time and with general or specific location variability. This option makes it possible to estimate the cost of travel by jurisdiction or other smaller geographic area, by specific route or facility, or by time-of-day. This system relies on use of differential GPS technology for accurate time and location data (within one to two meters). Wireless communications would be used to transmit data to the processing point. From the point of view of the user, there would be additional technology required and payment transactions could be at motor fueling stations or payments could be made through another system. A different payment system will be required for those vehicles that do not utilize motor fueling stations.

Table 3.1 provides a more comprehensive illustration of the functionality that each of the above implementation options enables as well as benefits and consequences associated with each function.

Table 3.1: Functionality Enabled by Implementation Options

Parameter	Explanation	Benefits	Consequences	Simple -Fuel-Consumption Based	Moderate -OBD II / Cellular	Complex -High Res GPS
Distance						
Travel Distance	Proportional to distance traveled.	Basic requirement for VMT based charges. Easily measurable.	Alone does not enable charges to vary by time or location and does not permit revenue to be apportioned accurately among jurisdictions.	√	√	√
Time						
Time of Day/Day of Week	Vary charges by time of day and/or day of week.	Allows charges to be based on time of day and/or day of week (e.g., peak periods).	Requires technology that can receive accurate local times throughout the year. Alone does not enable charges to vary by use of specific facilities during specific times.		√	√
Location						
Jurisdiction or Cordon-based	Vary charges by if travel occurs in a defined area.	Allows charges to vary by jurisdiction or in congestion zones.	Requires location based system in vehicles.		√	√
Roadway or Facility	Vary charges if travel occurs on a specific facility.	Enables charges to vary by specific facility (e.g., toll facility).	Requires more expensive technology to deploy that can determine specific roadway of travel.			√
Lane-based	Vary charges by lane of travel (e.g., HOT lane).	Enables charges to vary for those using express facilities or special purpose lanes.	May require overhead or in-lane sensors to communicate with vehicle to achieve needed accuracy.			???

Table 3.1: Functionality Enabled by Implementation Options (Continued)

Parameter	Explanation	Benefits	Consequences	Simple -Fuel-Consumption Based	Moderate -OBD II / Cellular	Complex -High Res GPS
External						
Traffic Congestion	Vary charges by current LOS on a facility or along a corridor.	Can assist in dissuading travel in order to reduce congestion delays.	Requires knowledge of traffic congestion periods at a given time and accurate location of the vehicle.			√
Environmental Regional	Vary charges by level of regional air quality index (code red days).	Can assist in dissuading travel when environmental impacts reach defined negative levels.	Requires knowledge of regional air quality status and location to ensure vehicle is within area covered.		√	√
Vehicle Characteristics – Fixed						
Type	Vary charges by type of vehicle (passenger car, commercial vehicle, transit vehicle, etc.)	Allows charges to vary by type of vehicle.		√	√	√
Weight Class	Vary charges by vehicle weight class or GVWR.	Allows charges to vary by weight of vehicle.	Assumption that a high GVWR vehicle is carrying a heavy load may not be true.	√	√	√
Axles	Vary charges by number of axles.	Allows charges to vary by approximation for weight of vehicle.	Assumption that more axles means that a vehicle is actually carrying a heavy load may not be true. May not accurately reflect weight.	√	√	√
Emissions Estimated	Vary charges by EPA emission estimates for vehicle.	Allows charges to vary according to EPA emissions estimates.	Emissions ratings for all vehicles required/	√	√	√
Energy Efficiency Est.	Vary charges by estimated fuel economy rating.	Allows charges to vary according to fuel economy rating.	Fuel economy ratings for all vehicles required.	√	√	√

Table 3.1: Functionality Enabled by Implementation Options (Continued)

Parameter	Explanation	Benefits	Consequences	Simple -Fuel-Consumption Based	Moderate -OBD II / Cellular	Complex -High Res GPS
Vehicle Characteristics – Dynamic						
Weight Actual	Vary charges by actual weight.	Allows charges to vary by estimated actual weight of vehicle.	Method for estimating actual weight required (e.g., WIM).		√	√
Emissions Actual	Very charges by actual emissions.	Allows charges to vary according to actual emissions estimates.	Requires greater in-car sophistication to provide actual emissions estimates.		√	√
Energy Efficiency Actual	Vary charges by actual energy efficiency.	Allows charges to vary according to actual fuel economy estimates.	Requires greater in-car sophistication to provide actual fuel economy estimates.		√	√
Occupancy	Vary charges by actual vehicle occupancy.	Allows vehicle occupancy to factor into charging scheme.	Requires greater in-car sophistication to provide actual occupancy estimates (and distinguish people from other heavy objects).		√	√

Table 3.1: Functionality Enabled by Implementation Options (Continued)

Parameter	Explanation	Benefits	Consequences	Simple -Fuel-Consumption Based	Moderate -OBD II / Cellular	Complex -High Res GPS
Vehicle Characteristics – Dynamic						
Weight Actual	Vary charges by actual weight.	Allows charges to vary by estimated actual weight of vehicle.	Method for estimating actual weight required (e.g., WIM).		√	√
Emissions Actual	Very charges by actual emissions.	Allows charges to vary according to actual emissions estimates.	Requires greater in-car sophistication to provide actual emissions estimates.		√	√
Energy Efficiency Actual	Vary charges by actual energy efficiency.	Allows charges to vary according to actual fuel economy estimates.	Requires greater in-car sophistication to provide actual fuel economy estimates.		√	√
Occupancy	Vary charges by actual vehicle occupancy.	Allows vehicle occupancy to factor into charging scheme.	Requires greater in-car sophistication to provide actual occupancy estimates (and distinguish people from other heavy objects).		√	√

4.0 Administrative Requirements for VMT Charges

4.1 Process Administrative Requirements

This section identifies the administrative process requirements that need to be addressed in order to implement multi-state VMT-based charges. Where appropriate, it relates those administrative requirements to the three system implementation options.

There are specific, administrative process functions and administrative governance arrangements that will be required in order to collect VMT-based charges under each of the three generic implementation options described above. In addition, there are options for what type of institution will administer VMT-based charges. The administrative functions will be similar under each institutional arrangement. These administrative functions described below include both "specific process administrative requirements" and "governance administrative requirements."

Specific process administrative requirements include, but are not limited to, the procedures required for:

- Enrolling user participants (either volunteer or mandatory)
- Accumulating mileages and charges due, by state and by agency
- Calculating and reconciling state and agency mileage
- Distributing revenues among the states and other agencies
- Calculating and billing the charges to users (with consideration that there may be multiple methods of billing) and utilizing credit and debit card-based payment procedures
- Maintaining user interface and communication
- Auditing, security and enforcement to assure collection of charges from users and to assure the equitable distribution of the charges among agencies
- Identifying specific state and multi-state administrative units and their respective responsibilities
- Governance procedures for resolving issues between states and for defining multi-state agreements versus state responsibilities, and
- State and other agency membership rules and requirements.

Each of these is discussed below with a description of the nature and scope of the requirement and, where possible, how the administration might differ among the three major technology approaches.

Many of these administrative requirements are already in place for state administration of motor vehicle registrations, motor fuel taxes and toll collections. Estimates are cited here of the

administrative costs now being incurred for the existing fees, including motor fuel taxes and registration fees.

Enrolling User Participants (Volunteer or Mandatory)

For motor fuel taxes, there is no administrative requirement related to user enrollment, but there must be such an administrative function for VMT-based charges under each of the technology options. Enrolling user participants is closely linked to all further interactions with the participants, including fee calculations, fee collections and maintaining user interfaces and communications.

All of the implementation options – simple, moderate and complex -- require enrolling user participants. Even in the simple system, involving VMT charge collection based on estimated fuel consumption, the user's ID must be known in order to maintain payment records. However, under the simple system, payment would likely occur at the fueling station each time fuel is purchased ("pay at the pump"). No further user transactions would be necessary, except if the user contests the payment calculations. The moderate and complex systems both involve additional transactions with users after enrollment.

Enrollment of users could be either mandatory or voluntary. Voluntary VMT-based charge systems will have more straightforward enrollment rules, but will only cover those vehicles whose owners choose a VMT-based charge system rather than a still continuing alternative charge system (i.e., fuel taxes and registration fees). Voluntary systems may not make much of an impact unless strong incentives are established for enrollment, such as the opportunity to save on charges. For example, a high annual fee per vehicle might be set, with the alternative of reporting vehicle miles of travel utilizing a reliable reporting mechanism (which could be through a pay at the pump system or through a private state-licensed GPS-based or OBD-II/cellular-based VMT miles of travel compiler). Voluntary enrollment is not considered to be viable, except for during a transition period when users could, for example, opt out of motor fuel taxes while opting to pay VMT-based charges.

Enrolling user participants is a major administrative challenge for mandatory VMT-based charge systems. Basing enrollments on the current files for state vehicle registrations is the only straightforward method of enrolling all of the users who must be enrolled. There are currently vehicles being operated that are unregistered, that have lapsed registrations or that use bogus license plates. Enforcement to minimize evasion and ensure valid collections will be equally as important or more important for VMT charges as it is today for registration fees, associated charges, such as local property taxes, and fuel taxes. Registration fees differ by vehicle type. States will also have an interest in collecting VMT based charges, which vary among vehicle types, including at least the consideration of vehicle weights and axles and perhaps vary based on other characteristics.

States that require insurance for motor vehicle operators or lessors might also consider cooperative arrangements with automobile insurance companies, whether or not insurance companies are utilizing pay as you drive. If an insurance company is using pay as you drive, there is a common overlap of interest in the state and the insurance company for monitoring

and collecting charges based on vehicle miles of travel. Insurance companies may also wish to charge different fees by time of day or by facility. Cost reductions in enrollment and in other functions could be achieved if there are similar interests by states and insurance companies. It should be noted that insurance information is also highly automated, and electronic interfaces with DMVs have been a consistent trend.

The costs and efforts needed for setting up a separate entity to enroll and bill customers should not be minimized. Billing itself is a significant cost, and the establishment and maintenance of a separate database could be substantial. States could use the DMV process as the mandatory enrollment mechanism and for billing. DMVs maintain a name and address of every registered vehicle (mandatory enrollment) in the state. While the addresses may not be up to date, they would be able to bill customers, and if not paid, then the vehicles would be not allowed to be registered as well. While this is significant work for DMVs, and they would need additional authority, it is likely a less expensive option than duplicative efforts. Many DMVs also have mandatory change of address requirements to ensure record accuracy.

The administrative functions required for enrollment will also depend on the periodicity of the payment for VMT-based charges. This aspect is discussed further below under the requirement for "collections." If an agency determines that payments will be collected every year or every two years in association with registration or re-registration activities, then the administration of the enrollment function might be performed in parallel to the administration of registration fees.

The federal government would experience major challenges in enrolling users for VMT-based charges since it has no vehicle registration files or experience with toll accounts. The federal government would have to base its enrollments on the states' vehicle registration files or would have to create an entirely new enrollment and administrative structure. Since the federal government has no current specific relationship with owners of automobiles and other light duty vehicles, it would either have to rely on state efforts or duplicate the state efforts. Any federal effort would likely require vehicle information and customer record sharing from all states.

Currently, the federal government's most widespread set of interactions with individuals is through the federal income tax system. However, not everyone is required to file income tax forms, and there is no federal reporting or record keeping with regard to vehicle ownership or vehicle miles of travel.

Enrollment should be linked to an already existing system for vehicle registration on a broader scale or toll collection on a lesser scale. In either case, data sharing agreements will be essential elements of keeping enrollment functions efficient and less costly. The development and maintenance of a separate VMT-based charge system is likely to be inefficient and much more costly.

The administrative function of enrolling users and their vehicles and how it is done has ripple ramifications for almost all subsequent VMT administrative functions.

Accessing and Accumulating Mileage Charges by State and by Agency

Alternative technologies are available, as described in the previous section, through which mileage and charges can be calculated, but the administration processing of the information is an important, additional function. Accurate mileage information may be needed for each vehicle or at least for each vehicle owner by jurisdiction or by agency. Data collection and assurance of data quality will be a challenging aspect of administering VMT-based charges.

The potential problems and complications of self reporting of mileage for light duty and household vehicles requires the need for an electronic system that will automate most aspects of record keeping and reporting of vehicle miles of travel. The important aspects of optional approaches to electronic record keeping and reporting have been described in many recent research reports, and are documented usefully in the *TRB Special Report 299* referenced above and available on the I-95 Corridor Coalition's website.

For the simple system, an approximate estimate of miles accrued since the last refueling will be made at the motor fuel station. Since the miles are not recorded in terms of the state or jurisdiction in which the travel occurred, the revenue would simply accrue to the state (and, if applicable, local jurisdiction) in which refueling takes place. This is what occurs now with the purchase of motor fuel by light duty vehicles. An implicit assumption will continue to be made that fuel purchases reasonably reflect where travel occurs. Of course, for areas near state borders, this is problematic, but the situation with VMT-based charges will not be more problematic than the current situation.

The simple option does not provide for collection of charges from pure electric vehicles or pure natural gas vehicles that can be refueled elsewhere. Such vehicles will have to be assessed charges in some other manner. At its foundation, this approach remains a tax per gallon of fuel. Therefore, it is uncertain what the benefit of a switch to this system offers in terms of distance-based charging. At a minimum, the next logical step is to determine how alternative fueled vehicles would be handled in a multi-state environment, and what added costs of administration and collection would be required for those vehicles. Those vehicles would likely require some aspects of the more complex options in order to be charged on the basis of VMT.

For the moderate or complex options, administrative functions will include periodic or even continuous recording of miles of travel by jurisdiction, and also by time of day and facility if congestion-pricing charges are to be applied. For the moderate and complex systems, this information can either be stored in the vehicle itself, allowing for less frequent data transfers, or could be calculated centrally with data transfers at more frequent intervals. The moderate system will presumably accumulate VMT by state and perhaps by major jurisdiction and can also identify the time of day when the travel occurred. The complex system will perform all of these functions and will also have the capability to compile and store information on the facility utilized. Both cellular systems and GPS systems can have sufficient communications capacities to upload VMT data frequently. A back office administrative function will monitor and check on all user accounts.

The functions of accessing and accumulating mileage by state are already performed for the owners and operators of heavy vehicles operating in multiple states under the procedures for

the International Registration Plan (IRP) and the International Fuel Tax Agreement (IFTA). Owners of this vehicle type already keep records of their travel and of their fuel purchases for business purposes. While the required IRP and IFTA reporting add administrative burden to the carriers, it is a reasonable byproduct of sound business record keeping. IRP and IFTA rely on self-reporting, with the possibility of audits or other checks of the information that is provided. For both IRP and IFTA, registration fees and fuel taxes are apportioned by the percentage of miles of travel by the owner's fleet in each state. Thus, there is no incentive to underreport on total miles of travel.

IRP and IFTA use a "base state" protocol in which each carrier reports only to a base state of registration for its fleet. Thus, there is no need for duplicative reporting. The states each have audit procedures to assure accuracy. A primary concern among the states has been that other states are sufficiently competent in auditing and enforcement so that carriers do not have an incentive to shop around for a lax base state. Lack of proficiency in auditing and enforcement by a state would serve to reduce the fee distributions due to other states. Therefore, both IRP and IFTA have strong auditing protocols designed by the states and satisfy state standards.

Accumulating mileage and charges by state and by agency for other vehicles under the moderate or the complex option will require performance of new and similar administrative functions for a very large number of additional vehicles. The additional reporting units will include all owners of small and other vehicles that do not now come under IRP and IFTA. Self-reporting of mileage is very problematic for non-IRP vehicle owners due to the lack of record keeping. An excellent and more thorough discussion of the total folly of a self-reporting system is available in the aforementioned *TRB Special Report 299*. Households and perhaps some businesses do not keep records to track their VMT, either in total or by state or by facility. When queried about their annual miles traveled, their reported responses are approximations. Another overwhelming problem with the self-reporting of mileage for VMT-based charges without auditing or checking is the incentive to underreport and thus pay less than what is due.

For federal revenue collection, only total annual mileage is relevant. A federal VMT-based charge does not require jurisdictional breakouts, unless federal law determines that such information must be compiled. The federal government may have interest in the more detailed data available from the moderate and complex implementation options.

IRP and IFTA offer model considerations for assessing and accumulating mileage. E-ZPass also offer some model considerations. However, it should be recognized that significant administrative and complex technological applications are likely to be required for this administrative function. Use of electronic real time data exchanges will be an important consideration.

Calculating the Charges Due to Each Agency

The data and administrative requirements will differ substantially based on whether the requirement for estimating fees is geographically coarse, such as estimating fees due to each state, or geographically very fine, such as estimating charges due to the owners of particular roads (i.e., toll facilities). Both the simple fuel based and OBD-II/cellular data systems will give

an approximation of the jurisdiction in which travel occurs. Under a fuel-based system, states might agree to utilize their current procedures, which basically include an agreement to equate the fuel purchased in a state as a proxy for charges due in the state. Not changing the fee distributions among states with a fuel-based VMT system is an option. The moderate system of cellular-based information could give a good approximation of miles of travel within each state (or major jurisdiction, if applicable) and could include automated procedures for estimating charges due to each state or jurisdiction.

The situation becomes much more complex and data intensive for administration of charges that would be collected by facility and by time of day. Only fine GPS-based information may suffice for assuring the accuracy of usage estimates by facility rather than by broader geographic area. Even finer data is needed if lanes are to be differentiated by a VMT-based system, such as for distinguishing the usage of HOT lanes versus parallel lanes.

Data transmission frequency and accompanying security will be linked to privacy concerns, since the manner of data accumulation and the frequency of transmissions may bear on privacy concerns. Dedicated Short Range Communications (DSRC) could play a role in communications, especially if 5.9 GHz becomes relevant at some time in the future for other transportation applications. The DSRC communications option may present a less expensive communications option that is not tied to private service providers.

For federal VMT-based charges, total mileage and mileage by state are relevant, since there will undoubtedly be use of mileage data in calculating the donor-donee provisions of federal aid programs. For more detailed information than mileages by state, the federal government may not wish to accumulate such information unless the federal government determines (through statute) that it wishes to have such information, perhaps in order to participate in pricing travel based on time of day and facility. Because data on motor fuel tax sales now enters into federal formula allocations to states, any change that impacts on the data collected such as use of VMT data will potentially have an impact on federal allocation methods and formulas.

Recognizing that methods used in calculating charges could significantly impact revenue distributions, especially for toll authorities (by facility location), standard audit procedures would need to be incorporated into this administrative function.

Billing and Collecting Payments from Users and Utilizing Credit and Debit Card-Based Payment Procedures

Billing and collection of payments must be accomplished for all users. If state vehicle registration files are used for enrollments, all users will be enrolled and have accounts. Because current state motor fuel taxes for light duty vehicles approximate, on average, about $8 per month, monthly or more frequent collection or reconciliation may not be desired either by the states or by the users. Current federal motor fuel taxes on light duty vehicles are of a comparable average magnitude of around $100 per vehicle per year.

The motor fuel tax is paid by the person driving the vehicle at the time of refueling; whereas the registration fee and presumably any VMT-based charge are paid by the vehicle owner. This would imply a shift in incidence if VMT-based charges are a replacement for motor fuel taxes.

If the collection of VMT charges only in association with the registration or the re-registration of a vehicle is acceptable, then state collections every one or two years would focus on assessing the vehicle miles of travel of the vehicle being registered or re-registered. Prepayment of the next period's likely VMT charges could be done at the same time as any rebate or additional fee is paid for the most recent period. For most vehicles, prepayment may not be much of an issue, but for very high mileage vehicles, prepayment may be burdensome, and perhaps some exceptions might be made for frequency of payment based on the magnitude of the payments. There might be ranges, such as for each 3,000 miles per year over 10,000 miles, for which payments and payment schedules would change, but mileages and payments would be reconciled the next year or when the vehicle changes ownership. There could also be consideration of discounts for higher mileage vehicles owned by low income households. All payment fee structures and payment schedules are important policy decisions, with administrative consequences.

This payment function could be a function performed either by a public entity such as a Department of Motor Vehicles, by some other state entity, or a private or nonprofit entity operating under an agreement, contract or license. Such an arrangement could be conveyed by a Department of Motor Vehicles, some other state, a multi-state agency or a federal entity.

More complex charge structures such as those that might be implemented for proposed congestion pricing approaches or for purposes of controlling greenhouse gas emissions would possibly involve substantially higher charge levels than are collected today, and thus, a single payment for a full year's time could involve very substantial sums. Either the payer or the payee might then prefer more frequent billing and more frequent collections, depending on whether or not the charges were to be prepaid or billed after the fact.

More frequent collection or reconciliation of VMT-based charges may be desired by agencies depending on the procedures for either prepayment or payment after the fact. However, more frequent payments will entail more challenging administrative efforts and more time by users to make payments. Remittance schedules for registration are staggered so that most of the work evens out over months of the year and are calculated for cash flow purposes. It will be necessary to establish similar staggering of remittance schedules for VMT-based charges.

Consideration also needs to be given to the fact that about 17 million U.S. households do not have bank accounts and are basically reliant on cash-based transactions. Cash payments can, of course, be made at fuel stations as part of the simple approach. The simple option could function much as it does today for such users (who would still need to be enrolled). A yearly or biennial payment of their fees in cash at a motor vehicle agency or other agency is how cash households pay their existing registration fees and other associated fees linked to vehicle registration.

There is likely to be some overlap between those households that do not own autos and those households that do not have bank accounts. More frequent than annual payments at a payment

site would be an added administrative burden both for the agencies and for the cash paying users. However, annual payments might be an acceptable option for agencies, if, as with registration fees, this is in effect a prepayment of the users' likely VMT-based charges for the next year.

Billing and collecting with a pay at the pump system will still involve the establishment and maintenance of user accounts and the accumulation of mileage. However, from the perspective of the user, the billing and payment will be similar to what is experienced today purchasing fuel at the pump. The system must bill automatically for VMT charges that are due. A communications link between the pump itself and the processing point where estimated charges are being calculated will be required. This complicates the transaction from the point of view of the fueling station since the VMT charges are computed by an external entity for each transaction (user) rather than current fuel taxes that are simply proportional to the volume of fuel sold.

The federal government would experience major challenges in billing users. Since the federal government has no current relationship with the owners of light duty vehicles, it would either have to rely on state efforts or duplicate state efforts. More frequent than annual billings for the federal government would seem to be unreasonable given that the average payment would be around $100 per vehicle for light vehicles (based on existing levels of motor fuel tax collections). Heavy vehicles already pay an annual heavy vehicle use tax (HVUT) to the federal government.

The issues surrounding billing users in both the moderate and complex system approaches should not be underestimated. Administrative costs will vary depending on the method of payment (cash, debit or credit cards) and on the channel of payment. Face-to-face counter transactions are much more costly and labor intensive than mail or Internet payments. For example, a state recently cited counter transaction costs of $7.19 per transaction as compared to a $0.63 cost for similar Internet transactions. Some states, like Virginia, also charge additional service fees for counter transactions (a $5 counter fee for face-to-face service).

Maintaining User Interface and Communications

User interface and communications are needed to resolve all changes in status of enrollments and to resolve collection and enforcement issues. Thus, there must be procedures established and functioning for periodic or regular communication between the collection agency and the user. For state registrations under current procedures, the interactions occur most notably when the status of a registration changes or when a registration is renewed. These transactions are now done in various ways, such over the Internet, through the mail or by a visit to a vehicle registration office.

There also needs to be consideration, in the more complex scenarios, of the communication of charges to users. If charges vary by route, by time of day, by level of congestion, etc., then consideration should be given to creating tools that allow users to determine reasonably the expected cost of their trip as well as tools that allow users to determine anticipated monthly or yearly costs. The more complex the set-up, the more information will be required. This also relates to how frequently to bill the user. The less frequently users are billed, the less likely they

are to change their behavior based on the cost of the trip(s). More frequent feedback - maybe even built into the more advanced technology - should provide this information to the user in real time. Another issue to consider is that equity issues will surface when people feel that time of day charges unfairly impacts them because they have no alternative route or less costly mode available to them. This could be especially vexing for persons traveling through a metropolitan area as the shortest path to some other, final destination.

The administrative procedures must also address potential service outages in the communications links between base and on-board systems. As the systems will be expected to have 100 percent geographic coverage of the participating states or the US, and to operate 24/7, problems are likely to occur with at least localized, temporary outages. For extended outages or otherwise "dark" areas, alternative, "manual" procedures will be needed.

The quality and quantity of communications requirements with users, ranging from basic questions and information requests to the more complex and challenging educational components cannot be underestimated. As well, the cost of these customer communications cannot be underestimated. Call center and web capabilities will be required, as well as other communications infrastructure. For example, large state DMV call centers get thousands of calls a day. Efforts are underway to mitigate and reduce call volumes and their associated costs. These types of considerations, coupled with the expectation of customer service, need to be recognized in this VMT administrative function. The more variable the information (charges, charges by facility or time of day, etc.), the more challenging the customer communications and the associated costs to manage and administer this level of interaction.

Enforcement, Auditing and Security, to Assure Collection of Charges from Users and the Equitable Distribution of the Charges among Agencies

Enforcing payment, auditing and security of data will be important and potentially costly administrative functions. For the moderate and complex implementation options, a component to monitor whether the in-vehicle systems are functional while the vehicle is in use will be required. This might be done through a satellite or cellular communications system that can check on a vehicle's status in real time. Administrative procedures will be necessary for enforcing the collection of charges that are due on vehicles with non-functioning systems. Likewise, procedures and accompanying authority will be required to detect and enforce any system tampering.

Auditing will be another important function to assure that reporting and payment of VMT-based charges are legitimate. The heavy vehicle registrants under IRP are required to maintain records that can be audited. The commonality of records and the standards for audits are keys to the ability of both IRP and IFTA to function as "base state" systems. Under the base state concept, the audit procedures have to be sufficient to satisfy other states that they do not need to audit registrants based in other states. The alternative would be that some carriers could face audits from multiple states, with consequent duplications of burdens for both the states and the motor carriers.

The IRP and IFTA come close to enabling the administration of even more detailed types of charges, such as charges that would be applied to local jurisdictions or to specific routes. However, this level of detail is a currently a record-keeping requirement to enable audits rather than a regular reporting requirement.

For light vehicle owners, such records are not currently kept, and automated procedures are considered to be the only option for record keeping that would not add an unreasonable burden to the general public.

Another model that could be built upon for light duty vehicle users is E-ZPass. E-ZPass users have transponders that are readable by each toll agency, and the agency to which the transponder is registered is identified on the transponder. Through reciprocity, the agencies then transfer gross payments for the tolls that are due to each of them from the accounts of each user. Credit card and transaction fees are also calculated based upon Interagency Group (IAG) agreements and settled separately from the toll transfers. In addition, there are daily exchanges of data files indicating what transponders are valid and guaranteed by the issuing agency and which ones are invalid.

User appeals and grievances with billing will need to be addressed and will require considerable back office administrative support in order to resolve such issues fairly and quickly. The experiences with the procedures currently in place under IRP and under E-ZPass may offer some guidance on the implications for the administrative efforts and costs of appeals and grievance resolutions for multi-state VMT-based charges. States with a lot of through traffic would want to ensure that vehicles wouldn't be "paying" their user charges outside of the state and then driving through with no "benefit" to the state under the simple system approach (i.e., avoiding higher gas prices, especially if the state is smaller).

In terms of enforcement, toll agencies employing electronic toll collection have been facing the challenge of toll violators for years. With the move toward more open-road tolling configurations, the challenge of toll violations has been compounded with inadvertent toll violators adding to the problem of those deliberately attempting to evade the toll. Toll operators have used an array of increasingly sophisticated violations enforcement systems (VES) to protect revenue streams with digital imaging and automated license plate recognition (ALPR) technologies to accurately capture license plate images in order to identity vehicle owners without transponders.

Electronic tolling violations processing represents a sizeable administrative cost for the back office, and often other related costs for collection agencies and legal services firms to pursue egregious toll violators. The sophistication of the new VES technologies have spurred many toll operators to begin to consider cashless toll operations, by which travelers are encouraged to have a toll tag, such as E-ZPass, but those drivers without a tag have a bill sent to the vehicle owner. Both the traditional VES applications and newer cashless tolling operations depend upon firm relationships with numerous motor vehicle agencies to allow for a trusted method to identify vehicle owners, including the exchange of and access to real-time registration data. This is especially important regarding temporary registrations and significantly impacts those states where temporary registration information is not available in real time.

New concepts of operations for many, new, cashless toll operations are increasingly dependent on a supportive, state legislative foundation to ensure adequate penalties for non-payment of a post-paid video toll transaction. For these systems to work well on many toll facilities within the Coalition region, multi-state agreements for violation collections and penalties are fundamental. This will certainly be an area in which enforcement and collections of VMT-based charges must be considered collaboratively among toll authorities, DMVs and law enforcement.

A VMT-based charge system will rely on enforcement, auditing and security to ensure system integrity and system confidence by all stakeholders including users. Accurate and timely data will be a driver, and swift and sure penalties will be required to deter fraud and evasion. Currently registration evasion is rooted in other underlying issues, such as insurance costs and fine evasion. Attempts by states to enforce evasion vary. VMT-based charges will likely add another underlying reason contributing to registration evasion. Processes and accompanying authority will be required to address this issue.

Calculating and Reconciling State and Agency Mileages

Calculating and reconciling mileage by state will be a key new function to assure that VMT-based charges are accurately collected and allocated based on the states in which the mileage accrues.

The IAG provides an arrangement that allows reconciliation of toll collections among participating agencies and integrated billing for the account-holding users of the participating facilities. The IAG is a consortium of 25 agencies that offers E-ZPass in 14 states (some inside and some outside the I-95 Corridor Coalition). The governance of the IAG operates through consensus, meaning that all agencies have to agree to all of its procedures.

IRP (and IFTA) procedures require registrants to be able to document and enable evaluation of the accuracy of their reports of vehicle movements and to substantiate the apportionment of their registration fees. Each registrant must maintain operational records that substantiate mileage in each jurisdiction and total mileage traveled everywhere. This is all the information that might be required under a VMT-based charge system, but it would certainly be met with user resistance.
For the more complex charge structures under which payments would be due for travel by specific facility, either the drivers or the automated systems might be expected to substantiate travel on specific facilities or even on specific lanes. This level of complexity requires additional burdens for both the agency responsible for reconciliation and the users of the system under the more complex charging arrangements.

For federal revenue collection, total annual mileage and mileage by state are likely to be relevant. Mileage by state will undoubtedly be used in determinations of the donor-donee provisions of federal aid programs. However, it is conceivable that federal charges could also mirror more complex fee structures for congestion pricing or facility based pricing. In such a case, substantially more coordination of data would be required.

Auditing is a foundational component underpinning this administrative requirement and ease of reporting and calculating a necessity to better manage operational costs. Electronic data exchanges are key here as well.

Distributing Revenues among the States and Other Agencies

An administrative mechanism will need to be established for the clearinghouse function of redistributing revenues among agencies so that each agency receives the net revenues that are due. If accurate mileage accounts are kept, reconciliation and transfers are not difficult.

For federal VMT-based charges, only total annual mileage is relevant and federal revenues would be collected independent of where travel occurred.

The IAG and the IRP (and its Clearinghouse) have already demonstrated the methods and processes and the technology for netting and reconciling revenues accurately and with system confidence. Similar approaches could be employed in any VMT-based charge system.

Preserving Data for Other Purposes

A VMT-based system will produce a wealth of data that, if appropriately aggregated to protect the identity of the vehicle and driver, could support transportation planning and modeling. Data could include vehicle utilization rates by vehicle type, age and fuel type, or, if a GPS-based system were to be used, geography based vehicle and temporal distributions of flow could be used to improve travel demand modeling. Considerations on use and privacy issues for data should be considered up-front in system design.

Preserving data is addressed in this element not for the administration of VMT charges themselves but rather for the potential to make efficient and legitimate use of aggregate data for other purposes such as planning decisions. The design of the administrative arrangements should be oriented from its inception to allow for data to be preserved, consistent with privacy and user concerns. Vehicle miles of travel data will also potentially be useful for federal reporting purposes as well as for supporting project and system planning functions at metropolitan planning organizations and state DOTs. This would not be a new concern for transportation agencies. The Census Bureau has extensive experience with setting privacy safeguards while also allowing aggregation for such purposes. The conduct of travel surveys by MPOs, states, and others also takes into account the balancing of the concerns of privacy and data utilization. However, it is the design from the beginning which best assures that privacy will be preserved while useful data is accumulated and preserved.

4.2 Governance Administrative Requirements

The functions in the governance administrative category include, but are not limited to:

- Identifying specific state and multi-state administrative units and their respective responsibilities

- Governance procedures for resolving issues among states and for defining multi-state agreements versus state responsibilities, and
- State and other agency membership rules and requirements.

Identifying Specific State and Multi-State Administrative Units and Their Respective Responsibilities and Capabilities

Under each functional and institutional option, responsibilities need to be assigned to specific units of government or to private entities that will perform the functions on behalf of these government units. If the federal government administers VMT-based charges, these units also need to be described. The units will need to have the functionally required administrative capabilities and systems, including the data collection technologies and the information management systems.

Governance Procedures for Resolving Issues among States and for Defining Multi-State Agreements versus State Responsibilities

Overall procedures will be needed to resolve any issues that arise among cooperating states and toll agencies. Many of the current arrangements for multi-state and multi-toll agency cooperation are based on a consensus principle – i.e., those who are members must be in consensus about the rules and procedures for resolving issues. Procedures are likely to follow the precedents of the IRP, IFTA, and IAG.

State and Other Agency Membership Rules and Requirements

The membership rules establish minimum requirements for agency responsibilities under which all agencies will agree that each participating agency has the capability to perform its assigned functions adequately. Rules and requirements are likely to follow the precedents of the IRP, IFTA and IAG.

Chapter six highlights a number of observations regarding governance that can be further reviewed and considered in any future multi-state VMT-based charge program.

5.0 Identification of Cost Drivers and Preliminary Administrative Costs of VMT Charges

5.1 Introduction and Summary of Approach

This chapter identifies the cost drivers associated with the institutional and administrative requirements of multi-state VMT-based charges, and includes preliminary estimates of the potential administrative costs of VMT-based charges. It briefly relates the cost drivers for administrative and institutional requirements to the three system functionality options described in chapter 3. However, many but not all of the cost drivers are somewhat independent of the variables in functionality.

Administrative cost drivers do not necessarily include all costs such as the unit costs of the technologies that may be required in vehicles. As with other aspects of the technologies, this chapter acknowledges those costs and provides references to other research more directly addressing implementing technology and equipment costs.

There is other helpful research underway, including Battelle's research under NCHRP project 19-08 on the costs of alternative revenue systems, for which two preliminary task reports have been shared recently with the I-95 Corridor Coalition effort. The NCHRP 19-08 information has not yet been finalized and released by NCHRP. However, the data assembled for NCHRP 19-08 on projected VMT charge administrative costs for the Netherlands are utilized here to help to inform preliminary cost estimates for administration used for the Coalition's work.

The Netherlands invited bids from responsible companies to implement comprehensive VMT-based charges. Because there are no VMT-based charges now in place anywhere in the world for general purpose traffic, the bids from the Netherlands represent the best current approximation of the costs of implementing such charges. All of the information presented here regarding Netherlands costs was compiled by Battelle for the NCHRP 19-08 task reports. The Netherlands implementation is currently on hold, pending government decisions about whether to proceed. As demonstration trials proceed in the United States or in other countries, more evidence on the costs of VMT-based charges will become available.

The Battelle NCHRP 19-08 final report may ultimately recommend other cost estimates for administrative requirements as part of its comprehensive estimates of the costs of VMT-based charges. A final report of the NCHRP report is expected around November 2010.

It is not possible for this project to create a strict "unit cost model" or other specific cost model for cost drivers since the costs will not be linearly dependent on units. In addition, most cost data from various revenue systems is fairly aggregated, and applies to other revenue sources than VMT charges. Thus, the approach to estimating costs includes a great deal of judgment

and acknowledges a substantial amount of uncertainty. The experience cited in the initial NCHRP report documents, and our identification of cost drivers, is intended to provide as solid a basis as is now possible for making judgmental cost estimates. Items missing from the administrative costs presented in this project include the costs of the implementing technology and the costs of setting up the systems, which are addressed in the NCHRP 19-08 project and in other research.

5.2 Current Administrative Costs for Motor Fuel Taxes

Available data from FHWA's Highway Statistics publications on the administrative or collection costs of motor fuel taxes and registration fees in the I-95 Coalition states indicates that administrative costs of motor fuel taxes are relatively low in comparison to the revenues generated. At the national level, an average of 0.82 percent of motor fuel tax receipts have been used for administrative or collection expenses over the past decade, based on information compiled from FHWA's annual reports of Highway Statistics. The figure is comparable for Coalition states, at an estimated level of 0.86 percent. In reviewing data for the individual states, however, this percentage fluctuates between 0.36 percent (Rhode Island) and 1.40 percent (North Carolina), although the median is estimated at 0.93 percent. Variations are not particularly meaningful, due to the different ways in which states may accumulate and report administrative costs.

The NCHRP 19-08 report has compiled some information on these costs from Highway Statistics and has also asked specific states for additional more detailed data on their motor fuel tax administrative costs. All of this information indicates consistently that the administrative costs of motor fuel taxes are very low in relation to revenues collected. While cost is definitely not the only important factor in comparing potential VMT-based charges to motor fuel taxes, it will certainly receive attention in deliberations over future revenue sources at the state and federal level.

5.3 Current Administrative Costs for Vehicle Registration Fees

For this project, the percentage of motor vehicle receipts that are used for collection expenses and the average cost per vehicle of collection expenses for registration fees were calculated using data from FHWA Highway Statistics tables for the period 1997 to 2007. At the aggregate national level (for all states combined) and in the I-95 Coalition member states, 11.0 percent and 12.8 percent of the motor vehicle receipts are used for collection expenses, respectively, at a cost of almost $13 per vehicle at the national level, and almost $12 per vehicle for Coalition member states. Again, the share of revenues used for collection expenses and the cost per vehicle fluctuates across Coalition member states. For instance, in Delaware, less than 4 percent of the motor vehicle receipts pay for collection expenses, compared to over 27 percent in South Carolina. These fluctuations are again due both to differing requirements, such as for vehicle inspections, and the differing protocols used in reporting administrative costs. In some states,

localities perform some of these functions, so costs are not comparable to those of other states. The NCHRP 19-08 report did not compile the administrative costs for registration fees, since their focus was on alternatives to motor fuel taxes. Table 1 shows the administrative costs of registration fees for the I-95 Coalition states in relation to registration revenues and in relation to the numbers of vehicles.

Table 5.1: Collection Costs as a Percentage of Total Receipts for Motor Fuel Taxes and Motor Vehicle Fees, and Cost of Motor Vehicle Fee Collection per Registered Vehicle (1997-2007)

States	Admin-MFT	Admin-Veh Reg	$/Veh Reg
Connecticut	0.95%	16.35%	$16.30
Delaware	1.10%	3.96%	$5.79
Dist Col		12.01%	$40.99
Florida	1.13%	7.34%	$5.72
Georgia	1.07%	20.89%	$8.85
Maine	0.38%	26.81%	$22.49
Maryland	0.89%	13.76%	$34.55
Massachusetts	0.90%	14.84%	$9.12
New Hampshire	0.49%	17.52%	$16.63
New Jersey	1.00%	15.70%	$16.64
New York	1.00%	17.97%	$14.45
North Carolina	1.40%	14.41%	$9.39
Pennsylvania	0.86%	8.97%	$8.12
Rhode Island	0.36%	21.62%	$18.76
South Carolina	1.39%	27.11%	$13.95
Vermont	0.92%	10.09%	$21.55
Virginia	0.84%	14.79%	$19.84
I-95 Corridor	**0.86%**	**12.79%**	**$11.88**
National	**0.82%**	**11.04%**	**$12.89**

5.4 Specific Administrative Requirements Which Will Generate Costs

The administrative requirements identified in this analysis include but are not limited to the requirements for the following functions, which have been grouped for the purpose of making cost estimates:

- Enrolling user participants;
- Accumulating mileages and charges due, by state and by agency;
- Calculating and billing the charges to users (with consideration that there may be multiple methods of billing) and utilizing credit and debit card-based payment procedures;

- Maintaining user interface and communication; and auditing, security, and enforcement to assure collection of charges from users and to assure the equitable distribution of the revenues among agencies;
- Calculating and reconciling state and agency mileages;
- Distributing revenues among the states and other agencies;
- Preserving data.

There are common drivers of cost which will impact costs associated with every administrative requirement. These include:

1. number of vehicles or user accounts;
2. vehicle miles traveled;
3. number of participating agencies; and
4. required level of detail in terms of time of day, facility, or geography.

For the first two of these, the cost drivers are relatively proportional to the numbers, although costs will almost certainly decline on a per unit basis for numbers of users as well as for the numbers of agencies involved. For the last factor, the level of geographic or time-of-day or facility specificity is anticipated to drive costs to much higher levels for the more complex VMT charging systems rather than the simpler VMT charging systems.

The NCHRP 19-08 task reports document that toll systems and cordon pricing systems (which are oriented to specific facilities and times) have much higher administrative costs than the costs estimated in that project for VMT systems, which are in turn higher than the costs estimated by NCHRP 19-08 for motor fuel tax systems.

In estimating costs, primary reliance was placed on the bids from the Netherlands, with secondary reliance placed on our own analysis of the ways in which a transition to VMT based charges would potentially impact administrative costs. Information on costs from other planning studies such as for Puget Sound were also reviewed, but not utilized. The Puget Sound and other cost estimates are similar or higher than the costs estimated by using the Netherlands bids and our own estimates.

Each of the specific requirements of administering a VMT charge is discussed below with a description of the nature and scope of the requirement and, where possible, how the drivers of the administrative costs might differ among the three major functionality options.

Enrolling User Participants

Cost drivers for enrollment include but are not limited to:

1. number of accounts;
2. whether state registration files are used as the basis for enrollment;
3. methods and procedures for enrollment such as Internet, mail, visit to DMV office, etc:
4. vehicle ownership changes.

Numbers of accounts - For each account, there will be additional costs over and above current registration costs, primarily for these reasons:

1. valid initial mileage reading information will be required for each vehicle, to be used as the basis for billing future VMT-based charges;
2. re-registration must be more prompt; although registration fees may be valid for one or two years, VMT charges must be collected immediately from a new vehicle owner, and should not be collected from the previous owner of the vehicle; and
3. more effort will need to be expended by each state or by two states to cooperate when vehicle ownership changes in order to facilitate accumulation of miles traveled by the new vehicle owner.

All of the functionality options described in chapter 3 – simple, moderate, and complex – will require some additional administrative costs for enrolling user participants over and above the current enrollment costs for vehicle registration. Even in the simplest system involving a VMT charge collection based on estimated fuel consumption, the user's ID and mileage information must be known in order to establish accounts and later to maintain payment records.

Whether state registration files are used as the basis for enrollments - It is already noted that basing enrollments on the current files for state vehicle registrations is the only straightforward method of enrolling all users. AAMVA officials noted that there are currently vehicles being operated that are unregistered, that have lapsed registrations or that use bogus license plates. States have an interest in collecting VMT-based charges which vary among vehicle types, including at least the consideration of vehicle weights and axles, and perhaps variations based on other characteristics.

A significant cost driver for VMT charges will be whether these existing registration files are used or a duplicative effort is undertaken for enrollments. The costs and efforts needed for establishing a separate entity to enroll and bill customers should not be minimized. Enrolling and the associated billing of users is itself a significant cost driver, and the additional costs for enrollment and maintenance of a separate database could be substantial.

States could use the DMV process as the mandatory enrollment mechanism and for billing. This does not imply that the functions need to be accomplished by the DMV itself. The functions could be performed by another state agency or contracted out, as long as full cooperation is maintained on registration and VMT files. DMVs maintain a name and address of every registered vehicle (mandatory enrollment) in every state. While the addresses may not be up to date, they should sufficient to enable customer billing and if not paid, then the vehicles would not be allowed to be registered or reregistered. While this is significant work for DMVs (or cooperating agencies or contractors) and additional authority would have to be provided by the states, it seems to be a cheaper option than a duplicative system.

Methods and procedures for enrollment such as Internet, mail, visit to DMV office, etc. - Another cost driver will be the methods for enrollment and the number of alternative methods permitted. States are moving to registration renewals on the Internet to save time and money and to reduce the need for users to travel to motor vehicle offices.

Vehicle ownership changes - Vehicle ownership changes will pose major challenges for VMT charge administration and will be a significant cost driver. It is important to recognize that vehicle ownership turnover occurs frequently. An administrative mechanism must be included as part of enrollment that allows for a very timely "de-registration" of the vehicle, an "in-sale" phase (with dealers) and an immediate "re-registration" transaction that confirms the vehicle's new ownership and establishes an account.

Since immediate, electronic registration is not available in all states or for all transactions, administrative approaches must be designed to accommodate vehicles having temporary registrations (a period of time which ranges from 30 to 90 days until the permanent registration is recorded by a DMV). VMT processes will likely require nearly instantaneous transaction capabilities for VMT charge accounts, whereas speed is less necessary for registration fees.

If it were to operate independently of state systems, the federal government would experience major additional costs in enrolling users for VMT-based charges since it has no vehicle registration files (or experience with toll accounts). Since the federal government has no current specific relationship with owners of automobiles and other light duty vehicles, it would either have to rely on state efforts or will need to duplicate the state efforts. Obviously, the cheaper option will be to have one system for all VMT based charges.

Enrollment Cost Conclusions - The major cost driver associated with vehicle VMT charge enrollment will be whether or not enrollment is based on state vehicle registration files. User enrollment will have some additional costs over and above current registration enrollments due to two factors: (1) more information is required and (2) more frequent and more accurate updating of accounts is required, including both prompt information on new registrations and transfers of registrations or deregistration of vehicles. State registration administrative costs, adjusted appropriately, will be the source data. A judgmental addition (fractional multiplier) should be applied and added to the costs of enrollment for current registration fees (including all vehicles and IRP related costs.) If a new registration database, independent of DMV files, were required, cost would be substantially higher.

The costs of enrollment have been estimated in a preliminary manner based upon judgmental estimates of the additional efforts required to speed up and improve the enrollment and de-enrollment processes now used for motor vehicle registrations. Current costs of motor vehicle registrations per vehicle average about $12.00 per year in the I-95 Coalition states, with variations as shown in table 1 above. Assuming 25 percent to 100 percent increase in costs, due to the fact that enrollments will have to occur more quickly and be more accurate, and that de-enrollments will have to receive equal attention, an additional $3 to $12 per vehicle per year might be incurred over and above current administrative costs for registration fees. The comparable estimates by the firms bidding to operate the Dutch system are on the high end of this range. If a duplicate system rather than one building from current vehicle registration data is used, additional costs will be $15 per vehicle to $24 per vehicle, reflecting that the costs now incurred for the registration function would need to be duplicated.

Accessing and Accumulating Mileage Charges by State and Agency

Cost drivers for accessing and accumulating mileages include:

1. number of accounts;
2. frequency of mileage updates for the accounts;
3. required level of detail in terms of time of day, facility, or geography;
4. mileage data collection procedures and technologies; and
5. mileage data transmission procedures and technologies.

Issues related to the number of accounts were discussed in the enrollments section above. Issues related to the frequency of updates are discussed in the collecting and billing section below.

Required level of detail - time of day, facility, or geography - A major cost driver will be whether the requirement for estimating mileages and charges is geographically coarse, such as estimating mileages for each state, or geographically very fine, such as estimating charges owed to the owners of particular roads (e.g. toll facilities) for travel at a particular time of day. Charging issues become much more complex and data intensive for administration of charges that would be collected by facility and by time of day. Only fine GPS-based information may suffice for assuring the accuracy of usage estimates by facility rather than by broader geographic area. Even finer data is needed if lanes are to be differentiated in a VMT-based system, such as for distinguishing the usage of HOV/HOT lanes versus parallel lanes.

Mileage data collection procedures and technologies, and mileage data transmission procedures and technologies - Alternative technologies are available through which mileages and charges can be calculated, but the administration and processing of the information is an important additional function. Accurate mileage information may be needed for each vehicle or at least for each vehicle owner by jurisdiction or by agency. Data collection and assurance of data quality will be significant cost drivers for administering VMT-based charges. These technologies and their costs are being assessed in other studies and are not the topic of this effort. Both cellular systems and GPS systems might have sufficient communications capacities to upload VMT data frequently. A back office administrative function will monitor and check on all user accounts.

As discussed in chapter 4, the functions of accessing and accumulating mileages by state are already performed for the owners and operators of heavy vehicles operating in multiple states under the procedures for the International Registration Plan (IRP).

For federal VMT-based charges, only total annual mileage is likely to be relevant. A federal VMT-based charge will not likely require jurisdictional breakouts, unless federal law determines that such information must be compiled.

Accessing and Accumulating Mileage Cost Conclusions - The preliminary cost estimate is based on use of the information from those bidding to operate the Dutch system as collected by NCHRP 19-08, on a per vehicle account or per mile basis. The per vehicle VMT costs of other charges such as tolls and cordon charges could also be considered as a basis, although these costs would be higher.

Based on the three alternative Dutch bids, the range of costs for accessing and accumulating mileage is $3.73 to $20.36 per vehicle per year. The fairly wide range is due partly to how costs were allocated by the three bidders. The low end or the high end for each function cannot be added to compute the total administrative cost ranges, due to the differences in assumptions by the Dutch bidders about where they included specific costs. However, this range is considered to be reasonable for the likely differences between a simple system of constant VMT-based charges per mile and a more complex system which considers time of day and specific facilities, for which much more record keeping will be required. On a per mile basis, the Dutch estimates range from $.42 to $1.87 per 1,000 VMT.

Simplifying the quantity and frequency of the data could reduce the costs for this function. For example, if only the most basic data on accumulated mileage by jurisdiction were to be collected, rather than data on the use of specific facilities at specific times, the lower range of the costs cited above might be appropriate. However, the basic function still requires full attention to accuracy, particularly with regard to assuring that information is collected on a timely enough basis to allow for transfers of funds among agencies.

Billing and Collecting Payments from Users and Utilizing Credit and Debit Card-Based Payment Procedures

Cost drivers for billing are mostly parallel to those for enrollment, and include but are not limited to:

1. number of accounts;
2. whether state registration files are used as the basis for billing;
3. methods and procedures for billing such as credit card via Internet, mail, visit to DMV office, etc:
4. frequency of billing existing accounts and speed of transition to billing new accounts;
5. required level of detail in terms of time of day, facility, or geography.

Issues related to number of accounts and whether registration files are used are discussed in the enrollments section above, and the same considerations apply to billing and collecting payments.

Methods and procedures for billing - States are doing more with new and less expensive procedures including credit card payments over the Internet, payment via mail with credit card information provided, etc. AAMVA officials noted the importance of keeping any process for VMT-based charges electronic for both the DMV and the customer. As discussed in chapter 4, states are moving to change delivery channels from face-to-face to electronic (use of the Internet) for as many transactions as possible and reduce customers' face-to-face contact. A VMT-based fee system also must recognize the importance of not putting additional burdens (and thereby costs), such as physical vehicle inspections, on DMVs.

Consideration also must be given to the fact that about 17 million U.S. households do not have bank accounts and so are basically reliant on cash-based transactions. A yearly or biannual

payment of charges in cash at a motor vehicle agency or other agency is most likely now to be the procedure used by cash households to pay their existing registration fees. There is likely to be some overlap between those households that do not own autos and those households that do not have bank accounts.

Toll agencies which rely on "open road tolling" employ vehicle roadside identification sensors. Those who have EZ-Pass accounts have the transactions recorded electronically and their accounts are billed for the passage through the gantry. Those without accounts have their license plates photographed, and then an automated system (with human checking) identifies the license plate and generates a bill that is sent to the user. This mail-based system for collections could also be applied to VMT-based charges as well as tolls. However, this is administratively very cumbersome and very costly, particularly when considering the prevalence of very small payments.

Frequency of billing and collecting - Frequency of collection and billing may be the most significant cost driver in administering a VMT charge system. If an agency determines that payments will be collected every year or every two years in association with registration or re-registration activities, then the administration of the enrollment and periodic payment functions might be performed in parallel to the administration of registration fees. Because current state motor fuel taxes for light duty vehicles approximate, on average, about $8 per month, monthly or more frequent collection or reconciliation may not be desired either by the states or by the users.

If the collection of VMT charges only in association with the registration or the re-registration of a vehicle is acceptable, then state collections every one or two years would focus on assessing the vehicle miles of travel of the vehicle being registered or re-registered. Prepayment of the next period's likely VMT charges could be done at the same time as any rebate or additional fee is paid for the most recent period, thus minimizing administrative costs. Refreshing balances in a credit account is the standard practice with E-ZPass. Remittance schedules for registration are staggered so that most of the effort within a DMV is spread throughout the year and similar staggering of remittance schedules could occur for VMT-based charges.

Required level of detail in terms of time-of-day, facility, geography - More complex charge structures such as those that might be implemented for proposed congestion pricing approaches or for purposes of controlling greenhouse gas emissions would possibly involve substantially higher charge levels than are collected today, and thus a single payment for a full year's time could involve very substantial sums. However, more frequent payments will entail more challenging and costly administrative efforts and more time by users to make payments.

Current federal motor fuel taxes on light duty vehicles are of a comparable average magnitude to state fuel taxes of around $100 per vehicle per year. Since the federal government has no current relationship with the owners of light duty vehicles, it would either have to rely on state efforts or duplicate state efforts. More frequent than annual billings for the federal government would seem to be unreasonable and unnecessary.

Billing and Collecting Payments Cost Conclusions - The preliminary cost estimate is based on information from those bidding to operate the Dutch system as collected by NCHRP 19-08, on a

per vehicle account or per mile basis. The frequency of proposed billing would also be a parameter needed to adjust costs. E-ZPass and IAG related costs for billing could also be assembled from agencies or vendors as a basis for billing and collecting costs. However, cost estimates from those sources would be quite high on a per vehicle or per mile basis, since the level of usage varies so substantially for these systems, with occasional users driving up the costs substantially in relation to revenues from those users. The preliminary estimate per vehicle per year based on the three Dutch bids ranges from $5.89 to $27.24.

These figures also vary based upon how the three vendors allocated their costs. The fairly wide range is due partly to how costs were allocated by the three vendors. The low end or the high end for each function cannot be added to calculate total administrative cost ranges, due to the differences in assumptions by the Dutch vendors about where they included specific costs. More frequent billing will be associated with the higher end of the range. If the billing is largely automated, as anticipated by the vendors making bids in the Netherlands, there may be little opportunity to reduce costs by reducing the frequency of billing.

Maintaining User Interface and Communications

User interface and communications cost drivers include (1) level of customer communications regarding the administration of their accounts; and (2) for the more complex charging structures such as congestion pricing, information to the user on the charges accrued.

Level of customer communications - User interface and communications are necessary to resolve all changes in status of enrollment and to resolve collections and enforcement issues. Toll agencies have broad experience with the costs of user interface and communications. The individual toll agencies cooperating on E-ZPass specify their own back office user interface and communication procedures and the performance standards for their back office procedures. Agencies make their own arrangements (in house or contracted out) for their back office customer service centers, which are responsible for tag distribution, answering queries, administering the accounts of the users, and conducting violation enforcement.

Information to the user on charges for complex systems - A complex VMT charging system must also consider the communication of charges to users. If charges vary by route, by time of day, by level of congestion, etc, then consideration should be given to creating tools that allow a user to determine reasonably the expected cost of their trips. The more complex the charging system, the more information will be required. This also gets in to how frequently to bill the user. The less frequently a user is billed, the less likely they are to change their behavior based on the cost of the trip(s). More frequent feedback - maybe even built into the more advanced technology - should consider providing this feedback in real time to the user.

Enforcement, Auditing, and Security to Assure Collection of Charges from Users and Equitable Distribution of Revenues among Agencies

Enforcement and auditing cost drivers will include (1) monitoring the operation of all user equipment associated with VMT charges; (2) monitoring of accounts payment status, and actions to assure payment; and (3) auditing of accounts.

Monitoring of the functioning of all user equipment associated with VMT charges - A technology component to monitor whether the in-vehicle systems are functional while the vehicle is in use will be required in any VMT charge system. This monitoring might be done through a satellite or cellular communications system that can determine a vehicle's status in real time. Administrative procedures will be necessary for enforcing the collection of charges due on vehicles found to have non-functioning systems.

Monitoring of payments status - The actions and frequency of actions taken regarding to lax payments will be a large cost driver. User appeals and grievances with billing will need to be addressed and will require considerable back office administrative support to resolve fairly and quickly. Experience with the procedures currently in place under IRP and under E-ZPass may offer some guidance on the administrative efforts and costs of appeals and grievance resolutions for multi-state VMT-based charges.

Toll agencies employing electronic toll collection have faced the challenge of toll violators for years. With the move toward greater use of open-road tolling configurations, the challenge of toll violations has been compounded with inadvertent toll violators adding to the problem of deliberate toll evasion. Toll operators have used an array of increasingly sophisticated violations enforcement systems (VES) to protect revenue streams, including digital imaging and automated license plate recognition (ALPR) technologies to accurately capture license plate images in order to identity vehicle owners without transponders.

Auditing of accounts - Auditing will be another important function to assure that reporting and payment of VMT-based charges are legitimate. A primary concern among the states will be whether other states are sufficiently competent in auditing and enforcement so that users are held responsible for all legitimate charges. The IRP has record keeping requirements to enable audits rather than a regular reporting requirement. For light duty vehicle owners, such records are not currently kept, and automated procedures are considered to be the only option for record keeping that would not add an unreasonable burden and would be acceptable to the general public.

Violation processing in electronic tolling represents a sizeable administrative cost at the back office. There may also be other related costs for collection agencies and legal services firms to pursue egregious toll violators. The sophistication of the new VES technologies have spurred many toll operators to consider cashless toll operations, by which travelers are encouraged to have a toll tag, such as E-ZPass. Those drivers without a tag have a bill sent to the vehicle owner. Both the traditional VES applications and newer cashless tolling operations depend upon firm relationships with numerous motor vehicle agencies to ensure a trusted method to identify vehicle owners. New concepts of operations for many new cashless toll operations are

increasingly dependent on a supportive state legislative foundation to ensure adequate penalties for non-payment of a post-paid video toll transaction. For these systems to work well on the many toll facilities within the I-95 Coalition region, multi-state agreements for violation collections and penalties are fundamental

User Interface, Communications, Enforcement and Auditing Cost Conclusions - The preliminary estimate is based on information from those bidding to operate the Dutch system as collected by NCHRP 19-08, on a per vehicle or per mile basis, using the estimate of per mile for enforcement costs. These costs should ultimately be compared with estimates of enforcement costs which will be compiled by NCHRP 19-08 and IRP for all of the other types of fees. A preliminary estimate on a per vehicle per year basis from the Dutch bidders is $1.46 to $9.51 per vehicle per year. The fairly wide range is due partly to how costs were allocated by the three bidders. The low ends or the high ends for each function cannot be added to calculate administrative cost ranges, due to the differences in assumptions by the Dutch bidders about where they included specific costs.

The Netherlands bids may be low for U.S. agencies, which tend to place a very high premium on customer responsiveness. Many toll agencies and DMVs want to assure that inquiries and requests are handled expeditiously and with courtesy.

Calculating and Reconciling State and Agency Mileages and Calculating the Revenues Due to Each Agency

Cost drivers for this function will include (1) number of accounts; (2) number of agencies involved in transactions; (3) geographic, time-of-day, facility, and agency detail of charges due; and (4) frequency of calculations. The numbers of accounts and number of agencies and frequency of calculations are straightforward parameters which multiply some of the unit cost factors, whereas geographic and agency detail is a highly complicating and potentially expensive cost driver.

Geographic, time-of-day, facility, and agency detail of charges - For the more complex fee structures under which payments would be due for travel on a specific facility, either the driver or an automated system might be expected to substantiate travel on specific facilities or even on specific lanes. This level of complexity requires additional burdens for both the collecting agency and the users of the system under the more complex charging arrangements.

For federal VMT-based charges, only total annual mileage is likely to be relevant, unless the federal government determines through statute that it wishes to collect additional information, perhaps to participate in pricing travel based on time of day and facility.

Calculating and Reconciling Cost Conclusions - Although this project did not attempt to independently estimate the cost of this function, a credible estimate could be based on the cost experience of IRP. We believe that cost will be insignificant. The IRP, for example, could reconcile more sources of revenues among the states without significantly increased costs.

Distributing Titling Data and Revenues among the States and Other Agencies

Cost drivers for distributing titling data and revenues will be entirely dependent on the ability to build upon or not to build upon the existing systems.

Building Upon Existing Systems for Titling - Titling data must be transferred among states for a VMT-based charge system to operate effectively. The National Motor Vehicle Title and Information System (NMVTIS) is a potential base infrastructure model to build upon as a model or a platform for a multi-state VMT-based charge system. NMVTIS was designed and built to allow states to exchange title data as vehicles traverse state lines and to prevent fraud, especially title washing.

No personal data or information is included in the NMVTIS data elements (the system only includes VIN information) but interoperability among most states currently exists. The lack of full state participation is currently an inhibitor to adopting this system as a platform for VMT charges as is the infrequency of information updates from some states. AAMVA representatives point out that with all but five states currently participating in NMVTIS, about 75 percent of all registered vehicles in the US are currently included in the system, and that the system will include 100 percent of the states and vehicles in the next two to three years. It is important to recognize that the NMVTIS is not a national database; i.e., each state maintains its own data, and that even without personal information included (as is the case with the current data elements), states remain very concerned with protection of the data. In order for the NMVTIS to serve as a base for any VMT-based charge system, personal data on vehicle ownership and ownership transfers would have to be added. This addition of owner specific data, and the sharing of that data with other states or private entities, would be of concern to states.

AAMVA representatives note that states currently work together on the driver side of the business through reciprocity compacts such as the Driver License Compact and the Non-Resident Violators Compact. They noted that these arrangements work well. They also noted that states work well together through the Commercial Driver License System (CDLIS – a federal mandate governing commercial driver licensing) and NMVTIS, as well as IRP. They note that states are accustomed to sharing data though CDLIS and NMVTIS. AAMVA is the current operator of CDLIS and NMVTIS. Their current network, AAMVA-net, provides the link for the exchange of information among states. They noted that there might be a role for them in administering VMT-based programs if their members and board considered and agreed after a comprehensive review.

An administrative mechanism will need to be established for the clearinghouse function of redistributing revenues among agencies so that each agency receives the net revenues it is owed. If accurate mileage accounts are kept, reconciliation and transfers are not difficult. The existing IRP Clearinghouse acts as a netting system for all states (except one) and the Canadian provinces for IRP fees. The Clearinghouse was developed to reduce paperwork for the jurisdictions and to facilitate information exchange and payments. Payments are netted on the 15th of every month. The entire Clearinghouse is wrapped in a procedures manual and

processes. The Clearinghouse does not determine fees. IRP noted that the Clearinghouse saves the states money by providing a template for administration and easing processing time and effort.

For federal VMT-based charges, both total annual mileage and mileage by state is likely to be relevant and federal revenues would likely be collected independent of where travel occurred within the state. However, if more complex federal charges were to be collected, mirroring more complex state or regional charges, then parallel data might also be desired at the federal level.

Distributing Titling Data and Revenues Cost Conclusions - The preliminary estimate for costs associated with this function are included in the preliminary estimate for the costs of user enrollment described in an earlier section of this chapter. Based on IRP experience, the assumption was made that enrollment procedures are vastly augmented and highly coordinated between the states, accounting for the increased estimated costs for user enrollment.

5.5 Total Preliminary Estimates of Administrative Costs

As has been noted throughout this chapter, the preliminary cost estimates used for this chapter are largely derived from bids for operating a VMT-based charge system in the Netherlands. There is currently no VMT charge system for general road users operating anywhere in the world, so any administrative cost assumptions must be based on projections and extrapolation rather than real-world experience. Because each of the three Dutch system bidders allocated their bid costs differently, the total yearly costs of operating or administering their systems provide the best indicator of what these vendors expected their costs to be. The total yearly administrative costs assumed by each vendor ranged from $51 per vehicle to $115 per vehicle. Because the assumptions about the range of enrollment costs in this report is from $3 to $15 per vehicle, and the lowest total Dutch bid included about $14 per vehicle, the range of preliminary estimates of all administrative costs for this project is from $40 per vehicle per year upwards, for systems assumed to have the full functionality specified in the Dutch bid process.

For VMT-based systems with less functionality, such as systems which track only total yearly VMT for each vehicle, the range would likely start at lower levels. However, even choosing (inappropriately) from the lowest level of each of the three Dutch bids for each of the cost elements, the yearly costs per vehicle would not fall below $14 per vehicle. Based on current knowledge regarding administrative requirement, this cost level is not likely achievable.

The NCHRP 19-08 report also included the Dutch bidders' estimates of start-up costs, including equipment and miscellaneous costs. Chief among these was a one-time cost for the new technology on the vehicle, and the start-up costs for this technology from the three bidders ranged from $222 to $283 per vehicle. Even if amortized over an expected 15 years of service for a vehicle, this would add substantially to annual costs. In addition, the issue of who pays arises for this initial equipment.

Our analysis indicates that the costs of enrolling might be lower by $10 or $11 than the lowest Netherlands estimates ($51 per vehicle) by building on existing state registration procedures and files, and that billing and collecting costs might be lowered by another $10 for simple systems collecting only straightforward VMT charges per mile. Our lowest administrative cost estimate for operating a VMT-based charge system is thus $30 to $40 per vehicle.

5.6 VMT Administrative Costs in Context

In the Netherlands, the VMT based charge is suggested to replace a very wide variety of existing fees. Europeans collect much more total revenue from highway usage than is collected in the United States, applying a wide range of fees. On average, the European Countries collect about $1,400 per person per year in highway fees, much of which is used for non-highway purposes. The Netherlands expected to spend only six percent of their expected VMT charge revenues on VMT charge administration. This is a higher percentage for administrative costs than for motor fuel taxes, but a much lower percentage than for toll collections.

The European fees of $1,400 per person per year is in comparison to U.S. expenditures of approximately $120 billion per year on highways, which is about $400 per person per year spent on highways, or about $500 per year per registered vehicle. In the U.S., we collect about 40 cents in combined state and federal fees per gallon of motor fuel. Motor fuel taxes in the U.S. equate to approximately half of all expenditures on highways and local roads. Much of the remainder is made up of local general purpose fees. Combined motor fuel fees at the state and federal levels equate to about $250 per year for all vehicles combined, including heavy long distance trucks, and about $200 per year for light duty vehicles (which average 20 miles per gallon).

If VMT charges replaced all existing charges used for highways (about $500 per vehicle per year), then the lowest estimate of administrative costs for VMT fees per vehicle (with a current estimate of $30 per year) equates to about six percent of total revenues generated, about the same as the Netherlands estimate for collection costs in relation to revenues.

If VMT charges replace only fuel taxes or some other portion of overall highway expenditures, then the percentage associated with administration rises considerably. For a light duty vehicle paying on average $200 per year in motor fuel taxes, a VMT charge which cost $30 per year in administrative expenses would represent 15 percent of revenues generated. By contrast, collection costs for state motor fuel taxes average less than one percent of revenues.

Highly respected studies by U.S. DOT (The 2008 Conditions and Performance Report) and by AASHTO (the 2008 Bottom Line Report) indicate that economically justified U.S. highway capital needs are at least twice as great ($132 billion to $160 billion plus per year) as are existing highway capital investments (about $68 billion per year). Capital investments represent about half of highway expenditures. If adequate revenues were collected for economically beneficial highway investment in the United States, and if VMT charges were used to fund all investments, then the percentage of annual collection costs (using the lowest estimate of $30 per

vehicle) would represent even less than the six percent of costs compared to revenues which was estimated for the Netherlands.

6.0 How Similar or Related Programs Are Administered Today

While there are no general charges imposed on vehicle miles traveled anywhere in the world today, there are lessons to be learned from the administration of existing fees and from the operations of current administrative structures and cooperative agreements. This project conducted research and interviews with relevant agencies and individuals regarding the administration of state registration fees, interagency distribution of heavy vehicle registration fees, cooperation on vehicle titling and registration files, administration of toll revenues, and the distribution of toll revenues across state boundaries. The research and interviews helped to define the issues that must be addressed and the actions that must be taken in order to administer VMT-based charges on a multi-state basis. In addition, the observations by the representatives and officials interviewed are very useful in determining how to proceed from current administrative arrangements to arrangements that include VMT-based charges.

The topics covered in this chapter include state registration fee administration and Departments of Motor Vehicles, cooperative, multi-state agreements such as the International Registration Plan, cooperative arrangements made by toll agencies (the Interagency Group and E-ZPass multi-state data and systems coordination including specifically the National Motor Vehicle Title and Information System (NMVTIS), and most importantly, lessons learned from interviews with officials of the agencies.

6.1 State Registration Fees and Departments of Motor Vehicles

The review of needed administrative functions for VMT-based charges concluded that coordination with vehicle registration files was an important element of administering VMT-based charges. This does not suggest that those institutions responsible for motor vehicle registrations - the state Departments of Motor Vehicles - must or should administer VMT-based charges. But, it does mean that coordination, rather than duplication of enrollment and other functions, would be useful for assuring efficient and effective administration of VMT-based charges and registration fees. A duplication of effort adds to the potential cost and customer confusion regarding VMT-based charges. Because of the significant overlaps in the administration of state registration functions and potential VMT charge functions, a preliminary examination and assessment of the current operating environments in Departments of Motor Vehicles were conducted. This review also revealed potential impacts into any integration of VMT-based charges into DMV operations.

Motor vehicle registrations are administered by Departments of Motor Vehicles in the states. DMVs maintain the basic information files on vehicle registrations, which would also provide a basis for a VMT-based charge system. The registration or re-registration of all motor vehicles

within a state is a periodic function, generally for two years and sometimes for one year. A fee is paid for registration based on vehicle characteristics, with modifications for owners' characteristics, such as where they live within a state. While in the past, many of these transactions were completed face-to-face or through the mail, states are now shifting these types of transactions to the Internet to save time and money and to reduce the need for users to visit motor vehicle offices. The same type of trend is occurring surrounding initial registration, as states are requiring dealers and agents to move to electronic registration. State officials recognized that incorporating VMT charges into Internet-based registrations will complicate that process, but it would be essential for any integration from a cost and efficiency standpoint. State representatives also pointed out that any VMT-based transaction involving them must be electronic.

For heavy vehicles engaged in interstate commerce, states also collect registration fees for themselves and on behalf of other states for vehicles based in their state. These fees are then apportioned to all other states in which the vehicles travel based on the percentage of travel by state. The International Registration Plan (IRP) serves as the clearinghouse for distributing apportioned heavy vehicle fees among the states and the Canadian provinces.

DMVs may very well be the best-positioned government institution to administer a VMT-based charge program, particularly surrounding the enrollment of users function. DMVs have the basic information (vehicle and vehicle owner data), the operational knowledge surrounding customer identification and interface, billing and collection experience and systems and the technical infrastructure (through AAMVA) to exchange information with other states. Most also have the experience of working through the International Registration Plan (IRP) Clearinghouse and netting apportioned registration fees. But while DMVs may be the best-positioned current entity for administering a VMT-charge, they lack the institutional capacity to execute and maintain a VMT-based system without external (private or quasi-private) assistance and/or extensive additional resources (such as personnel and systems redesigns). Existing registration processes will require re-engineering, and customer contact avenues (such as call centers) will also need to be fortified.

State DMVs have a basic understanding of the VMT charge concept. Those state DMVs housed in DOT's have a more detailed understanding of the concept, but there is still very little understanding of how the technology and the administrative functions might work together for DMV to serve as the institutional base for VMT charges. Absent understanding the technology options and a selected technology approach, the "how to" is difficult to grasp from an operational perspective. This potential connection needs to be further reviewed with DMVs and supplemented with additional information.

Some motor vehicle administrators could envision a VMT charge system in the longer term combined with their DMV registration system. This vision is more prevalent in states that are currently completing or expecting to complete major system upgrades in the near future. One state surveyed noted that they could (with additional resources) implement VMT charges if an after-the-fact odometer-based verification program was implemented. They noted that the process could be incorporated in routine safety or emission inspection visits and that billing could be completed as part of the registration process. But even this relatively simple approach would require additional resources.

State representatives noted that change is possible, and like any change, concepts like VMT charges, will take time to be understood and absorbed by everyone involved, including DMVs and their customers. While there is a possibility of connecting VMT charges, especially enrollment and mileage recording, into existing safety or emission programs, it should be noted that some states are eliminating these programs as a cost reduction effort. This direction would eliminate this potential connection.

6.2 The Ten Key Observations from DMV Interviews

Our examination of current, state registration processes led to ten highly important observations about the status of current processes and their potential adaptability to adding VMT-based charges.

1. States' current registration processes are highly automated and operate efficiently, but the addition of a VMT-based charge to the registration process is a concern.

Overwhelmingly, state DMV officials interviewed for this project cited the automation of their existing registration systems as one of the principal reasons their registration process works well. They stated that while all their processes may not be highly automated, annual or biennial registration is one of the most highly automated processes of the DMV. Motorists can understand it, and it is easy to complete.

States have already added other related fees to the basic registration fee and have incorporated those fees into the overall process. But officials noted that those fees are much easier to understand and are not as variable as a VMT charge might be. The addition of any VMT-based charge to the current renewal process was met with concern by the DMV Administrators who were interviewed for this project, based on the potential impact this "add on" layer would have on a process that works well and is already so highly automated.

2. States use a variety of transaction service channels and are pushing more transactions to the Internet, and a VMT-based system would need to accommodate current state trends to move as many transactions as possible to the Internet.

In order to improve efficiency and reduce costs, states are looking to complete more of their registration processes electronically; VMT charge administrative functions will also need to be as highly electronic and as paperless as possible. While many states still have even splits in service channel transactions among the mail, the Internet and the service counter, there is a growing trend to move as many transactions as possible to the Internet. State motivations are to reduce operating costs and provide greater customer convenience. States, such as Virginia, are

using incentives (a $1 fee discount) to move customers to the Internet service channel. Conversely, Virginia charges a $5 fee for counter service to reduce face-to-face visits. Recently, a state motor vehicle official noted that 43 percent of transactions do not require an office visit, and they are moving as many of those transactions as possible to the Internet. They are also investigating the use of digital certificates to verify identity and protect personal information. That same state noted that this direction is critical, as counter transactions on average cost $7.19 per transaction to complete and online service transactions cost $0.63 on average.

AAMVA representatives noted the importance of keeping any process for collecting VMT-based charges electronic for both the DMV and the customer. AAMVA confirmed that states are attempting to change delivery channels from face-to-face to electronic (use of the Internet) for as many transactions as possible and reduce customers' face-to-face contact. They noted that some DMVs are even considering remote vision tests. A VMT-based charge system also must recognize the importance of not putting additional burdens (and thereby costs), such as physical vehicle inspections, on DMVs. AAMVA officials noted that a VMT-based charge system should be a "fully electronic and fully automated" system. Another example of this movement to automated servicing relates to insurance verification and information processing. Many states are moving toward electronic insurance verification to receive information from insurance companies and link new insurance policies and cancellations to registration files. These packaged solutions assist states in determining time in point insurance lapses and assist in registration evasion. Many of these systems were once more manual and inefficient.

Having been the "paper tiger" for many years, state DMVs are moving away from paper processes to highly electronic, paperless processes. For example, Virginia is considering requiring all automobile dealers to complete mandatory electronic registration at dealerships, and almost all of the states interviewed have partnered with third party providers to provide optional electronic titling and registration at dealerships and for casual sales transacted at agent offices. States, such as Pennsylvania, have begun requiring mandatory electronic liens versus the printing of titles, and other states are considering eliminating mailed renewal notices to customers. Much of this is done to improve efficiencies, as well as to further reduce costs due to budget constraints. States noted that any VMT charge process must be fully electronic if possible and as paperless as possible.

3. Some states' current registration processes are handled by entities other than the DMV, and any VMT-based charge system in those states would need to interface with that structure.

County clerks in New York and county tax collectors in Florida are the primary registration conduits for titling and registering vehicles. This localized system also exists in other states. The process in those states is complicated by the variations in additional fees and personal property taxes that may be assessed within these county-based systems. These local entities also receive a percentage of each transaction or a flat fee. The incorporation of a VMT charge could be met with resistance from these entities, especially if it impacts their revenue stream or adds additional administrative burden without additional compensation. Any VMT charge

system administration included in the registration process must address county involvement in those states that use this structure.

4. Vehicle ownership changes pose unique challenges for VMT-based charge systems, and these challenges will be more acute in states with less advanced administrative systems.

There is a clear recognition that a VMT-based charge system will be transaction based, ranging from mileage calculations to specific charges by facility or time of day. It is also important to recognize that vehicle ownership transactions occur on a regular basis. To effectively accommodate VMT-based charges, an administrative mechanism must be included as part of enrollment that allows for a "de-registration" of the vehicle, an "in-sale" phase (with dealers) and an immediate "re-registration" transaction that confirms new ownership. Additionally, since immediate, electronic registration is not available in all states for all transactions, administrative approaches must be designed to accommodate vehicles having temporary registrations (a period of time –usually 30-90 days - until permanent registration is recorded by the DMV). VMT charges will likely require instantaneous transaction capability. AAMVA representatives noted that, while many DMVs are upgrading their processing systems, many systems still remain very old and outdated – not easy to change or not using the latest technology. They noted that DMVs lack "eloquent systems," and that this would create administrative issues and costs for DMVs if they were to be the VMT charge administrative institution.

5. Registration evasion is an issue in some states, is difficult to quantify, and is at least partly the result of an inability of motorists to pay for other requirements, such as mandatory insurance.

This is primarily regarded as a law enforcement issue. Most state officials interviewed could not provide evasion rates or specific details on the extent of registration evasion but did note that anecdotally there are issues. Pennsylvania representatives stated that there are many underlying issues that result in registration evasion, and rates are quantified loosely based on uninsured motorist rates. In Pennsylvania, approximately an 8 percent uninsured motorist rate exists, which could translate to an 8 percent registration evasion rate. Fines are also low for evasion. DMV representatives noted that evasion is primarily based on a customer's ability to pay and adding one more cost, such as a VMT charge, will exacerbate the customer's inability to pay, logically creating one more weak point in the system and potentially further increasing evasion. States that have increased registration fees, such as Florida, have noted that evasion is becoming more of an issue. In some states, such as Virginia, local law enforcement officials rigorously enforce registration requirements. To avoid VMT charge evasion, enforcement will need to be robust, fines will need to be consequential and/or consideration should be made for VMT charges to be paid as an upfront charge.

AAMVA officials also noted that a VMT-based charge program could also be an added incentive for fraud and evasion and that the system has to be "bullet-proof" to deter such

attempts. AAMVA representatives also pointed out that there are costs associated with collecting fees and enforcing payments. They noted that DMVs now take enforcement actions for lack of payments, such as insurance lapses, parking fines or child support, but that these also add to the core business administrative burden. Any actions such as registration suspensions for failure to pay VMT charges would need to depend on the billing cycle, and it would be inadvisable to do so monthly. This would add greatly to the DMVs administrative burden.

6. Although any VMT-based administrative system has to be easy and electronic, credit card fees are of concern and payment frequency is a critical parameter.

AAMVA representatives also noted that they believe all DMV vehicle transactions will be electronic in 20 years, and states are moving aggressively toward electronic transactions as budgets allow and, in some cases, require. Even with the potential migration to a fully electronic registration and titling process in states, AAMVA officials noted states would still have new costs associated with collecting VMT charges, including costs attributed to changes to processes and information systems. They pointed out that, with this movement to a more "electronic DMV," a VMT-based system needs to be "simple."

AAMVA officials noted that many DMVs are now accepting credit cards as a payment mechanism for transactions, such as registration, but that high cost transactions could be a concern to DMVs because of credit card transaction charges. As an example, Pennsylvania does not allow credit card charging for IRP payments due to the transaction costs associated with the usually large total payment. Credit card transactions costs are a percentage of the total cost of the service. The addition of VMT charges to credit card use transactions could increase state administration costs.

AAMVA representatives noted that payment frequency would need to be considered to ensure anticipated cash flows and that DMVs now operate on staggered systems of registration. They pointed out that while it may be an administrative concern, monthly VMT charges might make sense from a customer perspective so customers can see how much it is costing them to drive each month. They also noted that pre-payment may be an option, but it would increase the DMVs' administrative burden.

7. Linking the driver and the vehicle will be a priority for VMT-based systems, and current linkages are not robust.

AAMVA officials noted that it would be beneficial if the driver information and the registration ownership/information of a vehicle could be linked, as this would provide more enforcement options. However, they also pointed out that for many states, those linkages are not likely because DMV driver and vehicle systems are not linked. In addition in some states, they noted that different agencies administer driver and vehicle services. They likened VMT-based

payments to current electronic red light enforcement, where the registered vehicle owner is "charged with" or cited for the infraction of running a red light no matter who is driving. A similar approach would be needed for VMT charge evasion and enforcement.

VMT information vacuums will exist in states where current vehicle ownership is not known and temporary registration authorization is provided but not linked to the state's registration database. States are mixed on how they handle temporary registrations. Some view this as a "temporary" situation (around 30-90 days) where manual processes are more cost effective, and others want to be able to track the vehicle ownership electronically in all phases of registration. Some state officials interviewed noted they do not link their temporary registrations to their registration database, some indicated they do and some are working toward this goal. There may be instances where the vehicle owner is not known and travel mileage is not associated with the current "owner." Toll authorities noted this lack of ownership information is becoming a growing concern especially with the consideration of open-road tolling.

8. Technology issues are of concern, especially the speed of adaptation of technologies in relation to state budget constraints.

AAMVA officials recognized that technology used in a VMT-based system can impact the administrative and institutional burdens placed on DMVs. They noted this possibility with any aftermarket vehicle installations and also with any monitoring of aftermarket equipment. Aftermarket tamper checks, odometer checks or verifications would be viewed with concern due to the increased administrative burden on states, especially those without safety or emission inspections. They also noted that some jurisdictions, such as Washington, D.C., are eliminating safety inspections to ease costs and current administrative burdens. New Jersey also recently announced changes to its vehicle inspection program moving away from a state-operated system.

9. While DMV officials understand why their agency may be the "most likely" perceived institution to administer a VMT-based program, they resoundingly declared that they are not the most suited entity and can't point specifically to which institutional entity might carry out this function.

DMV officials overwhelmingly do not believe their agency should be the "point" for VMT-based charge administration. They noted that with many huge programs, there is a misconception that new initiatives can easily be layered on or folded into the DMV, and that is not always the case. A DMV might "make sense" as the VMT charge institution, but officials noted that new responsibility would detract from the core mission, require a much different administrative perspective and require the development of new operational systems with unfamiliar processes and procedures. They noted that Departments of Finance, Taxation or Revenue might be better suited, as some now are responsible for fuel tax collection and have annual contact with every taxpayer. Some DMV representatives were also reluctant to name any other state agency as a likely VMT administering agency. Some noted that toll authorities

might be better suited based on their experience with E-ZPass and backroom operations. Even when they did not cite a specific entity, DMV representatives pointed out that the administering entity must be trusted, must understand the complexity of the program and must have the capacity to collect, calculate distributions and actually distribute funds.

It was noted that state officials do have a level of comfort with AAAMV and IRP, based on past performance, and that it would be difficult for other entities, without past performance histories, to secure that trust. They point out that one of the key criteria for successful VMT charge administration would be an understanding of a large, back office environment (such as exists within toll authorities and credit card companies). DMV officials recognize the limitations of their agency's current capabilities and believe that a private entity, under contract, could be the most viable institution to consider for VMT charge administration.

10. State DMVs see a role for the private sector in administering VMT-based charges.

State DMVs currently have arrangements with the private sector to handle a variety of core business functions. For example, one DMV uses a private sector provider to handle its call center. Many use third party providers to interface with automobile dealers and agents to provide for electronic titling and registration functions. Some use IRP contractors to handle system administration and auditing. Some use private sector firms for temporary registration tracking. Increasingly, DMVs have looked to the private sector to supplement resources, implement electronic transactions and help reduce costs. Florida most recently used a model that permits a vendor to design and implement its temporary tag system on a cost per transaction basis. DMV officials noted that this is the trend because of increasing transaction volumes and higher customer service expectations, coupled with a need to cut operational costs due to budget reductions. Some DMVs see the use of a private sector contractor for administering VMT charges as a source of concern, especially as it relates to sharing of personal data and revenue reliability. Others point out that, under a clearly defined contract, (specifically regarding the usage, storage and protection of personally identifiable information) such an arrangement may work.

There would thus be many major administrative challenges for DMVs or others in implementing a VMT-based charge structure. Funding (who pays), computer systems impacts, lack of staffing resources and capability and lack of knowledge surrounding the concept are the greatest administrative challenges facing DMVs in implementing a VMT-based charge structure. The DMVs would be challenged by privacy issues, the operational and fiscal impact would be significant and the required technology changes/new systems would be extensive. The New York DMV Administrator noted that they have trimmed their work force from 3100 people to 2700 people and that the staffing level will continue to decline. It is unlikely that this DMV or others will have larger staffs in the future, based on the cost cutting underway in most states. More in-depth reviews are necessary to determine efficient links with the DMV/and or their registration files, and other administrative alternatives need to be considered to avoid duplication of effort.

6.3 Cooperative Agreements among States and with the Federal Government and among Other Agencies

The International Registration Plan (IRP)

The International Registration Plan applies to heavy commercial vehicles of 26,000 pound gross registered weight or above and vehicles with three or more axles operating interstate. Both straight trucks and combination trucks are covered by the IRP. For hire heavy vehicles (buses) used for the transportation of persons also register under the IRP. Registration fees are due to each state based on the percentage of miles traveled in each state compared to the total miles traveled. The IRP clearinghouse serves to redistribute revenues among the states and Canadian provinces. The three most important elements of IRP, according to IRP officials are uniformity, positive economic impact (revenues for states) and an efficient system for carriers and jurisdictions.

For heavy vehicles, IRP already compiles information on the miles of travel by each registrant firm in each of the states they travel in, and attributes miles and collects fees based on the percentage of miles in each state. Only very slight adjustments to their administrative procedures would be necessary to switch from registration-based fees and motor fuel-based fees to VMT-based charges.

Registrants under IRP are required to maintain records that can be audited. The commonality of records and the standards for audits are keys to the ability of IRP to function as a "base state" system. Under the base state concept, the audit procedures have to be sufficient to convince other states that they do not need to audit registrants based in other states. The alternative would be that some carriers could face audits from multiple states, with consequent duplications of burdens for both the states and the motor carriers.

IRP audit procedures require registrants to be able to document and enable evaluation of the accuracy of their reports of vehicle movements and substantiate the apportionment of their registration fees. Each registrant must maintain operational records that substantiate mileage in each jurisdiction and total mileage traveled everywhere. This is the same information that might be required under a VMT-based charge.

The IRP audit procedures identify individual vehicle distance records (IVDRs) as desirable but not required documentation of travel. The IVDR contains:

- Date of trip (starting and ending)
- Trip origin and destination
- Route of travel (may be waived by base jurisdiction)
- Beginning and ending odometer or hub odometer reading (may be waived by base jurisdiction)
- Total distance
- In-jurisdiction distance, and
- Power unit number or vehicle identification number (VIN).

The audit standards allow for a base jurisdiction to waive either the route or the odometer reading but not both.

The IRP thus comes close to enabling the administration of even more detailed types of charges, such as charges that would be applied within sub state jurisdictions, or to specific routes. However, this level of detail for IRP carriers is a record-keeping requirement to enable audits rather than a regular reporting requirement.

The primary issue that makes the extension of IRP procedures to all vehicle types is that the IRP applies only to businesses that keep records of their activities, whereas households owning private vehicles do not keep such records.

IRP officials noted that a key administrative issue for states is their in-house state systems. They mentioned that the states have very different systems and that there are about 35 different state systems for IRP administration in the states. They also noted that there is a small group of vendors, which handles IRP systems and administration for the states. Vendors currently include ACS, Explore, Polk, CACI/CELTIC and ARCHON. They noted that tight state budgets have precluded state system upgrades. IRP representatives noted more standardization with states that use outside contractors.

The IRP Clearinghouse acts as a netting system for all states (except one) and the Canadian provinces for IRP fees. It was developed to reduce paperwork for the jurisdictions and to facilitate information exchange and payments. Payments are netted the 15th of every month. The entire Clearinghouse is wrapped in a procedures manual and processes. The Clearinghouse does not determine fees. Instead, each state has its own schedule of registration fees.

One challenge noted by IRP officials is timeliness of information and payments, especially given states' current fiscal issues. They mentioned participation in the Clearinghouse has been an evolutionary process - first convincing states to participate and then working with them to create clean data bases with consistent data elements. IRP officials noted that the Clearinghouse saves the states money by providing a template for administration and by easing processing time and effort.

IRP'S Governance Model - IRP features a strong governance model. Bylaws guide the organization, and the plan and procedures manual guides the jurisdictions. Every state is a member of IRP and must abide by all governing documents in order to collect interstate truck fees. A Board of Directors governs the organization (two from each region) and a number of committees (comprised of members) report to the Board including the Dispute Resolution Committee and the Audit Committee. IRP noted that a state "joins the plan, not the IRP department."

The IRP governance model works well because every jurisdiction has a vote and members are involved. A similar governance approach needs to be considered for a VMT-based system, especially a multi-state system. Every region is represented with elected board members, dues are paid by all jurisdictions based on a formula and extensive balloting is used to engage

members in changes and decisions. These are important base components for a multi-state governance system.

State DMV Perspectives on the IRP - The IRP system works very well for virtually all the jurisdictions interviewed for this project. State officials interviewed noted that IRP works so well because it is a mature model; states need to (must) cooperate with one another to ensure funds are collected, and there is a sense of community. State officials raised only a few concerns relating to IPR, primarily having to do with access to information in the Clearinghouse and a desire to verify information to ensure their state is getting its fair share.

IRP is considered very successful. IRP officials noted that keys to the organization's success are simply trust and confidence in the system performing, as it should. They noted that standardization is also important. IRP officials pointed out two elements that contribute to trust in the processes -- the required audit program that all jurisdictions must adhere to and a robust peer review program every five years in states.

IRP is considering providing full reciprocity for all registrants for travel in all states to decrease the administrative burdens placed on states now, as operators have to "add or subtract" states and vehicles. They are considering moving from estimated miles percentage reporting to actual miles reporting. IRP representatives noted that estimating mileage, in some cases, leads to overpayment by the industry and increases states' administrative burden in payment reconciliation. IRP has established a working group to review this potential change. Further discussion should be held with IRP officials regarding this direction and possible applications to VMT-based charge collections, apportionment and netting.

IRP officials noted that there has been some discussion regarding electronic reporting by major carriers, but no decisions on such a change have yet been made. They noted that there are too many different devices currently in use for any standardization.

Potential IRP Role in VMT-Based Charges - Most state representatives believe that the IRP is a good model in principle, but not in application, for VMT charges. Almost all states interviewed acknowledged the benefits of IRP and noted that it works very well for states, and states work very well together. However, most indicated that the IRP works so well because it has been in existence for more than 15 years, it is a mature model and many of the issues have been worked out over time. In addition to its maturity, states noted IRP works best because of the small number of accounts that are handled in each state compared to the population of registered vehicles, and that a dedicated staff of trained, "expert" employees staff the program. They pointed out that a VMT charge system would involve a much larger set of vehicles and require subject matter expertise well beyond a small unit. The Clearinghouse concept, the principles of netting, state-to-state fee setting and governance are model applications for VMT charges.

IRP officials noted that they have experience in netting revenues from all US and Canadian jurisdictions, and if a jurisdiction can collect the data and revenue, IRP is a model for reconciliation/netting.

The states pointed out that IRP operates well because it is based on a finite number of vehicles, and fees can be calculated expeditiously on standard state rates that are also finite. Two of the

key elements of making IRP a trusted model are the audit and peer review functions. For a VMT charge system to be successfully administered, it is critical for it to also have some type of audit function and/or peer review by the states. Some type of institutional audit/review mechanism needs to be considered that would instill trust and confidence similar to IRP in a multi-state VMT-based system.

IRP officials noted time and again standardization and uniformity are important components of the success of the Plan. While states may want fee structure deviations (as is the case with IRP fees now) for VMT charges, the IRP experience of every jurisdiction having to abide by the same set of rules (the IRP Plan, Procedures and Bylaws) is instructive for a multi-state VMT system and its governance.

IRP continues to be a very paper-based system requiring both the jurisdictions and the carriers to keep paper records for data input and auditing. While a good model in funds transfer and cooperative working relationships among multi jurisdictions, IRP may not be a good model from an efficiency standpoint. A VMT-based system, as echoed by AAMVA representatives, needs to be fully electronic.

IRP's future direction to allow carriers to travel in all states and subsequently report actual mileage in each state is instructive. This direction, if accepted in the future by IRP, will relieve states of some of the maintenance upkeep surrounding IRP. It is instructive and speaks to the assumption that a VMT-based system will allow motorists to travel in any state without having to do "something extra," such as register in the states in which they plan to travel.

The Interagency Group (IAG) and E-ZPass

Toll agencies have their own established procedures for utilizing common technology and for sharing revenues that are owed to each agency. The potential for overall VMT-based charges offers an opportunity to toll agencies for potential reductions in costs, but only if there is no reduction in revenues. VMT charges are now viewed as a potential threat by some toll agencies due to the uncertainty of how collections will be made for the toll road portions of VMT charges.

For the toll agencies within the I-95 Corridor Coalition, there is already an arrangement wherein the backroom functions allow reconciliation of toll collections among all of the toll agencies and provide for integrated billing for the E-ZPass users of all of the toll facilities. The E-ZPass Interagency Group (IAG) acts as a consortium of the 25 agencies that offer the E-ZPass in 14 states (some inside and some outside the I-95 Corridor Coalition) and is a clearinghouse for common approaches and reconciliation of users' accounts. The governance of the IAG is through consensus, meaning that all agencies have to agree to all of its procedures.

The IAG is an agreement through which agencies coordinate the procurement of the technologies to be used in E-ZPass and cooperate to share E-ZPass fees equitably. However, the individual agencies specify their own back office user interface and communication procedures and the performance standards for their back office procedures. Agencies make their own arrangements (in house or contracted out) for back office operations and are typically referred

to as customer service centers. The customer service centers are responsible for tag distribution, answering queries, administering the accounts of the users and conducting violation enforcement. Currently, there are 18 separate operating customer service centers within the IAG.

Most of the functions required to administer VMT charges are currently carried out for electronic toll collection accounts under E-ZPass. The functions not performed relate to overall VMT charge compilation and reconciliation among the states. E-ZPass system operators and their contractors understand most of the functions necessary for VMT system administrative and institutional arrangements. These system operators have much more experience integrating the combined functions than most DMVs and better understand the complexities of system technologies.

The ideal institutional arrangement for administering VMT charges may be a quasi-government entity, such as a toll authority, using a private vendor familiar with these types of operations on a large scale. A critical component of such an arrangement would be the ability for the DMV to share personal registration data.

Toll agencies that rely on open road tolling employ vehicle roadside identification sensors. Those users who have E-ZPass accounts have the transactions recorded electronically and their accounts are billed for passage through the gantry. Those users without accounts have their license plates photographed, and then an automated system (with human checking) identifies the license plate and generates a bill that is sent to the user. This mail-based system for collections could also be applied to VMT-based charges, as well as tolls. However, this is administratively very cumbersome, particularly when considering the prevalence of very small payments.

Some toll agencies are moving beyond electronic tolling and utilizing license plate recognition as part of open road tolling systems and also for enforcement purposes. This direction needs to be recognized as an emerging trend and warrants further consideration with respect to VMT-based charge systems.

Enrolling and Billing Under IAG - E-ZPass is offered by all toll agency members of the IAG, and an account holder must enroll and establish a prepaid account and obtain one or more transponders assigned to that account from one of the member agencies. When the account holder travels on any E-ZPass tolled facility, the home agency deducts the appropriate toll from the user's E-ZPass account. The users have transponders that are readable by each toll agency, and the agency to which the transponder is registered is identified on the transponder. Through reciprocity, the agencies then transfer gross payments due each of them for the tolls that are due to each of them from the accounts of each user. Credit card and transaction fees are also calculated based upon IAG agreements and settled separately from the toll transfers. In addition, there are daily exchanges of data files indicating what accounts are valid and guaranteed by the issuing agency.

Reading and Reconciling Tolls Due Under IAG - Reading an E-ZPass is done in real time and information is transmitted frequently to the back offices. E-ZPass is managed on the basis of account replenishment with charges prepaid. The replenishment value will vary based on the

experience of the account. With some airport parking fees now averaging high amounts, a high use customer may be required to replenishment in amounts of $50 to $80 per month. Cash customers represent somewhat less than 10 percent of E-ZPass customers and replenish their accounts using cash.

IAG Governance and Use of Vendors - IAG operates through unanimous consent, which is a key requirement. The driving impetus for agencies to join IAG has been to receive a discount on the Mark IV tags used by the system. Every agency contracts out the technology element of the system. When an agency becomes a member of IAG, it must transfer files within the file structures identified, to exchange information.

IAG is an operating agreement and not a compact, so no state law created the entity. IAG has agreements that members must sign and rules are determined by unanimous consent. IAG expansion to additional agencies could be achieved. However, among I-95 Coalition states, Florida is technically incompatible. All IAG toll agencies rely on vendors for back office functions.

IAG and Toll Agency Auditing, Enforcement and Customer Service - Auditing of performance and of accounting is very rigorous and involves SAS 70 (a detailed auditing standard auditors must employ in order to access internal controls of an organization) and "process audits" to assure that accounting systems can track and assure that proper fees are accounted for and paid.

Agencies employ rigorous violation processing systems. System administrators noted that violators include some who violate purposefully and others who do so involuntarily. Those who violate without purpose or intent make quick restitution according to toll authority representatives and those who do so purposefully elude payment. Agency representatives noted that purposeful and repeat evaders are mostly commercial vehicles with multiple evasions, sometimes more than one a day on various toll facilities. States address toll evaders in a variety of ways. For example, Delaware outfits state police with cameras to check for evading vehicles and stolen vehicles. Maryland will suspend registrations for multiple violations.

Most toll systems in the country are geared to high volume customers and customer interfaces where users can make contact with toll agency officials via the web or call a call center. These call center services have high customer service standards and are typically dedicated to individual state accounts. There are few consolidated call centers because of the specialization of rules as well as because of the agencies' desire to control service levels. Each agency has its own specific business rules as to how soon calls must be answered, as well as other service level requirements.

Toll agencies are concerned with collecting their fees rather than with any civil penalties that might accrue. California and other states place a DMV hold on registration renewals for those with toll accounts not up to date, and other states are pursuing this connection. A key component to toll evasion collection is connection to state DMV registration systems and strong cooperation between toll authorities and DMVs. A similar connection will be critical for any VMT-based charge collection process.

Lessons Learned from Current Multi-State and Multi-Agency Arrangements

E-Z Pass provides practical applications to VMT-charge administration, and its governance by the Interagency Group also offers key lessons, which could be applied to a multi-state VMT-based effort. AAMVA officials noted that the best federal/state program governance is one where the states are involved in decision-making and guidance.

They mentioned the Commercial Driver License Information System (CDLIS), which serves as the information hub for commercial driver licensing. The states have been involved since its inception and AAMVA has worked closely with US DOT (the Federal Motor Carrier Safety Administration - FMCSA). AAMVA is the system operator on behalf of FMSCA, and the states participate in any system related changes. The system is currently being upgraded, and working groups comprised of state representatives are determining needed changes.

Some lessons learned include:

States Now Work Together Well Through Compacts - AAMVA officials noted that states currently work together on the driver side of the business through reciprocity compacts, such as the Driver License Compact and the Non-Resident Violators Compact. They noted that these arrangements work well. They also noted that states work well together through the CDLIS and the National Motor Vehicle Title and Information System (NMVTIS), as well as IRP. They noted that states are accustomed to sharing data though CDLIS and NMVTIS. These data sharing arrangements, as well as those used for interfaces between toll authorities and DMVs, need further review for possible adaptation to VMT charge collection.

There May be a Role for AAMVA in VMT-based Charge Systems - AAMVA is the current operator of CDLIS and NMVTIS. Their current network, AAMVA-net, provides the link for the exchange of information among states. AAMVA officials noted that there might be a role for them in administering VMT-based programs if their members and board considered and agreed after a comprehensive review. They also noted that these types of programs are not mature enough to be able to provide the quality of information their board would need to make such a decision. They continue to play a role in highlighting VMT research and keeping their members informed of this topic and its surrounding discussions.

State Involvement in Governance is Critical - AAMVA officials also noted that governance works best when members (states) govern and members drive decisions. They pointed out that the IRP Dispute Resolution Committee is a good example of members governing member conduct and expectations. Issues regarding the IRP plan, processes and procedures are brought before the Dispute Resolution Committee as the deciding body.

EZ Pass Has Transferable Applications to VMT - There are already nearly 12 million E-ZPass accounts and 19 million transponders in use in E-ZPass states, and the experience can provide lessons on how to enroll participants and organize and administer a program for a mass market that is comprised of both individual and commercial/business users. While E-ZPass is a voluntary program, its expansion to all users for multi-state VMT-based charges could be

accomplished by building upon lessons from the established administrative functions that are already being performed for the toll agencies.

6.4 State Data and Systems Interconnectivity

Interconnectivity of data and systems among states is currently very limited and indirect. Only the National Motor Vehicle Title and Information System (NMVITS) provides a link to state vehicle registration systems. As is understood, there are no national vehicle files in the U.S.

The National Motor Vehicle Title and Information System (NMVTIS)

The National Motor Vehicle Title and Information System (NMVTIS) is a potential base infrastructure model to build upon for use as a platform for a multi-state VMT-based charge system. NMVTIS was designed and built to allow states to exchange title data as vehicles traverse state lines and to prevent fraud, especially title washing. No personal data or information is included in the NMVTIS data elements (the system only includes VIN information), but interoperability among most states currently exists. The lack of full state participation is currently an inhibitor as is the infrequency of information updates from some states.

AAMVA representatives pointed out that with all but five states currently participating in NMVTIS, about 80 percent of all registered vehicles in the US are included in the system, and the system will include 100 percent of the states and vehicles in the next two to three years. It is important to recognize that the NMVTIS is not a national database and that even without personal information included (as part of the current data elements), states remain very concerned with the use of the data. In order for the NMVTIS to serve as a base for any VMT-based charge program, personal data regarding vehicle ownership and ownership transfers would need to be added. This addition of owner specific data, and the sharing of that data with other states or private entities, would be a concern for states.

State DMVs understand the need for interconnectivity among states or a network that would allow for the exchange and use of vehicle ownership information, but many do not think that the National Motor Vehicle Title Information System (NMVTIS) is the appropriate framework. NMVTIS got mixed reviews from states officials interviewed for this project. Many view it as a good anti-fraud system that does have usefulness to the registration process. Some noted that it is still a very new and immature system, and some don't ever see all states becoming members unless it is mandated (with sanctions) and full funding is received for states to implement and maintain.

One state noted that they are concerned with the current capacity of NMVTIS to handle data, and it is unlikely that every state will buy into NMVTIS in the short term and just as unlikely in the long term. Some noted they don't have the funding or technology resources to become part of the system. States pointed out that NVMTIS was not designed or envisioned for a VMT process, nor is it mature enough with consistent and timely data from all states to be considered

at this time. Adding owner information brings another element of concern from a privacy perspective. The addition of any personal information to NMVTIS was a widespread and significant concern among the DMV officials interviewed. DMV officials recognize that connectivity and data sharing would be important components of a VMT system, but they observed that NMVTIS is a long way from being that vehicle.

The potential applications of NMVTIS to a multi-state VMT arrangement need to be further considered and reviewed in depth with AAMVA, its board and states. Its use, with limitations and important considerations, has potential applications for any VMT charge system.

7.0 Institutional Arrangements

In the initial stages of this project, two alternative multi-state institutional alternatives were originally identified, and were used to help analyze how the administrative functions associated with a VMT-based charge system might be performed. A first option was termed "state-centered" and a second option was termed "service-bureau centered". As further analysis and evaluation proceeded, it was determined that there was really only one overall institutional option. The states would certainly maintain their administrative responsibilities for revenues within their borders, but would have choices as to how much assistance on VMT charge administration they would contract out to third parties, either to private contractors or to non-profit organizations. The sole alternative with this sliding scale of decisions on contracting is a state-centered institutional arrangement. However, the sliding scale of assistance and contracting will be based upon how best to engage the needed skills and achieve efficiency and effectiveness within each state. A great deal of contracting or a small amount of contracting could be chosen.

Today, states follow this model for apportioned registration fees and fuel taxes for heavy duty vehicles, which is the most relevant current model for cooperation that has application to VMT charges for all vehicle types. As described in previous chapters, the states collect fees due to them, but utilize cooperative arrangements under the International Registration Plan (IRP) and the International Fuel Tax agreement (IFTA) to accrue collections due them from vehicles based in other states. Toll agencies utilize similar cooperative arrangements under IAG. In each case, the states and the toll agencies maintain their basic autonomy and enforce their own laws. Also, in each case, the use of cooperative arrangements is motivated by the desire to achieve efficiencies and acquire skill sets not available within their agencies. This has led states and toll agencies to contract out to non-profit or for-profit entities for services.

Therefore, we have concluded in this project that the states and the toll authorities will continue to assure that their needs are met, and will utilize the private sector and cooperative multi-state agreements where needed. For example, private contractors may be utilized for some or all of the administrative functions related to monitoring and collecting VMT-based charges, while existing cooperative mechanisms such as AAMVA and IRP could be the most logical approach to perform the revenue reconciliation and revenue clearinghouse functions among the states (and perhaps the toll authorities), as they do now with apportioned heavy vehicle registration fees and E-ZPass toll revenues. In addition, more use could be made of NMVITS to assure that states effectively share timely information regarding vehicle registrations and re-registrations.

It has also been assumed that congestion-based charges on specific facilities or in specific regions of a state could be administered by separate regional agencies, toll agencies, or by public-private partnerships in coordination with the agencies which have the responsibility for the overall VMT-based charges. While there would be savings in costs if regional or toll systems use the same technologies and administrative systems as the state systems, it is not a given that general user fees and specific tolls must be collected together, nor would it be necessary if VMT-based charges replace or augment state fuel taxes.

However, while it is possible to operate tolling systems and VMT-based systems separately, it would be highly desirable to operate the systems with one set of technologies and business rules. The potential for economies of scale and operating efficiencies with a joint system, as well as the greater potential for public acceptance with one road charging system rather than multiple payment systems, should overcome any concerns that the toll authorities may have about independence of their systems and revenue streams. The issues that toll agencies will have with common technologies and systems can and should be addressed through the supporting financial, operating and reciprocity agreements.

7.1 State-Centered VMT System Administration Functions

A state agency or agencies will be responsible for the administrative and legal functions necessary to monitor and administer VMT-based charges, including reconciliation and coordination with other states. As noted above, the administrative functions might either be performed in-house or contracted out. Given the scale of the data handling and administrative functions, it is likely that contracting approaches would be used, and most certainly contracting approaches are implicit in procedures with "open systems" in which the users could select from among competing system technology contractors. In determining options for a new system, the Netherlands selected a process whereby contracting with a vendor would cover virtually all aspects of VMT charges, with all rules and parameters defined by the government but with private entities responsible for all functions under the contract.

In the case of toll facilities, VMT-based charges could be assessed independent of tolls. Although this may be considered double-charging, it is no different than today's operating environment where fuel taxes also apply to fuel consumed while driving on toll roads. It is assumed that fees for toll agencies will continue to be collected by those agencies except if the single state entity has the full capability to monitor travel on each facility, such as with a GPS system which can accurately track toll facility use versus use of other roads, and where the toll authority wishes to "opt-in."

7.2 Multi-State and Federal Coordination Functions

In administering a VMT-based charge system, procedures for coordination among the states could be modeled on the IRP and IFTA, with commonly accepted "base-state" responsibilities for the accounts of those vehicles registered in their jurisdictions. Other states would have to be assured that the base state was auditing and enforcing the collection of VMT-based charges which were due to all other states. Reconciliation among the various states' accounts would be similar to under the IRP and IFTA or would be modeled on the IAG example, with administration performed for each state and with a clearinghouse.

States might also contract jointly for technologies and other aspects, as is done now by the toll agencies. Toll agencies that join IAG receive favorable rates on transponders, which IAG has

considered to have been the greatest incentive to bringing the toll agencies into IAG. The intent of this cooperation would be to reduce costs by consolidating some purchases or other efforts.

If a federal VMT charge was enacted, the federal government might either utilize the Netherlands type of contracting arrangement or might rely on states, but reliance on states would require that all states be capable of administering VMT charges. A new federal entity of some type may be required to administer the collection of federal VMT-based charges under the direction of the IRS, since there may be issues associated with the delegation of federal tax collections to state agencies. Current IRS procedures do not include any relationships with the owners and operators of all motor vehicles. However, it is a very important legal issue to determine if and to what extent any responsibilities for the collection of federal VMT-based fees could be delegated outside of the IRS, either to states or to a service bureau. Also, even if such delegation is determined to be legal, the willingness of the federal government to delegate collection of federal taxes to state agencies is not known.

7.3 Public and Private Roles

The administrative functions associated with VMT charges could be either contracted out or performed in house under the direction of responsible state agencies (DMVs or other agencies.) DMV and AAMVA representatives were asked in the course of this project about public or private arrangements for administering VMT-based charges. Their responses included:

A private sector institutional option would get mixed reviews from DMVs. - AAMVA representatives noted that states would react "differently" to the use of a private contractor as part of an institutional arrangement for VMT administrative functions. They noted that one of the determining factors or criteria would be the protection/use of personal data. They noted that cost drivers, such as collection costs and customer support, would also be factors in selecting the most economical institutional arrangement. It was noted that states would be very concerned about using a private vendor because they would not want to lose "control" of their information and data and DMVs have not, in the past, wanted state data and personal information on federal government databases. There remains a critical concern in the states surrounding data confidentiality and data use and a mindset of "our data, our control." They noted past instances where any exchange or use (or hosting of data) had to be surrounded by strong data confidentiality parameters.

A "service bureau" or "vendor direct" type of contract is a more acceptable institutional option. - AAMVA representatives noted that a VMT-based charge program most likely would need to be outsourced and that such an outsourcing would provide opportunity for a "cottage industry." Either non-profit or for profit agencies could provide the services under contract. They pointed out that it is important for any service bureau option to include consistent processes, adequate oversight, strong data protection, high customer service level expectations and clearly spelled out service level agreements.

It is clear that resources (funds or personnel) do not exist to allow for new program initiatives in many states, and that they have increasingly turned to using a vendor direct model. The

Florida DMV used this model to implement their temporary registration system. They did not have the funds to build, implement or maintain the system, nor could they provide help desk support or IT resources for the project. The "vendor direct" approach gave the vendor all the program implementation and support responsibility (under state IT, temporary registration process and information usage guidance) and allowed the vendor to recoup costs based on a per transaction charge. The DMV noted that they expect this model to be more and more prevalent based on continuing state budget issues and reduced staffing. This is not unlike what is happening in other states. A VMT model likely needs to be designed, implemented and built using a per transaction-based payment system that includes implementation and maintenance costs.

AAMVA representatives noted that the IRP and E-ZPass are both good models when considering a multi-state VMT-based charge system. They noted that from a funds transfer perspective, IRP (and its Clearinghouse) works well already and is an accepted and supported model.

8.0 State Legal Issues in Implementing a VMT-Based Charge System

8.1 Overview and Background

This chapter summarizes issues of state law that relate to the implementation of a vehicle miles traveled (VMT)-based system of user charges. The information below was drawn from a survey of legal counsel representing transportation agencies within the I-95 Corridor.[1] A copy of the survey is attached as Appendix A. Respondents were asked a series of questions related to a hypothetical VMT-based system that would charge motorists for the use of all highways within participating states.

While state laws, constitutions, and policies are necessarily unique, all of the responding state representatives agreed that a new VMT-based system would be affected by the following core issues:

- Characterization of VMT charges as taxes, fees, or tolls;
- Limitations on use of revenues;
- Rate setting;
- Transition from fuel taxes to VMT;
- Multi-state collection and redistribution;
- Delegation of program administration;
- Enforcement and penalties; and
- Data sharing and privacy.

This project investigated administrative and institutional issues associated with collection of VMT-based charges that would supplement or replace fuel taxes as a source of state motor vehicle revenues on all or most of the roads and streets within their jurisdiction. However, even if VMT-based charges were to completely replace fuel taxes, it is unlikely that a complete changeover from the current system could be accomplished all at once, and thus the survey also asked questions related to transitioning to VMT-based charges and operating a VMT-based system in addition to the current fuel tax regime.

This project focused on the administrative, institutional and legal issues that are raised when a group of states (and other transportation agencies) cooperate with one other in implementing a VMT-based system of road charges – as well as individual state issues. Thus, the survey also addressed issues related to inter-jurisdictional enforcement and interstate cooperation. The survey sought to identify legal issues that might impact the structure and administration of a new VMT-based system of charges imposed by some or all of the states along the I-95 Corridor by sampling a representative group of states. The respondents to the survey were asked to

[1] Oregon was included as well, due to its experience with VMT. Oregon has conducted a pilot demonstration referred to in Chapter 2.

provide input on a broad range of technical and administrative issues, including the basis of the VMT-based charge, how rates may be established, where and how charges could be collected and enforced, how states and other organizations collecting VMT fees might distribute and apply revenues generated by the new system and issues of inter-jurisdictional charging and enforcement.

Any effort to implement VMT-based charges will be affected by existing state and federal laws and regulations, and may be subject to local laws and regulations in certain instances, whether the new system's scope is limited to a single state or broadened to include several states. Experience gained from existing state tax, fees, and toll regimes could help shape the new VMT-based system, as these programs have established precedents for dedicating transportation revenue streams and dealing with restrictions on how those revenues may be applied. National programs like the cooperative enforcement regime established to ensure collection of the Heavy Vehicle Use Tax could likewise provide a helpful model for multi-state enforcement efforts. Nevertheless, it must be recognized that a mandatory VMT-based charge applied over an entire highway network has never been used in the United States, and implementing such a system will raise new and perhaps novel legal issues at all government and jurisdictional levels.

The intent of this analysis is to describe the issues likely to be encountered at the state level based on survey responses. It should be noted that the survey made clear that the responses would not necessarily reflect the official views of the agencies represented by those participating in the survey – and therefore the individual state responses are considered confidential. Moreover, the time given for responses was relatively short. Hence, the findings reported here should not be regarded as a definitive legal analysis of the issues involved. Rather, they provide a preliminary identification of key issues based on the unofficial views of the transportation-agency legal counsels who responded to the survey.

The survey included 21 questions presented in multiple choice and yes/no format for responders' convenience. Opportunity for additional comments was also provided at many points in the survey questionnaire. Eight completed questionnaires were returned. These were judged to provide an adequate sample and have been analyzed for both common perspectives and range of variation. From the responses, it is apparent that both similarities and remarkable differences exist as to the legal issues that states might face in implementing a VMT-based system of charges.

8.2 Issues of Establishment and Characterization of VMT-Based Charges

Vehicles are currently subject to a variety of taxes and fees, e.g. state registration fees, taxes on fuel (which may or may not vary with the actual price of the fuel), and other charges associated with the use of motor vehicles. States also impose tolls and fees to support specific transportation facilities through tolling. Taxes, fees, and tolls are treated differently from state to state. Each category of charge is subject to different requirements regarding authority to impose, limitations on use of revenues, rate setting, and administrative discretion. Taxes

generally have well-established collection and enforcement provisions that address evasion and fraud. Tolls and fees do not often benefit from such strong provisions. Toll enforcement and fraud provisions are highly variable from state to state, and often are not enforceable across state boundaries without a multi-state agreement. Thus, there is a substantial body of law that can be drawn upon when considering the establishment and characterization of VMT-based charges; the size of the applicable body of law will vary depending on their classification as taxes, tolls or fees.

Respondents were asked to comment on the likely impact of characterization of the VMT-based charge as a toll, fee, or tax, and to provide insight as to which strategy would be the best approach for the purpose of implementing a new VMT-based system. There was general agreement that the least flexible characterization was a tax. However, all states agreed that in order to impose VMT-based charges new enabling legislation would be required, regardless of whether the new charges were characterized as taxes, tolls or fees.

They also indicated that treatment would similarly be affected by the intended uses for the net proceeds of the VMT-based charge, e.g. dedicated transportation systems congestion management, general revenue, and/or attainment of policy objectives (such as encouraging the use of particular fuels, operation of cleaner vehicles, etc.).

1. VMT-Based Taxes

Taxation power is vested in the legislative bodies. Taxes and tax rates are set by the legislature, but can apply to a broader range of activities than fees. In addition, tax revenues may be subject to fewer restrictions on use, unless revenues produced by a tax are dedicated to particular purposes. It is true that motor vehicle taxes are often dedicated to transportation purposes, but this is usually the result of specific statutory constraints. In some states, there are state constitutional provisions regarding the use of fuel taxes.

As a tax, VMT-based charges would require authorizing legislation, and in some cases constitutional amendments. Respondents noted that taxes are subject to strict construction, so the authorizing language would need to be very precise. This would reduce the flexibility and discretion regarding charges or variations in tax rates.

State fuel taxes have generally been imposed as a combination of excise and sales taxes. According to the IRS, excise taxes apply to both sales of goods (e.g., fuel taxes) and to certain activities (e.g. heavy vehicle use taxes and taxes on wagering). Irrespective of how they are characterized, the U.S. Supreme Court has upheld a characterization of state fuel taxes as a payment required for the use of facilities which the state provides at its discretion. Hence, the state may properly seek compensation for the use of such facilities.[2]

Several respondents noted the political resistance to tax increases. This is one of the chief concerns related to the fuel tax system – legislative inertia and political considerations undermine efforts to raise taxes to a level consistent with the maintenance and new investment

[2] IRS, *Excise Tax* (April 20, 2010) at http://www.irs.gov/businesses/small/article/0,,id=99517,00.html

needs of the transportation system. Nevertheless, a number of states have been able to raise fuel tax rates even in the current economic climate.

2. VMT-Based Tolls

The authority to impose tolls on a particular facility, highway or system of highways is also based on authorizing legislation. Tolls are collected pursuant to a state's power of taxation, or pursuant to separate authority granted to the operator of a specific transportation facility, subject to state oversight. The maximum level of a toll is sometimes restricted to produce revenues sufficient to repay the costs of construction, repair and produce a reasonable return on investment.[3] Toll revenues may also serve the purpose of absorbing costs of related transportation facilities.[4] Toll facility financing models may vary. For instance, The Port Authority of New York & New Jersey is permitted to consolidate revenues from all its businesses and issue debt against the consolidated revenue stream for investment in transportation and trade facilities in the Metropolitan New York-New Jersey region. Often, implementation of toll adjustments by public authorities is subject to a public hearing process required by statute or agency policy. In some cases, where transportation facilities are operated by a private entity under agreement with a governmental agency, tolls may be adjusted within certain ranges spelled out in that agreement.

Tolls are generally imposed on specific facilities to cover their costs. However, toll roads may also be used to raise revenue for state agencies and, when operated by private entities, to provide a reasonable return on private investment.

3. VMT-Based Fees

"Fees" are an exercise of states' police power to regulate certain activities. Fees are generally limited in scope and fee-revenue must be used for specific purposes. In some states, fees may be set and modified by executive agencies through administrative processes. In others, fees are treated more like taxes and the power over charges related to motor vehicle use is reserved for the legislature. Generally fees cover the costs associated with a given activity, and their revenues must be used to support that activity. Depending on state law, fees may be limited to covering the costs associated with their purpose – in contrast to taxes and tolls, which may be used to raise revenue without such limitations.

The degree of administrative discretion a state agency may have to establish and modify a VMT-based fee over time may vary sharply from state to state. Federal agencies can be given wide discretion by Congress to reasonably administer the programs they are charged with implementing. In many states, the courts have held that giving an administrative agency overly broad discretion constitutes an "unconstitutional delegation of legislative authority." These restraints are not the same in every state, and will need to be addressed on a state by state basis. Respondents noted that regardless of characterization and form of enactment, the charges and the rate setting would be subject to the standard tests of uniformity of application, due process

[3] *Geiger v. President of Perkiomen & R. Turnpike Road*, 167 Pa. 582, 31 A 918 (1895).

[4] *Automobile Club of New York, Inc. v. Port Authority of New York and New Jersey*, 887 F.2d 417 (2d Cir. 1989), *cert. denied*, 495 U.S. 930, 110 S.Ct. 2168 (1990).

and equal protection. Most states indicated that specific legislation would be advisable even when enabling legislation is not strictly necessary. Such legislation could, for example, avoid difficult litigation regarding the scope of administrative authority to impose a VMT-based charge, or regarding uses of future revenues. Some states -- in dealing with comparable issues -- have found it prudent to pass explicit legislation to avoid controversy or to explicitly clarify the authority under which they are operating. Many issues could be avoided with appropriate legislative drafting.

Use of Revenues

A key issue regarding a VMT-based charge system relates to the potential use of revenues – and how these uses relate to the current sources and flow of revenues that support state transportation programs.

Respondents indicated that the current statutes and/or administrative practice place limits on the use of motor fuel taxes and that these restrictions would probably be applicable to VMT-based charges as well. In several states, fuel tax revenues are dedicated and deposited in a state trust fund with limitations on diversion to other uses.

Several respondents expressed concerns about the application of federal requirements that may be applicable should VMT-based charges be treated as tolls and be collected on federal-aid highways. If this were the case, it might violate federal law to collect the charge on some federal-aid highways and require a tolling agreement under 23 U.S.C. §129 on others. Under a §129 agreement, net revenues may be used only for title 23, U.S.C., eligible purposes (most highway and many transit projects would be eligible for federal funding under title 23). However, restrictions would apply only if the charge were treated as a toll under federal law. This issue is discussed further in Chapter 9 of this report.

Some state toll projects are governed by statutory provisions requiring that tolls be removed from a facility after the debt incurred to pay for construction is retired. This type of provision would need to be avoided in a VMT-based fee structure.

Many states have likewise created restrictions on the use of transportation-related revenues. For general registration fees and taxes, states may have statutes or regulations in place that require distribution among various regions and jurisdictions within their boundaries to ensure equal access to transportation. Additionally, some states limit the use of revenues generated from user-fee facilities (e.g. toll roads) to the "corridor" or jurisdiction where the facility is located. Depending on existing structures, VMT-based revenues may be subject to re-distribution to political subdivisions and geographical limitations. Complying with the existing requirements could increase the level of personal travel information gathered and retained by government agencies. The privacy and related concerns that may be raised by these types of requirements are addressed later in this chapter. Several respondents indicated that any new fees would have to be reconciled with current revenue sources.

Rate-Setting

Whether a state wishes to use a flat rate throughout its boundaries, or vary rates over time to further public policy objectives (e.g. transportation, environment, energy, security, etc), rates may need to increase to keep pace with the costs associated with operating, maintaining, and adding to the highway system. As discussed above, characterization of the VMT-based charge as a tax, toll, or fee will make a difference in many contexts, including the rate setting process. Taxes would need to be set and increased by the legislature. Although taxes could presumably be crafted to increase over time, it is unlikely that such an approach would be politically viable. Unlike taxes, and depending on a state's statutory framework, toll and / or fee rate setting may be delegable to an administrative agency. However, some respondents indicated that changes in the toll or fee rate structure might require legislative approval and processes for public input. Respondents to the survey indicated that the setting of rates depended on a number of different parameters. Those mentioned include:

- Specific program objectives;
- Current authority to allocation revenues;
- Rate structure;
- Revenue dedication and use; and
- Potential for federal regulation.

There was considerable uncertainty about the viability of rate setting tied to environmental factors such as emission of air pollutants. There was also a general consensus that setting rates according to vehicle type, road classification, time of day (congestion), facility segment or type, and income would raise legal issues regardless of how the charges are characterized.

Transition Away From the Fuel Tax

If it were decided that VMT-based fees should replace existing motor fuel taxes, a transition period involving an overlap of existing fuel and vehicle-related taxes, fees and tolls with establishment of the VMT-based system may occur. A key issue is whether the VMT-based charge is a *supplement* to fuel taxes or a total *replacement* for fuel taxes and/or for other fees.

States will need to consider whether they have authority to continue collecting current tolls and fuel taxes once a VMT-based system is in place. Most respondents indicated that existing tolls and other taxes could be continued following implementation of the VMT-based system. Several respondents noted that continuation of this power would be subject to the legislature's discretion in crafting the VMT authorizing legislation.

8.3 Issues of Multi-state Collection and Redistribution

Implementation of a VMT-based system on a regional basis would raise issues of federal law. These issues range in scope from federal-aid grant conditions, to federal regulations on interstate travel and commerce.

1. Interstate Commerce

The Commerce Clause of the Constitution places a general restriction on state actions that might impact the right to interstate travel (such as collecting fees on out of state drivers) and therefore requires congressional consent for states to regulate commerce across state lines. This consent could be necessary in order to establish a multi-state cooperative VMT-based system. Legislative authority to enter into multi-state agreements currently exists for certain limited purposes, such as the E-ZPass® electronic toll collection system.[5]

The Compacts Clause of the Constitution requires that Congressional consent be given to states entering into compacts with each other. Many types of agreements between states fall under this provision, and Congressional consent is often provided within the body of authorizing legislation that requires states to agree to operate jointly. The Compacts Clause is discussed in greater detail in the next chapter. Typically, if an interstate compact is required, parallel state legislation authorizing the state to enter into an interstate compact will also have to be enacted. Hence, the survey asked whether the respondents felt that, in view of applicable law in their state, an interstate compact would be required and whether authorizing state legislation would be required.

One respondent felt that Congressional consent would probably be necessary – or advisable – if the VMT-based system involved centralized collection and distribution among a group of states. While the respondents generally agreed that an interstate compact would require state legislation, most doubted that an interstate compact would be required.

2. Federal-Aid Highways and State-Imposed Charges

Current federal law restricts tolling on many types of federally-funded roads, including limitations on use of toll revenues. Many states have adopted laws that mirror these restraints. It was generally acknowledged by respondents that collecting fees on the Interstate System might require federal legislation (and in some cases parallel state legislation). This by no means clear if the charge is not characterized as a toll.

If treated as tolls, it is possible that some or all of the VMT-based revenues collected on roads built with federal-aid highway funds may be used only for title 23, U.S.C. -eligible purposes. This is because tolling is generally forbidden on federal-aid highways unless it falls into one of the exceptions found in title 23 and various other provisions of the transportation laws.

[5] The E-ZPass system is a method of toll payment. Accounts established by local toll agencies ("home agencies") are valid for transactions in other jurisdictions by virtue of reciprocity agreements of the E-ZPass® Group, by which the home agency guarantees the toll payment for accounts that are validated daily by that agency.

No similar prohibition on motor vehicle taxes and fees is found in federal law. *The federal prohibition is specific to tolls.* Taxes and fees are generally not associated with the use of a particular road. Indeed, the charges envisioned in this project would apply to all of the roads in a particular state.

3. Collection of Federal VMT-Based Charges.

Most respondents believe that collecting VMT-based charges for the federal government would not be a problem if provided for in state law. The state legal issues would not differ whether the collection of these charges were a condition of federal grants or structured as an incentive fee.

Technology standards

In a multi-state VMT-based system, the technology used to collect the fee would have to be either interoperable or uniform across state lines and between jurisdictions. Respondents indicated that mandated standardization might be considered a restraint on trade – but could probably be overcome with cooperative technical findings, state legislation and incorporation into a multi-state compact or cooperative agreement. Alternatively, a federal mandate could address these issues.

Collection of VMT-Based Charges and the Delegation of Program Administration

Determining where and how VMT-based charges will be assessed and collected will be a major technical endeavor, but not necessarily a hot-button legal issue. The respondents generally agreed that while there were no statutes that would allow an equipment mandate requiring vehicles to carry a VMT transponder, there were no constitutional barriers to such a law.[6] According to the survey respondents, point of collection will not be a major legal issue – collection will take place as provided for in the authorizing statute.

However, there are substantial differences about whether states could depend on private contractors to collect these charges. There are various levels of delegation across functions. Presuming that policy is established by law and contract, there appear to be a range of precedents for outsourcing collection and/or administrative functions. Many of the states within the I-95 Corridor already rely on private parties to assist in toll collection (and in at least one case to collect DMV fees). But most respondents believe that delegation authority needs to be included as part of the VMT authorizing legislation. When asked whether private collections partners should be given immunity from lawsuits, responses were mixed. Some states opposed the idea, and instead said that the private party should indemnify the state. One state indicated that offering such immunity might be necessary to attract a private partner, who would have a

[6] The one exception to this consensus was a state with a constitutional guarantee that "every natural person the right to be let alone and free from governmental intrusion into the person's private life, except as otherwise provided therein." State statutes already require individuals to divulge personal information as a matter of course in their dealings with state agencies, e.g. providing an address and other identifying information when registering a vehicle. It may be possible to draft the equipment mandate statute in a way that would avoid violating this sort of provision.

more substantial role in toll collection than a private contractor engaged to assist in toll collection.

8.4 Issues of Enforcement and Penalties

Enforcement issues can arise from the failure of a vehicle owner to pay the required fee (or toll or tax), and from the failure of a collecting entity (i.e., a fueling station) to either collect the fee or submit the proceeds to the state. Depending on how the VMT authorizing statute is drafted (and whether the VMT charge adopted is a tax, toll, or fee), violations in either case could result in either civil or criminal penalties, or both. The majority of respondents thought that civil penalties would be the most appropriate method for dealing with violations, though one respondent acknowledged that after a certain threshold it might be appropriate to impose criminal liability on chronic violators.

Generally, civil penalties are subject to lower standards of proof and raise fewer issues than criminal penalties. Adjudication of a civil penalty can take place before a court or administrative agency, while criminal sanctions will probably require a court proceeding. Creating an administrative procedure for dealing with violations could lower costs for responsible agencies by streamlining collections and providing an informal setting for dispute resolution. Administrative functions could be further enhanced by delegating some portion of these duties to a private party, who might act on behalf of all the VMT states together. Generally the respondents agreed that VMT-based charges could be adjudicated in an administrative hearing.[7] The adjudication process and venue is often rooted in state legislation, and the ability to penalize out-of-state violators effectively will require agreements or compacts among states.

The survey asked whether VMT-based charges could be collected for mileage driven in another state. The answers were somewhat mixed, but at least some of the respondents felt that their states could not impose charges for out-of-state VMT. A state could impose VMT-based charges on out-of-state drivers. Most respondents did indicate that it would be difficult to directly enforce penalties on their residents for failing to pay a VMT-based charge to another state. However, if that other state imposed a penalty pursuant to its law, full faith and credit would allow that judgment to be enforced in any other state. Several respondents indicated that reciprocal enforcement agreements would greatly facilitate this process.

[7] One respondent noted that, if the act at issue was characterized as a violation of the state's traffic laws that adjudication would need to be pursued before the traffic courts of the state. Of course, state legislatures will have some discretion as to characterization of these violations, e.g. the failure to pay would not necessarily be a traffic violation but could instead be seen as a tax violation.

8.5 Issues of Data Sharing and Privacy

Privacy is a major concern for any government agency that must collect and maintain information on individuals. A VMT-based system would necessarily require information on individual vehicles and their usage, and may raise concern that government agencies are monitoring individual travel patterns. Depending on how states apply VMT-based charges, e.g. flat costs applied evenly for each mile traveled, or some variable system based on time of day or proximity to urban centers, data may need to be aggregated with even more information on vehicle usage. Many states already have privacy laws that would protect private information from release, although some respondents noted that liberal open records laws may counteract the privacy statutes, depending on how the VMT-based charge is characterized and the nature of the information.

Some agencies take the position that users of public roads do not have a reasonable expectation of privacy, arguing that an expectation of anonymous activity of public roads is not substantiated. The privacy issue will certainly be an issue that needs to be addressed effectively, but can be managed. An important distinction needs to be drawn between "privacy" and "security" of data. Methods of data aggregation and communication can be managed in system designs and business models. Public concerns regarding data archives and uses beyond fee collection need to be effectively addressed up-front to ensure that individual data are protected, but that aggregated data can be used for purposes such as transportation modeling and planning.

As further described in the federal issues discussion in Chapter 8, there are federal statutes that prohibit release of certain types of data related to motor vehicle records. Generally these statutes are limited to dealing with records maintained by federal agencies, but in many cases states have enacted similar statutes (e.g. state-level public records statutes often contain privacy protections similar to those available at the federal level). [8]

It is hard to estimate how these privacy issues will play out, but it is very likely that any new VMT authorizing legislation will need to include extensive privacy protections in order to be politically feasible. It is possible that privacy protections in existing toll collections systems can provide a model for the new VMT-based system.

8.6 Conclusions

The following observations summarize state legal issues related to implementation of a new VMT-based system:

[8] The federal Driver's Privacy Protection Act ("DPPA") regulates the disclosure and resale of personal information contained in motor vehicle records. The prohibition extends to persons, including government agencies, who have obtained the information from the state. Violations of the DPPA are punishable by criminal and civil penalties and the statute provides a civil cause of action. 18 U.S.C. §§ 2723-2724

- None of the responses from state representatives suggested that a state-wide VMT-based system of charges would create insurmountable state constitutional or other legal issues.

- All felt that authorizing legislation would be required or highly desirable for implementing a VMT-based system of charges, even during a transitional phase or on a trial or pilot basis.

- Authorizing legislation will need to be carefully drafted to address issues related to use of VMT-based revenues, rate setting, characterization of VMT-based charges, enforcement provisions and adjudication processes and mechanisms.

- None of the respondents saw particularly difficult legal issues associated with a multi-state system, though many indicated that an interstate compact could facilitate implementation.

- Privacy issues dealt primarily with the sharing of data for enforcement purposes and the protection of personal information from use for non-governmental information. Most of the respondents felt that existing state privacy laws were adequate, especially in combination with federal privacy laws applicable to motor vehicle users. In a few cases additional strengthening or clarification was recommended.

9.0 Federal Legal Issues in Implementing a VMT-Based Charge System

9.1 Overview

This section summarizes issues of federal law that relate to the implementation of a vehicle miles traveled (VMT)-based system of user charges. There are certain specific federal legal issues relating to use of VMT fees on federal-aid facilities. For example, under current federal highway law, interstate commerce issues have been invoked with regard to weight distance taxes on trucks. There may also be federal law implications associated with how the fee is characterized and on whom it is assessed.

The issue of using fueling stations and/or state entities to collect federal taxes, along with the potential for new IRS-to-individual vehicle relationships, raises a series of federal issues, (audit, evasion, enforcement) in addition to implying a potential significant change in the structure regarding transportation taxation.

Other key areas where federal laws, regulations and policies might impact development and implementation of such a system include the following:

- The U.S. Constitution prohibits certain actions by states that impact interstate commerce. However, direct user fees, including those based on mileage, have been upheld by the Supreme Court. New VMT-based fee systems could be structured to comply with Constitutional requirements.

- Congress has the authority to impose a VMT-based tax. Creating and administering a federal VMT tax system would require interactions with millions of users, rather than the several thousand taxpayers currently subject to fuel tax collections.

- The Federal Highway Administration (FHWA) has relied on states to assist in implementation and enforcement of highway programs, using grant conditions and other incentive programs to encourage cooperation. The federal government may be able to rely on states to assist in implementing a VMT-based fee system.

- Federal privacy laws, including the Freedom of Information Act (FOIA), the Privacy Act of 1974, and the Driver Privacy Protection Act, provide extensive protection for individuals. These laws would prohibit disclosure of personal information collected in connection with a new VMT-based fee system, subject to certain exceptions.

9.2 Implications of VMT-based Charges under the Commerce Clause of the United States Constitution

VMT-based fees directly impact drivers and vehicles that frequently move between states and participate in the flow of goods and services among the states (as well as other countries). Under the Commerce Clause (Article I, Section 8 of the U.S. Constitution), Congress has been granted the power to regulate commerce "with foreign Nations, and among the several States, and with the Indian Tribes." This express delegation of authority to Congress has been interpreted to also limit the states' power to pass laws affecting interstate or foreign commerce (the so-called "dormant Commerce Clause"). The Supreme Court has found that Congress must consent expressly and affirmatively to state or local actions imposing substantial burdens on interstate or foreign commerce.[9] Absent such consent, the subject state or local actions are unconstitutional.[10] However, when a state or local statute "regulates evenhandedly to effectuate a legitimate local public interest, and its effects on interstate commerce are only incidental, it will be upheld unless the burden imposed on such commerce is clearly excessive in relation to the putative local benefits."[11]

States generally have plenary power to assess taxes on their citizens and on activities that occur within their borders[12] However, states may not infringe on a power reserved for the federal government, such as the right to regulate interstate and international commerce,[13] or the conduct of foreign affairs. Today states collect vehicle registration fees and license fees from vehicles and drivers that are state residents, and states collect fuel taxes from all vehicles that purchase fuel in the state. States also collect apportioned registration fees on heavy vehicles on behalf of other states, and distribute apportioned registration fees through the International Registration Plan (IRP). State designated toll agencies collect tolls from all vehicles using their facilities. VMT-based charges can be collected in a number of different ways. These systems have been found constitutional in a series of decisions by the Supreme Court, which recognize the interests that states have in raising revenue needed to fund the construction and operation of transportation facilities and the authority that states have to levy taxes for raising revenue. A key element of these decisions is that out-of-state users are not discriminated against.

Unlike fuel taxes, which are tied to purchases of a commodity, VMT-based charges are directly tied to the use of the transportation system itself. However, a fair reading of these cases would indicate that VMT-based charges would be treated no differently than tolls, fees and taxes already in use across the country. This is discussed in detail below. The Supreme Court has consistently held that "where a state at its own expense furnishes special facilities for the use of those engaged in commerce, interstate as well as domestic, it may exact compensation."[14] This

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[9] *South Central Timber Development v. Wunnicke*, 467 U.S. 82, 91-92 (1984).

[10] *Id.*

[11] *Pike v. Bruce Church, Inc.*, 397 U.S. 137, 142 (1970) (citation omitted).

[12] *Dominion Land & Title Corp. v. Department of Revenue*, 320 S. 2d 815 (Fla. 1975); A*mes Volkswagen, Ltd., v. State Tax Commission*, 47 N.Y. 2d 345 (1979); *Belas v. Kiga,* 135 Wash. 2d 913 (1998).

[13] U.S. Const. Art. I, §8.

[14] *Hendrick v. Maryland*, 235 U.S. 610 (1915).

ruling has been found by the Supreme Court to apply to toll roads.[15] The amount of the charges and the method of collection are left to the states' discretion, so long as they are "reasonable and are fixed according to some uniform, fair, and practical standard."[16] However, states may do so only so long as those taxes do not infringe on a power reserved for the federal government, such as the right to regulate interstate and international commerce.[17][18]

The court has supported user fees to finance transportation infrastructure facilities, and upheld the use of mileage-based taxes assessed against motorists engaged in interstate travel. In *Interstate Busses v. Blodgett*,[19] the court held that a state system applying a mileage-based tax to interstate travelers, and a separate non-mileage based tax to intrastate travelers was permissible, so long as the net burden on each was roughly equivalent.

To date, no state has imposed a mandatory system of VMT-based charges on general purpose traffic, so there is no legal authority that directly addresses the matter. However, courts have analyzed the balance between state powers to impose and enforce user fees to fund transportation and the attendant burdens on interstate commerce in many contexts. For example, in *Evansville-Vanderburgh Airport Authority District,*[20] the Supreme Court analyzed whether a $1.00 charge per enplaning commercial airline passenger imposed by the Evansville-Vanderburgh Airport Authority District to help defray the costs of airport construction, improvement, equipment and maintenance at the Dress Memorial Airport in Evansville, Indiana violated the Commerce Clause.[21] The Court first cited established precedent sustaining taxes ""designed to make [interstate] commerce bear a fair share of the cost of the local government whose protection it enjoys.'"[22] As further cited by the Court:

> "'Where a state at its own expense furnishes special facilities for the use of those engaged in commerce, interstate as well as domestic, it may exact compensation therefore. The amount of the charges and the method of collection are primarily for determination by the state itself; and so long as they are reasonable and are fixed according to some uniform, fair and practical standard they constitute no burden on interstate commerce.'"[23]

Relying on this precedent, the Court found "that a charge designed only to make the user of state-provided facilities pay a reasonable fee to help defray the costs of their construction and maintenance may constitutionally be imposed on interstate and domestic users alike."[24]

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[15] See footnote 17, *infra*

[16] *Id.*

[17] U.S. Const. Art. I, §8.

[18] *United States v. Curtiss-Wright Export Corp*., 299 U.S. 304 (1936).

[19] *Interstate Busses Corp. v. Blodgett,* 276 U.S. 245 (1928).

[20] *Evansville-Vanderburgh Airport Authority District et al. v. Delta Airlines, Inc. et al*., 405 U.S. 707 (1972)

[21] A similar fee imposed by the State of New Hampshire was also analyzed.

[22] *Id.* at 712 (quoting *Freeman v. Hewitt*, 329 U.S. 249, 253 (1946)).

[23] *Id.* at 712-13 (quoting *Hendrick v. Maryland*, 235 U.S. 610, 624 (1915)).

[24] *Evansville*, 405 U.S. at 714.

Turning to the reasonableness of the passenger fee, the Court looked to prior cases regarding highway charges for guidance.[25] In particular, the Court focused on its prior holding in *Capitol Greyhound Lines v. Brice*[26], where it sustained a Maryland highway charge of 2% of the fair market value of motor vehicles used in interstate commerce that was supplemental to a standard mileage charge also imposed. Rejecting an argument that the correlation between the charge and the use of the highway wasn't precise enough, the *Capitol Greyhound* Court explained:

> "Complete fairness would require that a state tax formula vary with every factor affecting appropriate compensation for road use. These factors, like those relevant in considering the constitutionality of other state taxes, are so countless that we must be content with 'rough approximation rather than precision.' Each additional factor adds to administrative burdens of enforcement, which fall alike on taxpayers and government."[27]

Agreeing with these principles, the *Evansville* Court held as follows:

> "[W]hile state or local tolls must reflect a 'uniform, fair and practical standard' relating to public expenditures, it is the amount of the tax, not its formula, that is of central concern. At least so long as the toll is based on some fair approximation of use or privilege for use, … , and is neither discriminatory against interstate commerce nor excessive in comparison with the governmental benefit conferred, it will pass constitutional muster, even though some other formula might reflect more exactly the relative use of the state facilities by individual users."[28] (emphasis added).

Applying this constitutional test to the $1.00 passenger fees at issue, the Court concluded that (1) the fees did not discriminate against interstate commerce, notwithstanding that the vast majority of passengers boarding flights at the airports in question were traveling interstate, because the fees applied equally to interstate and intrastate flights; (2) the fees reflected a fair, if imperfect, approximation of the use of the airport facilities for whose benefit they were imposed; and (3) the fees were not shown to be excessive in relation to the costs incurred by the taxing authorities for, among other things, their annual bond costs.[29]

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[25] See, e.g., the following cases sustaining tolls based on a variety of measures of actual use: *Clark v. Poor*, 274 U.S. 554 (1927) (number and capacity of vehicles); *Interstate Busses Corp. v. Blodgett*, 276 U.S. 245 (1928) (mileage within the state); *Continental Baking Co. v. Woodring*, 286 U.S. 352 (1932) (gross-ton mileage); *Hicklin v. Coney*, 290 U.S. 169 (1933) (carrying capacity); and *Dixie Ohio Express Co. v. State Revenue Comm'n*, 306 U.S. 72 (1939) (manufacturer's rated capacity and weight of trailers).

[26] 339 U.S. 542 (1950).

[27] *Id.* at 546-47.

[28] *Evansville*, 405 U.S. at 716-17.

[29] *Id.* at 717-20. Although the federal Anti-Head Tax Act, codified at 49 U.S.C. § 1513, later nullified the decision in *Evansville*, *Evansville* remains the constitutional test when the Commerce Clause forms the basis for a challenge to local legislation. See *New England Legal Foundation v. Massachusetts Port Authority*, 883 F.2d 157, 174 (1st Cir. 1989).

Thus, in considering the imposition of a VMT-based charge, the following factors pertain: First, the charge must be fair, and not so excessive as to impede the flow of interstate commerce. Second, in state and out-of-state drivers and vehicles must be charged at roughly the same level. The charging system may not have to be exactly the same, so long as it is roughly equivalent.

9.3 Collection of VMT-based Charges Simultaneously with Fuel Tax

For purposes of this project, the Coalition did not determine whether a proposed system would assess a VMT-based charge on all vehicles passing through a state, only on vehicles registered within each participating state, or only on all vehicles registered within a participating state. However, under any model, it is likely that the existing fuel tax regimen will remain in place, at least for a transitional period, and thus there may be a period when the two systems will overlap. Nothing in federal law would prevent a state from imposing dual charges, whether permanently or as part of transitioning from one system to the other.

As noted above, the Supreme Court has upheld the implementation of user fees based upon miles traveled within a state. In fact the system at issue in *Interstate Busses Corp. v. Blodgett* is in a way the flip side of the system contemplated in this project. The fee at issue was a tax of one cent for each mile of highway traversed by any motor vehicle used in interstate commerce "as an excise on the use of such highway."[30] This fee was collected in addition to the state's fuel tax and other tolls, and was only assessed against vehicles engaged in interstate travel. Intrastate buses were subject to a variety of other charges, including a tax on income generated from their operation that did not apply to interstate buses. In the aggregate, the court found:

> "Appellant plainly does not establish discrimination by showing merely that the two statutes are different in form or adopt a different measure or method of assessment, or that it is subject to three kinds of taxes while intrastate carriers are subject only to two or to one. We cannot say from a mere inspection of the statutes that the mileage tax is a substantially greater burden on appellant's interstate business than is its correlative, the gross receipts tax, on comparable intrastate businesses. To gain the relief for which it prays appellant is under the necessity of showing that in actual practice the tax of which it complains falls with disproportionate economic weight on it."[31]

This ruling makes clear that states can impose varying schemes of fees and taxes on vehicles, and can even impose different charges on intrastate and interstate vehicles, as long as the aggregate burdens are similar and do not create a disproportionate burden or otherwise impede interstate commerce.

[30] 276 U.S. at 249.

[31] 276 U.S. at 251.

9.4 Issues Related to Federal Implementation of a VMT-based Charge

This project explores not only state level implementation of a VMT-based charge, but also the kinds of issues that arise from a federal VMT-based charge. Congress has broad taxing authority under the Constitution, which it may use to accomplish the purposes of its delegated powers.[32] It was beyond the scope of this project to broadly review the legal issues involved in imposing and implementing a federal VMT-based charge. Instead, we reviewed several issues that might arise at the intersection of state and federal law. In our survey of state counsel, we looked at a broad range of state law issues related to state VMT implementation at a local or regional level. Collection of a VMT fee would differ drastically from the current fuel taxes, which are levied against diesel and gasoline at the initial point of distribution, limiting its incidence to oil companies, brokers, and terminal operators. Nationally, the taxes involve fewer than 900 taxpayers for gasoline receipts and fewer than 2000 for diesel. State fuel tax collection is somewhat more complex, in part because states cannot levy their taxes until the fuel enters their jurisdiction. However, even state gas tax systems rely on collection systems that require far fewer transactions and/or collection points than would a VMT based charge system that required payments from vehicle owners.

VMT fee collection would open up a new system of collection with potentially millions of points of contact between the federal government and the highway users. Modern technology would make such a system possible, and there are a number of different collection methods under consideration, which could somewhat simplify the process. Nevertheless, the cost of such a program could be greatly reduced if the federal government could work with states that also are using VMT-based charges to provide a unified collections mechanism. In administering this system, the federal government may find that it can achieve greater efficiency in its collections by relying on the states to collect the federal charge simultaneously with the state charges.

Currently, the federal government has its own apparatus for collecting motor fuel and related taxes. However, we have not found any constitutional impediment to the federal government working with states in a cooperative fashion to jointly collect state and federal charges, whether characterized as taxes or fees. We should note that this discussion is speculative, as we were not able to obtain an indication from the Internal Revenue Service whether they would have any interest in creating a unified collection system.

Congress has already chosen to implement national highway programs in cooperation with state governments. However, the Supreme Court has interpreted the Tenth Amendment to prohibit the federal government from compelling state governments to enforce federal laws. In *New York v United States*, the court held that Congress cannot directly compel states to enforce federal regulations.[33] Thus, Congress has used its "spending power" to establish conditions on federal grants or to provide incentives of various kinds to induce the states to achieve national

[32] *Taylor v. Robertson*, 16 F. Supp. 801 (1936).

[33] *New York v. United States*, 505 U.S. 144 (1992).

policy goals. Congress can also preempt inconsistent state law and regulations when asserting its authority under the Commerce Clause or other authority spelled out in the Constitution. There are many examples of Congress using grant conditions in federal transportation programs. States can lose grant funding or face reallocation for failure to comply with requirements related to vehicle size and weight,[34] commercial vehicle registration,[35] highway beautification,[36] and various safety programs, e.g. national drinking age,[37] open container laws,[38] seatbelt and motorcycle helmet requirements[39]. The federal government offers a reward to states for compliance and may penalize them for non-compliance with federal requirements. The statutory framework for these programs usually provides an apportionment of funds that will be made available to compliant states, and a penalty provision that denies funding to non-compliant states.

Common penalty provisions withhold funding from non-compliant states for the years they fail to comply.[40] States are similarly threatened with a 10% reduction of their total federal-aid highway apportionments for non-compliance with provisions related to outdoor advertising, control of junkyards and the national drinking age.[41] These reductions may be coupled with reapportionments to other states, which can occur immediately or after a certain amount of time has elapsed. Other provisions simply allow the withheld funds to lapse if the state does not return to compliance in time.[42]

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[34] 23 U.S.C. 127 (2009). States can lose 100% of their National Highway System (104(b)(1)) federal-aid funding if they deny interstate access to vehicles that comply with federal size and weight requirements. States can lose 10% of their apportionments under 23 U.S.C. 104 if they fail to certify, or USDOT determines that they have failed to enforce the federal size and weight restrictions included in 23 U.S.C. 127 and 49 U.S.C. 31112

[35] 23 U.S.C. 141 (2009).

[36] 23 U.S.C. 131(b) (2009). States can lose 10% of their annual apportionments under 23 U.S.C. 104 if they fail to comply with the HBA.

[37] States can lose 10% of their annual apportionments for NHS, congestion management and STP programs if they fail to enact a law making it illegal for anyone under 21 to publicly possess or purchase alcoholic beverages.

[38] 23 U.S.C. 154(c) (2009). For states that fail to enact open container laws that meet federal requirements, FHWA can reallocate up to 3% of NHS, congestion management and STP funds to safety program grants under 23 U.S.C. 402.

[39] 23 U.S.C. 153(h) (2009). For states that fail to enact safety belt and motorcycle helmet laws that meet federal requirements, FHWA can reallocate up to 3% of NHS, congestion management and STP funds to safety program grants under 23 U.S.C. 402.

[40] For example, the size and weight provisions of 23 U.S.C. §§ 127 and 141 deny non-compliant states 100% of National Highway System ("NHS") funds, and threaten to reduce such states total apportionment by 10%, and Interstate Maintenance ("IM") allocations by up to 25% if such states allow commercial vehicles to operate in violation of federal size and weight requirements. 23 U.S.C. § 127(a)(1); 23 U.S.C. § 141(a) (2009).

[41] 23 U.S.C. §§ 131(b), 136(b),158(a)(1) (2009).

[42] For example, NHS funding denied to a state under 23 U.S.C. § 127(a) lapses and becomes permanently unavailable to the state after 3 years. 23 U.S.C. §§ 127(a)(3), 118(b)(2) (2009). The size and weight penalty under 23 U.S.C. § 141(b) is held for one year before reapportionment to other states. 23 U.S.C. § 141(b) (2009). In addition, Interstate Maintenance funds that are withheld if a state allows heavy vehicles to register without proof of payment of the federal use tax are reapportioned immediately to other states. 23 U.S.C. § 141(c) (2009).

In some instances, federal programs provide for a transition from milder to harsher penalties over a period of years to encourage non-compliant states to adopt legislation and to reward states that move quickly in response to new federal mandates. Other programs have spread incremental increases in penalties over a greater range, and required evidence of enforcement.[43]

9.5 Using Grant Conditions and Incentives to Cooperatively Collect VMT-based Charges

Rather than relying exclusively on federal collection of a VMT-based charge, Congress could require the states to collect these charges as a condition of receiving transportation grants. There are virtually no limits on the scope of such conditions, even if they require states to adopt specific laws and regulatory schemes.[44] However, if the federal government converts to a VMT-based taxation or charging system, it is unlikely that all states will immediately follow suit. There is no reason to assume that all state legislatures will simultaneously be convinced of the wisdom of such a system. If the federal government were to seek to require states to collect VMT-based charges on its behalf, states not imposing VMT-based charges would be in the position of having to adopt a collection system merely to take advantage of federal funding. This is likely to be viewed as an unfunded mandate and meet with strong opposition. Even states collecting VMT-based charges may be doing so under an entirely different legal framework than the federal charge and thus may also find it difficult to comply with such federal requirements.

Another approach might be to offer various incentives to states to collect the VMT-based charge for the federal government. Incentives can take many forms, offering additional funding to a cooperating state to collect the charge. Especially in states already committed to assessing VMT-based charges, it might make sense to conform the state system to the federal one. However, it must be recognized that a hard grant condition is more likely to achieve national compliance. This means that using incentives alone would require the federal government to be prepared to collect the federal VMT-based charge in states choosing not to take advantage of the incentive being offered.

Incentives need not be strictly in the form of additional payments. Such payments would have budgetary implications, making it less likely that the incentive would be large enough to encourage universal cooperation in the collection of federal VMT-based charges. One example of a non-cash incentive is an extension of the "soft match" opportunity already found in federal law.[45] This program allows states, under certain circumstances, to utilize toll revenues collected in lieu of dedicated local matching funds normally required by federal-aid highway grants. A

[43] 23 U.S.C. § 163 (2009). – This program dealt with blood alcohol levels and increased penalties from 2% to 8% of the NHS, STP and IM funds available to a state, which would lapse and become permanently unavailable to a state 4 years after the withholding, if the state continued its non-compliance.

[44] *See South Dakota v. Dole*, 483 U.S. 203 (1987).

[45] 23 U.S.C. § 120(j) (2009).

new law could follow a similar approach to allow states to claim a credit for VMT fees collected. Thus, participating states could lower or even eliminate the requirement to match federal transportation grant funds.

9.6 Federal Privacy Law

Privacy is a major concern for any government program that requires the use of personal information. This issue is especially important when it comes to a new VMT system, which may require the use of special transponders or other tracking devices to monitor miles traveled. One of the barriers to implementation of VMT-based charges will likely stem from the necessity of a centralized database of user information. Concern over government monitoring is not new, and any legislation authorizing a new VMT system will likely include new protections for individual privacy.

Fortunately, existing laws provide substantial protection already. The federal Freedom of Information Act provides the framework for executive branch federal agencies' record-keeping and release of individual records. The privacy protections included in this law were further strengthened by the Privacy Act of 1974, and the Computer Matching and Privacy Protection Act of 1988. Finally, motor vehicle record related information is protected by the Driver's Privacy Protection Act (DPPA), which regulates the disclosure and resale of personal information by limiting disclosure without affirmative consent, subject to certain exceptions further described below.

1. Freedom of Information Act

The Freedom of Information Act (FOIA) applies to executive branch government agencies, and provides a system for public access to government records. Agencies must publish rules and procedures for requesting documents, and are subject to penalties for hindering the process of a petition for information. In order to safeguard sensitive information, FOIA provides disclosure exemptions for the following nine categories:[46]

1. National security information,
2. Agency personnel rules and practices,
3. Information specifically exempted from disclosure by other statute
4. Trade secrets,
5. Inter-agency or intra-agency letters and memoranda,
6. Personnel, medical and similar private files,
7. Certain law enforcement records,
8. Operating and condition reports related to federal oversight of financial institutions, and
9. Geological and geophysical information and data concerning wells.

The sixth category listed above provides protection for files containing personal information, "the disclosure of which would constitute a clearly unwarranted invasion of personal

[46] 5 U.S.C. 552(b) (2009).

privacy."[47] This means that disclosures of personal information collected in the course of gathering government data is not required. It should be noted that FOIA only applies to records maintained by the federal government. State maintained records, even if they are essentially identical to the federal records, are subject to state public records acts, and not FOIA.

2. Privacy Protection Act of 1974

Following the Watergate scandal, Congress enacted the Privacy Protection Act of 1974 (the Privacy Act). Congress was concerned with curbing the illegal surveillance and investigation of individuals by federal agencies; and it was also concerned with potential abuses presented by the government's increasing use of computers to store and retrieve personal data by means of a universal identifier — such as an individual's social security number.[48]

Broadly stated, the purpose of the Privacy Act is to balance the government's need to maintain information about individuals with the rights of individuals to be protected against unwarranted invasions of their privacy stemming from federal agencies' collection, maintenance, use, and disclosure of personal information about them. The Privacy Act focused on four basic policy objectives:

1. To restrict disclosure of personally identifiable records maintained by agencies.
2. To grant individuals increased rights of access to agency records maintained on them.
3. To grant individuals the right to seek amendment of agency records maintained on themselves upon a showing that the records are not accurate, relevant, timely, or complete.
4. To establish a code of 'fair information practices' requiring agencies to comply with statutory norms for collection, maintenance, and dissemination of records.[49]

The Privacy Act "protects certain federal government records pertaining to individuals. In particular, the Act covers systems of records that an agency maintains and retrieves by an individual's name or other personal identifier (e.g., social security number)…. In general, the Privacy Act prohibits unauthorized disclosures of the records it protects. It also gives individuals the right to review records about themselves, to find out if these records have been disclosed, and to request corrections or amendments of these records, unless the records are legally exempt."[50] The agency then has ten days to either make the correction or to notify the requestor that the correction will not be made.[51]

Exemptions to the Privacy Act protections are allowed for:

- the Census Bureau,

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[47] 5 U.S.C. 552(b)(6) (2009).

[48] Dept. of Justice, *Overview of the Privacy Act of 1974*, *at* http://www.justice.gov/opcl/privacyact1974.htm.

[49] Dept. of Justice, *Overview of the Privacy Act of 1974*, *at* http://www.justice.gov/opcl/privacyact1974.htm.

[50] Federal Trade Commission, *Privacy Act of 1974, as amended*, at: http://www.ftc.gov/foia/privacy_act.shtm

[51] 5 U.S.C. § 552a(d) (2009).

- the Bureau of Labor Statistics,
- the Government Accountability Office,
- routine uses (referring to external sharing of information outside the agency)
- archival purposes if the record has sufficient historical value,
- law enforcement purposes,
- congressional investigations, and
- other administrative purposes. [52]

The Privacy Act requires agencies to "keep an accurate accounting" of information disclosures, except when the disclosure is made within the agency for routine administrative uses or made under the Freedom of Information Act (FOIA). The Act requires "each agency that maintains a system of records" to restrict the collection of information to only the information relevant to the purpose, to ensure the information remains accurate, to collect information directly from the subject whenever possible, and to tell the subject the purpose for which the information is being collected and the authority under which it is being collected.[53]

As with the FOIA, the Privacy Act applies to records maintained by the federal government, not state records.

3. Computer Matching and Privacy Act of 1988

The Privacy Act was amended by the Computer Matching and Privacy Act of 1988. Congress later enacted the Computer Matching and Privacy Protection Amendments of 1990[54] which further clarified due process provisions, and addressed the use of records in automated matching programs.

New provisions added procedural requirements for agencies to follow when engaging in computer-matching activities; provide matching subjects with opportunities to receive notice and to refute adverse information before having a benefit denied or terminated; and require that agencies engaged in matching activities establish Data Protection Boards to oversee those activities.[55] Specifically, the new law required:

> "each agency that proposes to establish or make a significant change in a system of records or a matching program shall provide adequate advance notice of any such proposal (in duplicate) to the Committee on Government Operations of the House of Representatives, the Committee on Governmental Affairs of the Senate, and the Office of Management and Budget in order to permit an evaluation of the probable or potential effect of such proposal on the privacy or other rights of individuals."[56]

4. Driver's Privacy Protection Act of 1994 ("DPPA")

[52] 5 U.S.C. § 552a(b) (2009).

[53] 5 U.S.C. § 552a(e) (2009).

[54] Pub. L. No. 101-508 (Nov. 5, 1990).

[55] Dept. of Justice, *Overview of the Privacy Act of 1974*, 2010 Edition; *See* 5 U.S.C. § 552a(a)(8)-(13), (e)(12), (o), (p), (q), (r), (u).

[56] 5 U.S.C. § 552a(r) (2009).

The Federal Driver's Privacy Protection Act ("DPPA") regulates the disclosure and resale of personal information contained in motor vehicle records. DPPA thus applies to state and federal records. The prohibition extends to persons, including government agencies, who have obtained the information from the state. Violations of the DPPA are punishable by criminal and civil penalties and the statute also provides a civil cause of action.[57]

Information is divided into two classes – "highly restricted personal information", which includes photographs, social security numbers, and medical or disability information; and "personal information" which includes driver identification numbers, names, addresses (but not zip-codes), telephone numbers, as well as the highly restricted information described above. Information on accidents, driving violations and driver status is not covered. Highly restricted personal information may be disclosed for:

- Use by any government agency, including any court, law enforcement agency or private person or entity acting on behalf of a federal, state, or local agency.
- Use in connection with any civil, criminal, administrative or arbitral proceeding, including the service of process, investigation in anticipation of litigation, and the execution or enforcement of judgments and orders, or pursuant to an order of a federal, state, or local court.
- Use in insurance claims investigations, anti-fraud activities, ratings or underwritings.
- Use by an employer or its agent or insurer to obtain or verify information relating to a holder of a commercial driver's license that is required under chapter 313 of title 49.

Other personal information can be disclosed for the following purposes:

- To be used in connection with matters of motor vehicle or driver safety and theft; motor vehicle emissions; motor vehicle product alterations, recalls, or advisories; performance monitoring of motor vehicles, motor vehicle parts and dealers; motor vehicle market research activities, including survey research; and removal of non-owner records from the original owner records of motor vehicle manufacturers.
- To be used by a business to verify the accuracy of personal information submitted by an individual, or to correct such information to prevent fraud, pursue legal remedies, or recover a debt or security interest against the submitting individual.
- To be used for research activities, as long as the personal information is not published, redisclosed or used to contact individuals.
- To be used in providing notice to owners of towed or impounded vehicles.
- To be used by private investigators.
- To be used in connection with the operation of private toll transportation facilities.
- To be used by any requester, if the requester can demonstrate it has obtained the written consent of the individual.
- For any other use related to the operation of a vehicle or public safety that is specifically authorized under the law of the state holding the record.

[57] 18 U.S.C. §§ 2723-2724 (2009).

If the government obtains express consent from the individual, either written or electronic, personal information (but not highly confidential personal information) may be used for bulk distribution surveys, marketing, and solicitations.

9.7 Conclusions

The following observations summarize federal legal issues related to implementation of a new VMT-based system:

- It is unlikely that constitutional restraints exist for states seeking to implement a system of VMT-based charges. Direct user charges, including those based on mileage, have been upheld by the Supreme Court. Reasonable VMT-based charges are sufficiently similar to taxes and tolls collected under current law to have been tested repeatedly before the United States Supreme Court.

- The collection of VMT-based charges is significantly more complex than current taxes on motor fuel. If VMT-based charges are implemented at a federal level, they may involve transactions with millions of taxpayers each year, rather than the several thousand who currently pay fuel taxes.

- Although technology should answer some of these challenges, it may be wise to collect state and federal VMT-based charges simultaneously. FHWA already relies on states to assist with efforts to implement and enforce various highway programs, and could use grant conditions and other incentive programs to encourage state cooperation in collecting and enforcing a federal VMT system. It remains to be seen whether either the federal government or the states would be interested in pursuing this approach.

- Finally current law protects personal information from release for non-governmental purposes. Federal laws are already supplemented by state laws in this regard.

10.0 Next Steps

10.1 Overview

The I-95 Corridor Coalition project reached important preliminary conclusions regarding the administrative issues associated with a multi-state VMT-based charge system. The project addressed a wide range of issues including:

- the perspectives of member agencies relative to the functions to be included in a multi-state system, including the potential inclusion of tolls and facility pricing;
- the broad administrative requirements for managing a multi-state system including enrollments, accumulating mileages and charges due by state and agency, calculating and billing the charges to users, preserving data for planning purposes, maintaining user interface and communications, auditing, security and enforcement; calculation and reconciling state and agency mileage and distributing revenues among the states and other agencies;
- the identification of key issues surrounding basic requirements for administering a multi-state system, such as vehicle identification and registration and a financial clearinghouse function;
- potential for building upon the experience of existing systems such as the National Motor Vehicle Title Information System (NMVTIS) and current models such the International Registration Plan (IRP) for commercial vehicles and the E-ZPass electronic toll collection system to meet the administrative requirements;
- high-level estimates of the cost of system administration;
- the perspectives of member agencies relative to the nature of the institution that would be responsible for administering the system; and
- state and federal legal and legislative issues to be addressed before such a system could be adopted.

It was also noted in this report that there is no comprehensive VMT-based charge system operating anywhere in the world today. Consequently, many questions remain regarding the real-world application of VMT charges to all vehicles on all roads within a state, a region, or the nation. In order to continue to advance the dialogue on the administrative aspects of this significant policy issue, and to prepare for pilots or demonstrations of such a system, additional research will be necessary.

Areas that might be further investigated in the near future should include:

- a more refined analysis of already identified administrative requirements;
- identification of current state and toll authority functions that could or would need modification to accommodate a VMT charge program;
- more refined cost estimates based on input from industry and analysis of similar functions performed by or for states;

- assessment of current interagency arrangements, including the IAG and arrangements between state DOTs and their sister state revenue agencies;
- the development of an administrative functions concept of operations for a multi-state VMT-based charge system;
- assessment of the NMVTIS model as the basis of a system to exchange vehicle ownership/registration information and VMT data among the states; and
- interface and other issues associated with federal government use of state systems to collect potential federal VMT charges.

10.2 Evaluation Criteria for a VMT-Based System

This project did not define systems and their administrative concept of operations to a sufficient degree to evaluate the VMT-based system alternatives, in part because it is impossible to evaluate institutional, administrative and legal options without consideration of all other aspects of the system, including the overall concept of operations and the technologies used to accomplish system functions, e.g., time of day or specific facility pricing. However, the institutional, administrative and legal aspects as well as the overall concept of operations should be evaluated using the normal criteria for assessing revenue generation systems. When the overall concept of operations and its administrative and institutional options are developed for a VMT-based system, it is recommended that they be evaluated against specific criteria, including but not limited to the following:

Efficiency

- Could the institutional and administrative approach be comprehensive and multi-state and/or potentially national in scope, while still accommodating the needs of individual states, local jurisdictions, and other institutions such as toll authorities?

- Would the institutional and administrative approach accommodate a sufficient degree of uniformity across states and other jurisdictions/institutions to allow and encourage multi-state coordination?

- Could the institutional, administrative and legal system accommodate a range of technologies or information collection devices?

- Could the institutional and administrative systems accommodate additional capacity/functionality/value-added services beyond the core technical and administrative functions or services necessary to collect VMT charges?

- Could the administrative and legal approaches be implemented incrementally (in stages)?

Effectiveness

- Would the system ensure adequate performance and reliability with regard to accuracy and fairness of application?

- Could the system be readily used as a platform for collecting all vehicle-related charges, whether federal, state, local, toll authority, or private?

- Could the administrative and legal approach maintain privacy/confidentiality/security? How would data be used and stored in order to ensure data security and confidentiality but preserve other uses of data such as for transportation planning?

- In maintaining privacy/confidentiality/security, would there also be sufficient opportunity for audits of records and rights for user appeal of billing discrepancies?

- In maintaining confidentiality/privacy/security, would the administrative and legal approach also provide adequate information for enforcement?

Equity

- Could the system achieve administrative cost and enforcement equity across individual users, user classes, and within and/or across geographic areas?

- Could the system potentially achieve interstate equity (i.e., redistribution of funds) based on where travel occurs?

- Could the system be equitable among various users if implemented in some but not all states?

Administrative Mechanisms/Costs

- Would the implementation/operations/maintenance costs be fair and reasonable, and who would bear them? (This may require separate appraisal of in-vehicle technology costs, supporting infrastructure costs, and collection and enforcement costs.)

- Would the system place a significant new compliance burden on users in terms of the required efforts that they must make or time or monetary costs they will incur to comply with payment of VMT-based charges?

Evasion

- What features would the system include that prevent evasion and ensure enforcement of system requirements, and what costs would be incurred to curtail evasion opportunities?

- Could the system effectively and fairly accommodate users who are not "in the system" (foreign vehicles or out-of-state vehicles for functions that are not national)? Would compliance and enforcement costs be reasonable?

Appendix A:
I-95 Corridor Coalition VMT Project Legal Issues Questionnaire

Highway construction and maintenance relies on the collection of taxes on motor fuels both at the federal and state level for the bulk of its funding. Increasing fuel efficiency and alternative fuel technologies have diminished the utility of the fuel tax system. One possible alternative to the current fuel tax system is a fee imposed on the basis of vehicle-miles traveled (VMT). At least two commissions established under the *Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users* (SAFETEA-LU) have recommended a VMT fee as an eventual replacement for the fuel tax.[58]

The I-95 Corridor Coalition is sponsoring a study to examine issues that might arise if the states along the I-95 Corridor were to adopt VMT fees in lieu of -- or in addition to -- existing fuel taxes and tolls. This study will consider the administrative, technical and legal issues associated with creating such a system. The study will consider scenarios involving implementation by individual states and a broader multi-state/regional system.

As part of this study, we are reaching out to appropriate state attorneys in transportation departments and select toll authorities in the I-95 corridor to identify state law issues involved in creating and operating such a system.

The following questionnaire is designed to capture state law concerns in a comparable manner. We have attempted to make the task of responding as efficient as possible. In doing so, we recognize that many important aspects of state law will have been overlooked and oversimplified. Thus, in addition to checked responses, we have requested narrative commentary to whatever extent each respondent deems appropriate.

We greatly appreciate your willingness to take part in this survey and look forward to receiving your answers. Please do your best to respond by [two weeks after the survey is transmitted].

[58] Pub. L. 109-59, Aug. 10, 2005. See §1909, which established the National Surface Transportation Policy and Revenue Study Commission, and §11142, which established the National Surface Transportation Infrastructure Financing Commission.

Legal Questionnaire
I-95 Corridor Coalition VMT Project

1. **Participation.** For purposes of the following question, assume that VMT fees will be imposed on all users of all roads and streets within your state. In order to impose such a system in your state, would it require:
   a. Enabling legislation? Yes ____ No____
      A state constitutional amendment? Yes ____ No ____

   b. Would the answer be different if VMT fees were imposed only on certain roads and streets within the state? Yes____ No ____

   c. Please explain any yes answer:

2. **Interoperability/Uniformity**. In a multi-state VMT system, the technology used to collect the fee would have to be interoperable or uniform across state lines and between jurisdictions. Are there any provisions in your state law that might prevent or make it procedurally difficult to cooperate with other states to establish such interoperable systems? Yes _____ No._____

   Please explain if you answered "yes."

3. **Establishing/characterizing the VMT fee and setting the rate**: In this question, we are attempting to determine whether a VMT charge would be treated differently under the laws of your state depending on whether the charge is considered a fee on the use of highway system, a toll, or a tax. We believe that there may be differences, but that these differences may vary from state to state.

   a. Under the laws of your state, would it make a difference if the VMT fee were characterized as a fee, a toll or a tax? Yes _____ No _____

   b. Do the laws of your state provide flexibility on how a VMT fee may be characterized in current law or under a new statue? Yes _____ No _____

   c. If you answered "yes," what in your judgment would be the most advantageous characterization for shielding the VMT fee system from legal challenge and in providing the greatest administrative flexibility?
      Fee _____ Toll _____ Tax _____
      Please explain your answer:

4. **Administrative Discretion**: Could a VMT fee be imposed administratively under current law?
   Yes___ No ___

a. If yes"
Are there limitations on the amount of a VMT fee?
Yes ____ No ____
Could a VMT fee be raised or lowered administratively?
Yes ___ No ___

b. If "no," and assuming a statute has been enacted authorizing a VMT fee, based on legal principles applicable in your state,

Would there be constitutional limitations on the amount of the fee, toll or tax?
Yes ____ No ____

Could the statute authorize an administrative agency to set, raise or lower the fee, toll or tax? Yes ____ No ____

c. Please provide any explanation or clarification you think necessary::

5. **Use of revenues**: Are there existing state statutory or state constitutional limitations on how the net proceeds of a potential VMT fee, toll or tax might be used under the laws of your state? Yes ___ No ____

6. **Applicability**. If your state has statutory or constitutional limits on the use of a state motor fuel taxes, would these restrictions apply to VMT fees? Yes ____ No ____

Please explain your answers to questions 5 and 6, including providing additional insight into the flexibility available under state law and the limits of that flexibility:

7. **Rate setting**. Are there any legal issues if the fee (toll, or tax) were to vary by:

a. Vehicle type? Yes _____ No _____
b. Road classification? Yes _____ No _____
c. Time of day (congestion pricing)? Yes _____ No _____
d. Income of the driver? Yes _____ No _____
e. Other public policy goals, such lower fees for cleaner vehicles?
Yes ____ No ____
f. Ownership of the road (state or local jurisdiction or toll authority or other)?
Yes ____ No ____
g. Federal aid category (particularly, Interstate roads that may be subject to anti-tolling restrictions, or other federal aid categories)? Yes ____ No ____
h. Do you have any additional thoughts on this question?

8. **Fuel Tax and Toll Collection**. Would your state be able to continue to collect current tolls and fuel taxes once a VMT based fee (toll or tax) system is place? Yes ____ No _____

9. **Jurisdiction – Out of State Mileage.** Would your state be lawfully able the VMT fee (or toll or tax) be collected for out-of-state mileage? Yes ___ No ____

10. **Collection – Equipment Mandate**.
    a. Are there any state constitutional barriers to the enactment of a law requiring each vehicle using roads and streets on which a VMT fee is collected to have the in-vehicle devices to make wireless or remote collection possible?
       Yes ____ No ____

    b. Is it possible under current law to require installation of such devices?
       Yes ___ No ___

11. **Collecting the fee (or toll or tax). Delegation**.
    a. May the state contract with private entities to administer the collection process?
       Yes ____ No ____

    b. Please explain if your answer differs based on whether the VMT charge is characterized as a fee, toll or tax.

    c. Do you see a need for providing such entities immunity from suits arising from collection activities? Yes ____ No ____

12. **Collecting the fee (or toll or tax).** Are fees or taxes other than a motor fuel tax now collected in your state as part of the vehicle registration process or motor fuel collection process (other than the registration fee itself and any personal property tax on the vehicle)? Yes _____ No _____
    Please provide an explanation if you answered "yes:"

13. **Collecting the fee (or toll or tax).** Other parts of this study will explore the technical and administrative issues associated with establishing the point of collection. This could be done while fueling the vehicle, charging vehicle owners at routine intervals, or other means. Do you see any legal issues (other than the enactment of an appropriate statute or adoption of an administrative rule) that could limit the selection of the point of collection? Yes ___ No ____
    Please discuss if you answered yes:

14. **Enforcement and penalties.** Enforcement issues can arise from the failure of a vehicle owner to pay the required fee (or toll or tax), and from the failure of a collecting entity (I.e., a fueling station) to either collect the fee or submit the proceeds to the state. Violations in either case could result in a civil or criminal penalty. Adjudication of a civil penalty could be before a court or administrative agency.

    a. Under the laws of your state, would a criminal or civil penalty be more appropriate in enforcement proceeding against a vehicle owner?
       Civil ____ Criminal ____

b. If the owner wishes to challenge the assessment of the penalty, could the adjudication be before an administrative agency? Yes _____ No _____

c. Under the laws of your state, would a criminal or civil penalty be more appropriate in enforcement proceeding against a collecting entity, such as a fueling station? Civil _____ Criminal _____

d. Would your answer differ if the collecting entity is a private contractor delegated the task of collecting the fee?
Yes _____ No _____ Not applicable (my state would not be able to contract out this function) _____

15. **Enforcement: jurisdiction**. If the VMT fee were based on the use of particular roads or streets, rather than overall mileage, could your state enforce VMT violations against residents of your state on behalf of a state in which the VMT violations occurred?
Yes _____ No _____

16. **Enforcement practicality**. Based on your experience, do you think such enforcement is likely to occur?
Yes _____ No _____

17. **Federal issues.** Based on your understanding of applicable federal law and existing authorities in your state, do you believe it would be necessary to form an Interstate Compact, or otherwise obtain Congressional consent, in order to establish a cooperative network of states imposing a VMT fee system?
Yes _____ No _____

18. **Interstate cooperation**. Would your state have to enact specific legislation to authorize:

a. Your state to participate in an Interstate Compact? Yes ____ No _____
b. Any other form of cooperation with another state? Yes ____ No _____

19. **Federal highway issues**. Federal law restricts tolling on many types of federally funded roads. Many states have adopted laws that mirror these restraints. In considering whether the VMT charge is a tax, fee or toll, would this have an impact on the types of roads on which the charge could be imposed?
Yes _____ No _____

20. **Federal program issues**. Assuming that the federal law could allow or require the state to collect a federal VMT charge, would there be state statutory or constitutional problems if:

a, The requirement to collect the federal VMT charge were made a grant condition of the receiving federal aid highway funds? Yes ___ No ____

b. Were made pursuant to a federal financial incentive, such as a small portion of the federal charge? Yes ___ No ____

21. **Data Sharing and Privacy Issues**. Under a VMT fee system, it would be necessary to collect information about the number of miles a vehicle is driven and, perhaps, *where* it is being driven (e.g., if the fee varies by type of road). The information will almost certainly be gathered using electronic data technology. This may raise issues under laws that protect the privacy of individuals and limit the use of the data gathered. We recognize that a statute authorizing a VMT fee system could include appropriate provisions to deal with these issues. However, considering the current law or legal principles (including constitutional issues):

    a. Would your state law limit the type of data that may be gathered as part of a VMT fee system? Yes ___ No ___
        Explain these limitations if you answered "yes."

    b. Would your state law prevent the release of information gathered in the course of assessing VMT fees from release for a commercial purpose, including a purpose which would generate income for the state?
        Yes ___ No___

    c. Would your state law allow the information gathered in the course of assessing VMT fees to be shared with other states for the purpose of an enforcement action (e.g., failure to pay the fee)? Yes ___ No ___

    d. Would your state law allow the information gathered in the course of assessing VMT fees to be shared with other states for other governmental purposes, such as revenue sharing, collecting fees through a multi-state partnership, or other purposes reasonably connected to the operation of a VMT fee system? Yes ___ No ____

        If you have any additional comments or clarification, please provide them here:

    e. Do you think existing state law is sufficient to address privacy issues that may arise through the operation of a VMT fee system? Yes ___ No ___

    f. Please provide any additional comment you feel appropriate, including your thoughts about provisions that should be included in any statute or regulation authorizing a VMT fee system to deal appropriately with privacy issues in your state.

22. **Other Issues.** Please use this space to provide any additional comments or observations you may have: We are particularly interested in what you think are top three legal issues that would have to addressed as part of implementing a VMT based fee system in your state. In addition, based on your experience, how likely do you think that your state would take the necessary legislative or administrative actions needed to adopt such a system? You should feel free to provide us any additional explanations of your answers, as well as any comments you feel appropriate.